Appendix A

Applicable Mitigation Measures

APPLICABLE MASTER PLAN EIR MITIGATION MEASURES

The mitigation measures identified in the Master Plan EIR which are applicable to and incorporated into the project are listed in Table A-1 below for reference.

Table A-1 Mitigation Measures Identified in the Master Plan EIR that are Applicable to the Project

Mitigation Measures
Aesthetics
3.1-1: Prepare and Implement Landscaping Plans for Farm Shop, University-Based Retirement Community, and Slack and Grand Projects Prior to implementation of the Farm Shop, University-Based Retirement Community Project, and Slack and Grand project, Cal Poly shall prepare site-specific landscaping plans for review and approval by the CSU. The plans shall be prepared by a licensed landscape architect and shall include specifications for plant and tree species, sizes, densities and planting locations that shall be implemented during construction of each project. The objective of the landscaping plans shall be to provide visual screening of the projects from sensitive viewing locations and to reduce the impression of visual mass and structure.
3.1-3a: Use Nonreflective Materials on Building Surfaces Cal Poly shall require the use of nonreflective exterior surfaces and nonreflective (mirrored) glass for all new or redeveloped structures.
3.1-3b: Prepare and Implement Lighting Plans for Farm Shop, University-Based Retirement Community, and Slack and Grand Projects Prior to approval of development plans for the Farm Shop, University-Based Retirement Community Project, or Slack and Grand project, Cal Poly shall prepare comprehensive, and site-specific lighting plans for review and approval by the Division of the State Architect that shall be implemented as part of project construction/implementation. The lighting plans shall be prepared by a qualified engineer who is an active member of the Illuminating Engineering Society of North America (IESNA) using guidance and best practices endorsed by the International Dark Sky Association. The lighting plans shall address all aspects of the lighting, including but not limited to all buildings, infrastructure, parking lots, driveways, safety, and signage. The lighting plans shall include the following, as feasible, in conjunction with other measures determined feasible by the illumination engineer: ▶ the point source of exterior lighting shall be shielded from off-site viewing locations; ▶ light trespass from exterior lights shall be minimized by directing light downward and using cutoff fixtures or shields; ▶ illumination from exterior lights shall be the lowest level necessary to provide adequate public safety; ▶ exterior lighting shall be designed to minimize illumination onto exterior walls; and ▶ any signage visible from off-site shall not be internally illuminated.
3.1-3c: Use Directional Lighting for Campus Development Cal Poly shall require all new, permanent outdoor lighting fixtures to utilize directional lighting methods (e.g., shielding and/or cutoff-type light fixtures) to minimize glare and light spillover onto adjacent structures. In addition, light placement and orientation shall also be considered such that light spillover is reduced at nearby land uses, to the extent feasible. Verification of inclusion in project design shall be provided at the time of design review
Air Quality
3.3-2: Implement Dust and Exhaust Emissions Reduction Measures Based on the APCD CEQA Handbook, Cal Poly shall ensure that construction contractors implement the following measures for all 2035 Master Plan development: Standard Construction Emission Reduction Measures for All Projects ▶ Staging and queuing areas or diesel idling associated with equipment used during construction of new/renovated buildings on campus shall not be located within 1,000 feet of sensitive receptors. This distance can be adjusted if it can be demonstrated to Cal Poly by the construction contractor, with substantial evidence, that risk levels at nearby receptors would not exceed an estimated risk of 10 chances in a million. ▶ Off-road diesel equipment shall comply with the 5-minute idling restriction identified in Section 2449(d)(3) of CARB's In-Use Off-Road Diesel regulation. ▶ Signs shall be posted in the designated queuing areas and job sites to remind offroad equipment operators of the 5-minute idling limit. ▶ Reduce the amount of the disturbed area where possible.

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- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. Increasing watering frequency would be required whenever wind speeds exceed 15 miles per hour. Reclaimed (non-potable) water should be used whenever possible. Please note that during drought conditions, water use may be a concern and the contractor or building shall consider the use of an APCD-approved dust suppressant where feasible to reduce the amount of water used for dust control.
- All dirt stockpile areas shall be sprayed daily as needed.
- Permanent dust control measures identified in the approved project revegetation and landscape plans shall be implemented as soon as possible following the completion of any soil disturbing activities.
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading will be sown with fast germinating, non-invasive grass seed and watered until vegetation is established.
- All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by APCD.
- All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials shall be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.
- Install wheel washers where vehicles enter and exit unpaved roads onto streets or wash off trucks and equipment leaving the site. "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water Code 13304. To prevent Track Out, designate access points and require all employees, subcontractors, and others to use them. Install and operate a "trackout prevention device" where vehicles enter and exit unpaved roads onto paved streets. The track-out prevention device can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices require periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified.
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.
- All of these fugitive dust mitigation measures shall be included on grading and building plans.
- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Fuel all off-road and portable diesel-powered equipment with CARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road).
- Electrify equipment when feasible.
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible.
- All architectural coatings (e.g., paint) used in project buildings and parking areas will not exceed a volatile organic compound content of 50 grams per liter.
- Use diesel construction equipment meeting CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines and comply with the State Off-Road Regulation.
- Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State OnRoad Regulation.
- Construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance.
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

For individual projects proposed under the 2035 Master Plan, APCD screening criteria (rather than emissions modeling) shall be applied to determine if emissions from the project would be below the adopted numeric thresholds. If an individual project would exceed the screening criteria, project-specific emissions modeling shall be conducted to determine if APCD's adopted numeric project-level thresholds would be exceeded. If emissions modeling demonstrates that the individual project's operational emissions would exceed the APCD thresholds, the following mitigation measures would apply in addition to the Standard Construction Emission Reduction Measures described above.

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Enhanced Construction Emission Reduction Measures for Individual Projects that Exceed APCD Thresholds

- Implement Best Available Control Technologies (BACT) and a Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "Standard" measures section;
- further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines;
- repowering equipment with the cleanest engines available;
- installing California Verified Diesel Emission Control Strategies, listed at arb.ca.gov/diesel/verdev/vt/cvt.htm; □ tabulation of on- and off-road construction equipment (age, horsepower, miles, and/or hours of operation);
- schedule of construction truck trips during non-peak hours to reduce peak hour emissions;
- limit the length of the construction work day period, if necessary; and
- phase construction activities, if appropriate.

3.3-3a: Implement Mitigation Measure 3.8-1

Cal Poly will incorporate the mitigation listed under Mitigation Measure 3.8-1 of Section 3.8, "Greenhouse Gas Emissions," to reduce operational emissions of criteria air pollutants and ozone precursors to the extent feasible.

3.3-3b: Reduce Operational Emissions

The following measures shall be implemented, where appropriate, to reduce operational emissions of ozone precursors to levels below the APCD-adopted thresholds. This list is not exhaustive and other or alternative emission reduction measures shall be considered and implemented based on new technologies and as APCD operational air quality mitigation measures are further developed over the life of the Master Plan. The following APCD-recommended measures would apply to new land use development within the 2035 Master Plan area:

- All existing landscaping equipment (e.g., lawnmowers, leaf blowers, chainsaws), upon time of replacement, will be replaced with electric ones. All new landscaping equipment purchased will be electric.
- All architectural coatings (e.g., paint) used in project buildings and parking areas will not exceed a volatile organic compound content of 50 grams per liter.
- Exceed CALGreen standards by 25 percent for providing on-site bicycle parking; both short-term racks and long-term lockers, or a locked room with standard racks and access limited to bicyclist only.
- Implement a "No Idling" vehicle program which includes signage, enforcement, etc.
- Provide shade over 50 percent of parking spaces to reduce evaporative emissions from parked vehicles.

For individual projects that are determined to exceed applicable APCD thresholds, after incorporation of all available/applicable onsite measures, the following may be considered:

- Incorporate additional off-site mitigation (e.g., emissions offsets pursuant to APCD rules and regulations).
- Prepare an operational activity management plan that demonstrates how individual project impacts would be reduced to a level of insignificance. Specific measures may include onsite and offsite mitigation strategies, including the scheduling of activities during off-peak hours and the purchase of mitigation offsets.

Archaeological, Historical and Tribal Cultural Resources

3.4-2a: Identify and Protect Unknown Archaeological Resources

During project-specific environmental review of development under the 2035 Master Plan, Cal Poly shall define each project's area of effect for archaeological resources in consultation with a qualified archaeologist, as defined by the Secretary of Interior. The University shall determine the potential for the project to result in cultural resource impacts, based on the extent of ground disturbance and site modification anticipated for the project. Cal Poly shall determine the level of archaeological investigation that is appropriate for the project site and activity, as follows:

- Minimum: excavation less than 18 inches deep and less than 5,000 square feet of disturbance (e.g., a trench for lawn irrigation, tree planting). Implement Mitigation Measure 3.4-2a(1).
- Moderate: excavation below 18 inches deep and/or over a large area on any site that has not been characterized as sensitive and is not suspected to be a likely location for archaeological resources. Implement Mitigation Measure 3.4-2a(1) and (2).
- Intensive: excavation below 18 inches and/or over a large area on any site that is within the zone of archaeological sensitivity, i.e., within 750 feet, along Brizzolara Creek or Stenner/Old Garden Creek (as shown in Figure 3.4-1) or that is adjacent to a recorded archaeological site. Implement Mitigation Measure 3.4-2a(1), (2), and (3).

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Cal Poly shall implement the following steps to identify and protect archaeological resources that may be present in the project's area of effects:

1. For project sites at all levels of investigation, contractor crews shall be required to attend a training session before the start of earth moving, regarding how to recognize archaeological sites and artifacts and what steps shall be taken to avoid impacts to those sites and artifacts. In addition, campus employees whose work routinely involves disturbing the soil shall be informed how to recognize evidence of potential archaeological sites and artifacts. Before disturbing the soil, contractors shall be notified that they are required to watch for potential archaeological sites and artifacts and to notify Cal Poly Facilities Management and Development if any are found. A qualified archeologist would be present onsite during earth-moving activities to provide oversight to contractor crew and campus employees. In the event of a find, Cal Poly shall implement item (5), below.
2. For project sites requiring a moderate or intensive level of investigation, a surface survey shall be conducted by a qualified archaeologist once the area of ground disturbance has been identified and before soil disturbing activities. For sites requiring moderate investigation, in the event of a surface find, intensive investigation shall be implemented, as per item (3), below. Irrespective of findings, the qualified archaeologist shall, in consultation with Cal Poly Facilities Management and Development, develop an archaeological monitoring plan to be implemented during the construction phase of the project. If the project site is located within a zone of archaeological sensitivity (i.e., within 750 feet of Brizzolara Creek, Stenner Creek, or Old Garden Creek) or it is recommended by the archaeologists, Cal Poly shall notify the appropriate Native American tribe and extend an invitation for monitoring. The frequency and duration of monitoring shall be adjusted in accordance with survey results, the nature of construction activities, and results during the monitoring period. A written report of the results of the monitoring shall be prepared and filed with the appropriate Information Center of the California Historical Resources Information System. In the event of a discovery, Cal Poly shall implement item (5), below.
3. For project sites requiring intensive investigation, irrespective of subsurface finds, Cal Poly shall retain a qualified archaeologist to conduct a subsurface investigation of the project site, to ascertain whether buried archaeological materials are present and, if so, the extent of the deposit relative to the project's area of effects. If an archaeological deposit is discovered, the archaeologist shall prepare a site record and a written report of the results of investigations and filed with the appropriate Information Center of the California Historical Resources Information System.
4. If it is determined that the resource extends into the project's area of effects, the resource shall be evaluated by a qualified archaeologist, who shall determine whether it qualifies as a historical resource or a unique archaeological resource under the criteria of State CEQA Guidelines Section 15064.5. If the resource does not qualify, or if no resource is present within the project's area of effects, this shall be noted in the environmental document and no further mitigation is required unless there is a discovery during construction. In the event of a discovery item (5), below shall be implemented.
5. If archaeological material within the project's area of effects is determined to qualify as an historical resource or a unique archaeological resource (as defined by CEQA), Cal Poly Facilities Management and Development shall consult with the qualified archaeologist to consider means of avoiding or reducing ground disturbance within the site boundaries, including minor modifications of building footprint, landscape modification, the placement of protective fill, the establishment of a preservation easement, or other means that shall permit avoidance or substantial preservation in place of the resource. If avoidance or substantial preservation in place is not possible, Cal Poly shall implement Mitigation Measure 3.4-2b. 6) If archaeological material is discovered during construction (whether or not an archaeologist is present), all soil disturbing work within 100 feet of the find shall cease. Cal Poly Facilities Management and Development shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the deposit, and assessment of the remainder of the site within the project area to determine whether the resource is significant and would be affected by the project. Mitigation Measure 3.4-2a (3) and (4) shall be implemented.

3.4-2b: Protect Known Unique Archaeological Resources

For an archaeological site that has been determined by a qualified archaeologist to qualify as a unique archaeological resource through the process set forth under Mitigation Measure 3.4-2a, and where it has been determined under Mitigation Measure 3.4-2a that avoidance or preservation in place is not feasible, a qualified archaeologist, in consultation with Cal Poly Facilities Management and Development, and Native American tribes as applicable, shall:

1. Prepare a research design and archaeological data recovery plan for the recovery that shall capture those categories of data for which the site is significant and implement the data recovery plan before or during development of the site.
2. Perform appropriate technical analyses, prepare a full written report and file it with the appropriate information center, and provide for the permanent curation of recovered materials.
3. If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion on the CRHR, Cal Poly Facilities Management and Development shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the project that would allow the site to be preserved intact, such as project redesign, placement of fill, or project relocation or abandonment. If no such measures are feasible, Cal Poly shall implement Mitigation Measure 3.4-2c.

Mitigation Measures
Biological Resources
3.5-2c: Prepare Project-Specific California Red-Legged Frog Habitat Assessments Future development that would directly affect reservoirs, ponds, or drainages or that would result in land disturbance within 1.6 kilometers of these features shall be subject to project-specific California Red-legged Frog Habitat Assessments. The assessments shall be prepared in coordination with, and submitted for review by, USFWS. The California red-legged frog habitat assessments shall be prepared and processed in accordance with the USFWS Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog (USFWS 2005), or the most recent applicable guidance. The assessments shall specifically evaluate the reservoirs, ponds, and drainages and their upland areas that may be disturbed by Master Plan Area projects and be submitted to USFWS for review/approval. Alternatively, Cal Poly can conduct a campus-wide habitat assessment to identify California red-legged frog aquatic and upland habitat. If prepared, the campus-wide assessment shall also be submitted to USFWS for review/approval and can be used to screen out projects that do not require consultation within the Master Plan Area.
3.5-2d: Conduct California Red-Legged Frog Consultation For 2035 Master Plan projects that would affect jurisdictional water features and would also affect California red-legged frog and/or California red-legged frog Critical Habitat as determined from Mitigation Measure 3.5-2c, Cal Poly shall coordinate with USACE during the CWA Section 404 permitting process to consult with USFWS regarding the potential for these activities to result in take of California red-legged frog and/or California red-legged frog critical habitat. If USACE in consultation with USFWS determines that the proposed projects may affect or result in take of California red-legged frog, USFWS may issue a Biological Opinion with an Incidental Take Statement for the project. Cal Poly shall comply with all measures included in the Biological Opinion, which may include compensatory mitigation for permanent and/or temporary loss of habitat, construction monitoring, salvaging of California red-legged frog, and installation of exclusion fencing between the project site and adjacent habitats. If USACE declines to take jurisdiction over the project, thus removing a federal nexus from the project, Cal Poly shall consult directly with the USFWS pursuant to Section 10 of the ESA. If USFWS determines that the project may affect or result in take of California red-legged frog or detrimental modification of critical habitat, it may ask Cal Poly to prepare an HCP and obtain an ITP. Cal Poly shall comply with all measures included in the ITP. A permitting strategy (i.e., programmatic versus individual project consultations) shall be determined between Cal Poly and USFWS as Cal Poly commences implementation of the 2035 Master Plan.
3.5-2e: Avoid California Red-Legged Frog during the Wet Season To avoid the potential for take of California red-legged frogs, unless otherwise authorized by the Biological Opinion and/or Incidental Take Permit per Mitigation Measure 3.5-2.d, the initial ground-disturbing activities associated with 2035 Master Plan projects that would affect California red-legged frog and/or California red legged frog Critical Habitat as determined from Mitigation Measure 3.5-2c shall be completed in the dry season (between June 1 and the first fall rains). Regardless of the seasonal rain patterns, no ground-disturbing activities may occur on these sites between first fall rains and May 31 of any year without prior authorization or concurrence from USFWS and CDFW.
3.5-2f: Conduct Preconstruction Surveys for California Red-Legged Frog Prior to construction of future Master Plan development projects that would affect California red-legged frog and/or California red-legged frog Critical Habitat as determined from Mitigation Measure 3.5-2c, Cal Poly shall retain a qualified biologist with demonstrated experience surveying for California red-legged frog. The biologist shall conduct preconstruction surveys for California red-legged frog. The survey(s) must be conducted within 48 hours before the site disturbance and encompass the entire project disturbance area and a 100-foot buffer of the disturbance area(s). If California red-legged frog(s) are observed during the survey, the biologist shall immediately contact Cal Poly and inform them of the survey findings. Cal Poly shall delay the project activities that were planned to occur in the area until Cal Poly consults with USFWS and secures any necessary approvals, including a Biological Opinion or an Incidental Take Permit (if not already secured) as may be applicable, to move forward with the Master Plan project. In absence of USFWS approval, the surveying biologist shall not capture, handle, or otherwise harass California red-legged frog. Cal Poly and its contractors shall comply with all measures within any Biological Opinion or Incidental Take Permit.
3.5-2g: Implement Waterway Protection Measures Prior to construction of future development that would directly affect reservoirs, ponds, or drainages or that would result in land disturbance within California red-legged frog habitat as defined by Mitigation Measure 3.5-2c, implement Mitigation Measures 3.5-3a through 3.5-3d, described below.

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3.5-2h: Conduct Environmental Monitoring For projects and locations where mitigation measures are required to protect biological resources during construction activities, Cal Poly shall retain an environmental monitor to ensure compliance with the EIR mitigation measures. The monitor shall be responsible for: (1) ensuring that procedures for verifying compliance with environmental mitigations are implemented; (2) establishing lines of communication and reporting methods; (3) conducting compliance reporting; (4) conducting construction crew training regarding environmentally sensitive areas and/or special-status species; (5) maintaining authority to stop work; and (6) outlining actions to be taken in the event of non-compliance. Monitoring shall be conducted full time during the initial vegetation removal (clear/grub activities), then periodically throughout project construction, or at a frequency and duration as directed by the affected natural resource agencies (e.g., USACE, USFWS, CDFW, and RWQCB).
3.5-2o: Conduct Ringtail Den(s) Surveys, and Avoidance If vegetation removal or construction activities within riparian habitat occur outside of the breeding and pupping season for ringtail (February 1 through June 15), no mitigation is necessary. If the ringtail breeding season cannot be avoided, Cal Poly shall retain a qualified biologist to conduct pre-construction surveys within 3 weeks prior to commencement of construction for potential natal or maternity den trees/rock crevices. If an active den is found, the qualified biologist, in consultation with CDFW, shall determine a construction-free buffer zone to be established around the den until the young have left the den. At a minimum, the buffer shall be 500 feet unless a reduced buffer is warranted as determined by a qualified biologist in consultation with CDFW. Because ringtails are known to move their offspring between dens, the biologist may maintain the den under surveillance with a trail camera in a way that does not affect the use of the den. If the biologist determines that ringtails have vacated the den during the surveillance period, then construction may begin within 7 days following this observation, but the den must remain under surveillance in the event that the mother has moved the litter back to the den. If the den is within a tree hollow, and the tree needs to be removed, the hollow section of the tree must be salvaged and secured to a nearby unaffected tree in order to maintain the number of dens in the area.
3.5-2q: Conduct Monterey Dusky-Footed Woodrat Midden Surveys, Avoidance, or Relocation Prior to implementation of 2035 Master Plan projects that require work in riparian corridors, California sagebrush scrub, coast live oak woodland, and non-native woodland habitat, Cal Poly shall retain a qualified biologist to survey for Monterey dusky-footed woodrat middens and assist in the removal/relocation of woodrat middens no more than 2 weeks prior to start of ground disturbance activities. The biologist shall document the results of the survey(s) in a letter report to Cal Poly and CDFW that includes a map of observed middens. If dusky-footed woodrat middens are found on a particular project site and are located outside of the permanent footprint of any proposed structure/site features and can be avoided, Cal Poly shall establish and maintain a 40-foot protective buffer, unless a reduced buffer is warranted as determined by a qualified biologist in consultation with CDFW, ensuring that the buffer does not isolate the midden from available habitat. If middens can be avoided no further mitigation is required. If middens cannot be avoided, relocation shall be conducted in consultation with CDFW. Relocation of the middens shall occur after July 1 and before December 1 to avoid the maternity season. During implementation of site clearing activities and under supervision of the biologist, the equipment operators shall remove all vegetation and other potential woodrat shelter within the disturbance areas that surround the woodrat midden(s) to be removed. Upon completion of clearing the adjacent woodrat shelter, the operator shall gently nudge the intact woodrat midden with equipment or long handled tools. Due to the potential health hazards associated with removing woodrat middens, hand removal is not recommended. The operators shall place their equipment within the previously cleared area and not within the undisturbed woodrat shelter area. The objective is to alarm the woodrats so that they evacuate the midden and scatter away from the equipment and into the undisturbed vegetation. Once the woodrats have evacuated the midden(s), the operator shall gently pick up the midden structure and move it to the undisturbed adjacent vegetation. The objective of moving the structure is to provide the displaced woodrats with a stockpile of material to scavenge while they build a new midden; jeopardizing the integrity of the midden structure is not an adverse impact.
3.5-2r: Conduct Environmental Monitoring During construction of future development that requires work in or around active Monterey dusky-footed woodrat middens, implement Mitigation Measure 3.5-2h, described above.
3.5-2u: Conduct Special-Status Bird and Other Bird Nest Avoidance For any project-specific construction activities under the 2035 Master Plan, the following measures shall be implemented to avoid or minimize loss of active special-status bird nests including tricolored blackbird, grasshopper sparrow, burrowing owl, western yellow-billed cuckoo, white-tailed kite, least Bell's vireo, loggerhead shrike, and purple martin: a) To minimize the potential for loss of special-status or other bird nests, vegetation removal activities within potentially suitable nesting habitat shall commence during the nonbreeding season (September 16 - January 31), where feasible. b) If project construction activities, including ground-disturbing activities, vegetation trimming, or tree removal are scheduled to occur between February 1 and September 15, the following measures shall be implemented:

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i. For project sites on or within 500 feet of agricultural land, pasture, non-native annual grassland, or riparian habitat as shown in Figure 3.5-1, "Land Cover," and ornamental/landscaping trees in developed habitat, Cal Poly shall retain a qualified biologist to conduct habitat assessment surveys for tricolored blackbird, grasshopper sparrow, burrowing owl, western yellow-billed cuckoo, white-tailed kite, least Bell's vireo, loggerhead shrike, and purple martin. If no suitable habitat is present within 500 feet of the project site, no further action is required.

ii. Where suitable habitat is present, surveys shall be conducted by biologists adhering to guidance offered in Western Yellow-billed Cuckoo Natural History Summary and Survey Methodology (Halterman et al. 2015); Least Bell's Vireo Survey Guidelines (USFWS 2001); CDFW Staff Report on Burrowing Owl Mitigation (CDFW 21012) and/or current industry standards. Cal Poly shall initiate consultation with USFWS and/or CDFW as required and shall mitigate for the loss of breeding and foraging habitat as determined by consultation.

iii. Two weeks prior to construction, a pre-construction nesting bird survey shall be conducted within suitable habitat identified in Mitigation Measure 3.5-2u(b)(i). If nests of these species are detected, a qualified biologist shall establish no-disturbance buffers around nests. Buffers shall be of sufficient width that breeding is not likely to be disrupted or adversely affected by construction. No-disturbance buffers around active nests shall be a minimum of 0.25 mile wide for white-tailed kite, 500 feet wide for other raptors, and 250 feet wide for other special-status birds, unless a qualified biologist determines based on site-specific conditions that a larger or smaller buffer would be sufficient to avoid impacts on nesting birds. Factors to be considered in determining buffer size shall include the presence of existing buffers provided by vegetation, topography, or existing buildings/structures; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers shall be maintained until a qualified biologist has determined that young have fledged and are no longer reliant upon the nest or parental care for survival. Monitoring of the nest by a qualified biologist during and after construction activities shall be required if the activity has potential to adversely affect the nest.

iv. For tricolored blackbird, the qualified biologist shall conduct preconstruction surveys within tules, cattails, Himalayan blackberry, and riparian scrub habitat areas. The surveys shall be conducted no more than 14 days before construction commences. If no active nests or tricolored blackbird colonies are found during focused surveys, no further action under this measure shall be required. If active nests are located during the preconstruction surveys, the biologist shall notify CDFW. If necessary, modifications to the project design to avoid removal of occupied habitat while still achieving project objectives shall be evaluated and implemented to the extent feasible. If avoidance is not feasible or conflicts with project objectives, construction shall be prohibited within a minimum of 100 feet of the outer edge of the nesting colony, unless a qualified biologist determines based on site-specific conditions that a larger or smaller buffer would be sufficient, to avoid disturbance until the nest colony is no longer active.

3.5-2v: Conduct Environmental Monitoring

During construction of future development within the active nesting season where nesting birds have been found and a no-disturbance buffer is established, implement Mitigation Measure 3.5-2h, described above.

3.5-2w: Implement Bat Preconstruction Surveys and Exclusion

Before commencing construction activities with the potential to affect bats, including land surveying with a Global Positioning System (GPS) Total Station and removal of farm structures and trees with hollows or exfoliating bark suitable for bats, a qualified biologist shall conduct surveys for roosting bats 2 weeks prior to start of construction activities. GPS Total Stations used for land surveying emit high frequency noise outside of the human hearing frequency but within the hearing range of bats, which has resulted in colony abandonment. If evidence of bat use is observed, the species and number of bats using the roost shall be determined. Bat detectors may be used to supplement survey efforts. If no evidence of bat roosts is found, then no further study and no additional measures are required. If the roost site can be avoided, a 250-foot-wide no-disturbance buffer shall be implemented unless a qualified biologist determines, based on bat species and site-specific conditions, that a larger or smaller buffer would be adequate to avoid impacts on bat roosts.

If roosts of pallid bat or other bat species are found, and the roost cannot be avoided, bats shall be excluded from the roosting site before the tree or structure is removed. Exclusion efforts shall be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young). Once it is confirmed that bats are not present in the original roost site, the tree or structure may be removed. A detailed program to identify exclusion methods and roost removal procedures shall be developed by a qualified biologist in consultation with CDFW before implementation.

3.5-2x: Conduct Environmental Monitoring

If construction of future development would occur where an active bat roost or maternity colony is found and a no-disturbance buffer has been established, conduct environmental monitoring as described in Mitigation Measure 3.5-2h.

Mitigation Measures
3.5-3b: Implement Low-Impact Development Principles Pursuant to 2035 Master Plan Principle OR 17, Cal Poly shall incorporate Low-Impact Development (LID) principles in the design of all projects within 100 feet of Brizzolara Creek, Stenner Creek, campus reservoirs, waterways and riparian areas unless a qualified biologist determines, based on site-specific conditions, that a larger or smaller buffer would be sufficient to avoid impacts on these resources.
3.5-3c: Install Exclusion Fencing Prior to construction of any project within 100 feet of Brizzolara Creek, Stenner Creek, campus reservoirs, and other campus waterways, all grading plans shall clearly show the outer limits of riparian vegetation or top-of-bank features and specify the location of project delineation fencing that excludes the riparian areas from disturbance. The project delineation fencing shall remain in place and functional throughout the duration of the project, and no work activities shall occur outside the delineated work area. This measure shall not apply to any project specifically designed to cross a creek, such as a bridge or span.
3.5-3d: Map and Protect Waterways and Riparian Areas Prior to construction, plans shall clearly show all staging areas, which shall be located a minimum of 100 feet outside of the Brizzolara Creek, Stenner Creek, campus reservoirs, and other campus waterways and riparian areas. The minimum buffer size may be reduced at the discretion of a qualified biologist if, based on local habitat conditions and project features, the buffer is sufficient to avoid construction-related disturbances to waterways and riparian areas.
3.5-3g: Avoid Planting Invasive Plants Project landscaping shall not utilize any species included on the most recent Cal-IPC Inventory.
3.5-3h: Use Clean and Weed-Free Vehicles and Equipment a) Cal Poly shall require of its contractor(s) that all vehicles and construction equipment arrive at project areas clean and weed free to avoid inadvertent transport of invasive species. Equipment shall be inspected by the on-site inspector or environmental monitor for mud and other signs that weed seeds or propagules could be present prior to use in project areas in or near sensitive natural communities. If the equipment is not clean, the environmental inspector or monitor shall deny access to the work areas until the equipment is clean. b) Vehicles and equipment shall be cleaned using high-pressure water or air in designated weed-cleaning stations after exiting a weed-infested area. Cleaning stations shall be designated by a botanist or noxious weed specialist and located away from aquatic resources, riparian areas, and other sensitive natural communities.
3.5-3i: Require Use of Certified Weed-Free Construction Materials Only certified weed-free construction materials, such as sand, gravel, straw, or fill, shall be used throughout each project site.
3.5-3j: Treat Invasive Plant Infestations Before construction activities begin, Cal Poly shall treat invasive plant infestations in the construction area, and within 50 feet of the construction activity area. Any new invasive plant infestations discovered during construction shall be documented, reported to Cal Poly, and treated where needed. After construction is complete, Cal Poly or its contractors shall monitor all construction disturbance areas for new invasive plant invasions and expansion of existing weed populations and treat invasive plan infestations where needed. Post-construction monitoring for invasive plant infestations would be conducted annually for 3 years within sensitive natural communities.
3.5-4: Design Projects to Avoid and Minimize Disturbances to Jurisdictional Waters; Conduct Delineation of Jurisdictional Waters and Obtain Authorization for Fill and Required Permits; and Compensate for Unavoidable Degradation or Loss of Jurisdictional Waters Cal Poly shall avoid, minimize, and compensate for potential degradation or loss of waters of the United States and waters of the state by implementing the following measures. ▶ Cal Poly shall design new facilities and improvements to existing facilities to avoid impacts on potential jurisdictional waters where feasible. If avoidance of these features is not feasible, or the jurisdictional status of an waterways that may be encroached upon is unknown, Cal Poly shall prepare a project-specific Jurisdictional Waters Delineation that identifies the project boundaries in relation to the jurisdictional boundaries of the site. For any unavoidable fill or alteration of a jurisdictional feature, Cal Poly shall coordinate with USACE to obtain a CWA Section 404 permit, CDFW to obtain a Streambed Alteration Agreement, and RWQCB to obtain a CWA Section 401 Certification. Cal Poly shall comply with all special conditions of the necessary permits. ▶ To support the permit applications, Cal Poly shall prepare a Habitat Mitigation and Monitoring Plan (HMMP) for inclusion into the permit applications. The HMMP shall, at a minimum propose a 2:1 replacement ratio for permanent impacts on jurisdictional areas and a 1:1 ratio for temporary impacts on the jurisdictional areas, or higher mitigation ratios if required by the permitting agencies. Unless otherwise directed by the permitting agencies, Cal Poly shall incorporate on-site, in-kind, permittee-responsible compensatory mitigation to ensure that the drainages' functions and values are retained or improved as part of the project. The HMMP shall identify the location(s) where the proposed

Mitigation Measures
compensatory mitigation shall be implemented and the type (e.g., creation, restoration, enhancement, preservation) of mitigation that shall be implemented. At a minimum, the HMMP shall include a 5-year maintenance and monitoring program that facilitates the successful completion of the mitigation efforts. ▶ Pursuant to Master Plan Principles S 02 and S 03, all improvements to the existing pedestrian pathways that currently cross Brizzolara Creek shall have the sole purpose of maintaining safe pedestrian and bicycle use of the crossings. Cal Poly shall not improve these existing pedestrian/bicycle crossings for vehicular use. ▶ Pursuant to Master Plan Principles S 02 and S 03, all improvements to the existing vehicle crossing at Via Carta shall have the sole purpose of maintain the existing use as a two-lane vehicle crossing or a pedestrian/bicycle crossing. The existing Via Carta crossing shall not be improved in such a manner that increases the width of the crossing or increases the amount of the crossing's surface area that covers Brizzolara Creek. Any improvements to the existing bridge shall be designed to result in a decrease of creek surface area being covered by bridge structure. ▶ Pursuant to Master Plan Principles S 02 and S 03, to the extent feasible, Cal Poly shall omit the one proposed pedestrian/bicycle crossing at the existing parking area located at the Highland Drive and East Creek Road intersection from future development plans. Cal Poly shall design the pedestrian/bicycle circulation routes to utilize the existing crossings in the area if feasible. The intent of omitting the proposed crossing is to minimize impacts on jurisdictional waters and the habitat functions and services that the creek provides. If omitting the one new pedestrian/bicycle crossing is not feasible, Cal Poly shall design, permit, and construct the new pedestrian/bicycle crossing in conjunction with the proposed California Boulevard extension crossing at East Creek Road. These two crossings shall not be designed and constructed independently from each other. The intent of combining the design of the two crossings is to ensure that the two crossings are developed in such a way that minimizes impacts on the creek and allows permitting agencies to evaluate the full effect of the two crossings on the creek functions and services during the permitting process.
3.4-2b: Protect Known Unique Archaeological Resources For an archaeological site that has been determined by a qualified archaeologist to qualify as a unique archaeological resource through the process set forth under Mitigation Measure 3.4-2a, and where it has been determined under Mitigation Measure 3.4-2a that avoidance or preservation in place is not feasible, a qualified archaeologist, in consultation with Cal Poly Facilities Management and Development, and Native American tribes as applicable, shall: 1. Prepare a research design and archaeological data recovery plan for the recovery that shall capture those categories of data for which the site is significant and implement the data recovery plan before or during development of the site. 2. Perform appropriate technical analyses, prepare a full written report and file it with the appropriate information center, and provide for the permanent curation of recovered materials. 3. If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion on the CRHR, Cal Poly Facilities Management and Development shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the project that would allow the site to be preserved intact, such as project redesign, placement of fill, or project relocation or abandonment. If no such measures are feasible, Cal Poly shall implement Mitigation Measure 3.4-2c.
3.4-2c: Document Unique Archaeological Resources If a significant unique archaeological resource cannot be preserved intact, before the property is damaged or destroyed, Cal Poly Facilities Management and Development shall ensure that the resource is appropriately documented. For an archaeological site, a program of research-directed data recovery shall be conducted and reported, consistent with Mitigation Measure 3.4-2a.
Geology and Soils
3.7-3: Perform Site-Specific Geotechnical Investigations For any areas within the campus where development is proposed in an area designated as having a high potential for landslide hazards, have substantial erosion potential, or be located on a geologic unit that is unstable or within an area known to have expansive soils, a site-specific geotechnical investigation shall be performed. Based on the findings of the geotechnical investigation for each future development or redevelopment projects under the 2035 Master Plan, any appropriate stabilization and site design recommendations, or low impact development features determined necessary to support proposed development shall be incorporated in the project design and implemented as part of project construction. Examples of stabilization and erosion control recommendations may include, but are not limited to: ▶ installation of earthen buttress(es); ▶ excavation of landslide mass/material; ▶ slope stabilization through excavation into benches and/or keyways and other methods;

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▶ deep soil mixing; ▶ installation of retaining walls; ▶ use of tie-back anchors, micropiles, or shear pins; or ▶ a combination of any of these methods. Before final plan approval, Cal Poly shall incorporate into the project design and implement all recommendations identified in the site-specific geotechnical investigation, including all recommendations included in the final geotechnical report prepared for the project. All recommendations shall be shown on final plans and/or included as project specifications.
3.7-7: Treatment of Paleontological Resources If any paleontological resources are encountered during ground-disturbing activities, the construction contractor shall ensure that activities in the immediate area of the find are halted and Cal Poly informed. Cal Poly shall retain a qualified paleontologist to evaluate the discovery and recommend appropriate treatment options pursuant to guidelines developed by the Society of Vertebrate Paleontology, including development and implementation of a paleontological resource impact mitigation program for treatment of the resource, if applicable.
Greenhouse Gas Emissions
3.8-1: Implement On-Site GHG Reduction Measures Cal Poly shall implement the following GHG reduction measures: ▶ Design all new and renovated buildings to achieve a 30-percent or greater reduction in energy use compared to a standard 2019 California Energy Code-compliant building or other best practices as defined by CSU Sustainability Policy. Reductions in energy shall be achieved through energy efficiency measures consistent with Tier 2 of the California Green Building Energy Code Section A5.203.1.2.2. ▶ Design all new and renovated buildings to include Cool Roofs in accordance with the requirements set forth in Tier 2 of the 2019 California Green Building Energy Code, Sections A5.106.11.2. ▶ Install rooftop solar photovoltaics on all new and renovated buildings, including parking structures, where specific site parameters and constraints allow for adequate rooftop space. The amount of megawatt-hours that would be installed to offset electricity consumption would be based on the feasibility at each building site. ▶ Ensure that all new and renovated buildings comply with requirements for water efficiency and conservation as described in the 2019 California Green Building Standards Code, Division 5.3. ▶ Ensure that all new parking structures include preferential parking spaces to vehicles with more than one occupant and ZEVs. The number of dedicated spaces will be no less than 5 percent of the total parking spaces. These dedicated spaces shall be in preferential locations, such as near the entrance to the parking structure. ZEV spaces shall also include campus-standard electric vehicle charging stations, with electrical infrastructure capacity to expand charging stations by a factor of four as the number of electric vehicle drivers grows. These spaces shall be clearly marked with signs and pavement markings. This measure shall not be implemented in a way that prevents compliance with requirements in the California Vehicle Code regarding parking spaces for disabled persons or disabled veterans. ▶ Include multiple electrical receptacles on the exterior of all new and renovated buildings and accessible for purposes of charging or powering electric landscaping equipment and providing an alternative to using fossil fuel-powered generators. The electrical receptacles shall have an electric potential of 120 volts. There should be a minimum of one electrical receptacle on each building and one receptacle every 100 linear feet around the perimeter of the building. ▶ Ensure that all appliances and fixtures installed in project buildings are EnergyStar®-certified if an EnergyStar®-certified model of the appliance is available. Types of EnergyStar®-certified appliances include boilers, ceiling fans, central and room air conditioners, clothes washers, compact fluorescent light bulbs, computer monitors, copiers, consumer electronics, dehumidifiers, dishwashers, external power adapters, furnaces, geothermal heat pumps, programmable thermostats, refrigerators and freezers, room air cleaners, transformers, televisions, vending machines, ventilating fans, and windows (EPA 2018). If EPA's EnergyStar® program is discontinued and not replaced with a comparable certification program before appliances and fixtures are selected, then similar measures which exceed the 2019 California Green Building Standards Code may be used. ▶ Ensure that all space and water heating is solar- or electric-powered. ▶ Install high-efficacy lighting (e.g., light emitting diodes) in all streetlights, security lighting, and all other exterior lighting applications. ▶ Accomplish a waste diversion rate of 90 percent by and strive for 100 percent by 2040. ▶ Plant water-efficient and drought tolerant landscapes at all project buildings.

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In addition to the quantifiable onsite measures presented above, the following additional measures would reduce GHG emissions, although the extent to which they would reduce GHG emissions is not quantifiable. Nonetheless, Cal Poly shall implement the following measures as part of implementation of the 2035 Master Plan and the Cal Poly Climate Action Plan to the extent feasible.

- At the time of contract renegotiation, work with current car share companies (e.g., ZIP car) to increase the use of fully electric vehicles or consider partnerships with other similar services that do use electric vehicles.
- Where appropriate site conditions exist, install solar photovoltaics on available land throughout the Cal Poly campus to offset the use of nonrenewable energy for existing and future facilities and buildings.
- Cal Poly shall work with San Luis Obispo County, the City of San Luis Obispo, TriCounty Regional Energy Network (3C-REN), and other local agencies to determine if Cal Poly can fund and take GHG reduction credit for energy efficiency retrofits of local existing housing stock, commercial spaces, and other land uses.
- Accelerate the expansion of Cal Poly's fleet vehicles to electric.
- Accelerate the expansion of Level 2 EV chargers on campus to meet the anticipated demand at Cal Poly.
- Implement energy efficiency retrofits for existing buildings on campus that will remain.
- Work with SLO Regional Rideshare to refine Cal Poly's use of the iRideshare trip reporting/incentive platform to help VMT and emission reduction goals.
- To help commute incentives more effectively change commute behavior to benefit VMT, emissions, and the modal hierarchy:
- Expand faculty and staff daily benefits for using alternative transportation modes to an effective amount.
- Consider reducing the frequency between parking permit purchasing (e.g. weekly, monthly)
- Consider increasing faculty and staff parking permit costs over time.

Hydrology and Water Quality

3.9-3: Prepare Drainage Plan and Supportive Hydrologic Analysis

Before the commencement of construction activities associated with new development that will modify existing drainage and/or require the construction of new drainage infrastructure to collect and control storm water runoff, Cal Poly shall prepare a drainage plan and supportive hydrologic analysis demonstrating compliance with the following, or equally effective similar measures, to maximize groundwater recharge and maintain similar drainage patterns and flow rates:

a) Off-site runoff shall not exceed existing flow rates during storm events.

b) If required to maintain the current flow rate, appropriate methods/design features (e.g., detention/retention basins, infiltration systems, or bioswales) shall be installed to reduce local increases in runoff, particularly on frequent runoff events (up to 10-year frequency) and to maximize groundwater recharge.

c) If proposed, drainage discharge points shall include erosion protection and be designed such that flow hydraulics exiting the site mimics the natural condition as much as possible.

d) Drainage from impervious surfaces (e.g., roads, driveways, buildings) shall be directed to a common drainage basin.

e) Where feasible, grading and earth contouring shall be done in a way to direct surface runoff towards the above-referenced drainage improvements (and/or closed depressions).

3.9-4a: Prepare a Drainage Plan and Supportive Hydrologic Analysis

Implement Mitigation Measure 3.9-3, described above.

3.9-4b: Implement Post-Development Storm Water Best Management Practices and Low-Impact Development

During the design review phase of each future development project within the Master Plan Area, Facilities Management and Development will verify that the storm water BMPs and LID technologies were evaluated for each project within the 2035 Master Plan and all appropriate BMPs are incorporated into the specific project. Additionally, consistent with MS4 requirements, Facilities Management and Development will also verify that post-development runoff from the project site will approximate pre-development runoff volumes. If post-development runoff does not approximate pre-development runoff, additional BMPs shall be required in order to ensure that storm drain system capacity is not exceeded and that the drainage pattern of each project site is not significantly altered in such a way that it would result in erosion, siltation, or flooding.

Mitigation Measures
Noise

3.10-1: Implement Construction-Noise Reduction Measures (as amended)

For all construction activities related to new/renovated structures, Cal Poly shall implement or incorporate the following noise reduction measures into construction specifications for contractor(s) implementation during project construction:

- All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturer recommendations. Equipment engine shrouds shall be closed during equipment operation.
- All construction equipment and equipment staging areas shall be located as far as feasible from nearby noise-sensitive land uses, and/or located to the extent feasible such that existing or constructed noise attenuating features (e.g., temporary noise wall or blankets) block line-of-sight between affected noise-sensitive land uses and construction staging areas.
- Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site, using electric powered equipment instead of pneumatic or internal combustion powered equipment) where feasible and consistent with building codes and other applicable laws and regulations.
- Stationary noise sources such as generators or pumps shall be located as far away from noise-sensitive uses as feasible.
- No less than 1 week prior to the start of construction activities at a particular location, notification shall be provided to nearby off-campus, noise-sensitive land uses (e.g., residential uses) that are located within 350 feet of the construction site (i.e., based on the construction noise modeling, distance at which noise-sensitive receptors would experience noise levels exceeding acceptable daytime construction-noise levels).
- When construction would occur within 350 feet of on-campus housing or other on-campus or off-campus noise-sensitive uses and may result in temporary noise levels in excess of 75 Lmax at the exterior of the adjacent noise-sensitive structure, temporary noise barriers (e.g., noise-insulating blankets or temporary plywood structures) shall be erected, if deemed to be feasible and effective, between the noise source and sensitive receptor such that construction-related noise levels are reduced to 75 Lmax or less at the receptor.]
- Loud construction activity (e.g., jackhammering, concrete sawing, asphalt removal, and large-scale grading operations) within 350 feet of adjacent primary school facilities, shall not occur during state standardized testing time periods for the surrounding school districts.
- When construction requires material hauling, a haul route plan shall be prepared for construction of each facility and/or improvement for review and approval by the Cal Poly that designates haul routes as far as feasible from sensitive receptors.
- The contractor shall designate a disturbance coordinator and post that person's telephone number conspicuously around the construction site and provide to nearby residences. The disturbance coordinator shall receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem.
- Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday, where feasible. Although potential impacts were determined to be significant and unavoidable, for any construction activity that must extend beyond the daytime hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday, occur on Sunday, or legal holidays and occurs within 2,000 feet of a residential building, Cal Poly shall comply, to the extent feasible, with the City of San Luis Obispo exterior noise level standard of 60 dBA Lmax for temporary construction noise at off-campus residences. Typical residential structures with windows closed achieve a 25-30 dBA exterior-to-interior noise reduction (Caltrans 2002). Thus, using the lower end of this range, an exterior noise level of 60 dBA Lmax would result in interior noise levels of about 35 dBA Lmax, which would not result in a substantially increased risk for sleep disturbance. If exterior noise levels of 60 dBA Lmax are infeasible due to the type of construction activity and proximity to residential structures, achieving interior noise levels of 45 dBA Leq or less, consistent with City standards, would prevent nearby residents from being disturbed. One or more of the following or equivalent measures shall be considered and implemented to the extent feasible and effective:
  - Use noise-reducing enclosures and techniques around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors).
  - Install temporary noise curtains as close as possible to the boundary of the construction site within the direct line of sight path of the nearby sensitive receptor(s) that consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side.
  - Retain a qualified noise specialist to develop a noise monitoring plan and conduct noise monitoring to ensure that effective noise reduction measures are implemented to achieve exterior noise levels of 60 dBA Lmax or less at off-campus residences for construction activity occurring during these noise-sensitive hours to the maximum extent feasible.

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3.10-3c: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of Building Mechanical Equipment To minimize noise levels generated by building mechanical equipment, the following measures shall be implemented: ▶ Building air conditioning units for proposed structures shall be located on building rooftops or shielded from direct line-of-sight of adjacent noise-sensitive land uses. Building parapets shall be constructed, when necessary, to shield nearby land uses from direct line-of-site of air conditioning units. During project design of individual projects proposed as part of the 2035 Master Plan, Cal Poly shall review and ensure that external building mechanical equipment (e.g., HVAC systems) incorporate noise-reduction features sufficient to reduce average-hourly exterior operational noise levels at nearby noise-sensitive land uses to 50 Leq and 70 dba Lmax, or less during the daytime (i.e., 7:00 a.m. to 10:00 p.m.) and 45 Leq and 60 dBA Lmax, or less during the nighttime (i.e., 10:00 p.m. to 7:00 a.m.), within outdoor activity areas. Noise-reduction measures to be incorporated may include, but are not limited to, the selection of alternative or lower noise-generating equipment, relocation of equipment, and use of equipment enclosures.

Appendix B

Air Quality, Greenhouse Gas, and Energy Modeling Results and Calculations

Proposed Project Emissions

Construction

DAILY POUNDS

Year	VOC	NOX	CO	SOX	DPM	PM10	PM2.5
2023	1.31	7.21	65	0.11	0.22	29.3	14
2024	0.28	2.19	14.8	0.02	0.04	0.13	0.07
2025	8.86	4.81	26.8	0.04	0.07	0.26	0.12
2026	8.29	0.65	1.03	0	0	0.02	0.01
Maximum	**13.67**		**65**	**0.11**	**0.22**	**29.3**	**14.0**
SLO APCD Tier 1 Thresholds	137		-	-	7	-	-
Exceeds CEQA Thresholds?	No		-	-	No	-	-

ANNUAL METRIC TONS GHG

Year	MTCO2e
2023	226
2024	304
2025	298
2026	1.2
sum	**829**

MAX QUARTERLY TONS

Year	VOC	NOX	CO	SOX	DPM	PM10	PM2.5
2023	0.03	0.19	1.33	<0.01	<0.01	0.37	0.16
2024	0.04	0.29	1.93	<0.01	0.01	0.02	0.01
2025	0.31	0.12	0.65	<0.01	<0.01	0.01	0.00
2026	0.07	0.01	0.01	<0.01	<0.01	<0.01	<0.01
Maximum	**0.43**		**1.93**	**0**	**0.01**	**0.37**	**0.16**
SLO APCD Tier 1 Thresholds	2.5		-	-	0.13	2.5	-
Exceeds CEQA Thresholds?	No		-	-	No	No	-

Operations

DAILY POUNDS

Source	VOC	NOX	CO	SOX	DPM	PM10	PM2.5
Mobile	0.02	0.33	0.14	0	0.03	0.03	0.03
Area	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0
Water							
Waste							
Refrig.							
Total	0.35		0.14	0	0.03	0.03	0.03
SLO APCD Tier 1 Thresholds	25		-	-	1.25	25	-
Exceeds CEQA Thresholds?	No		-	-	No	No	-

ANNUAL TONS

Source	VOC	NOX	CO	SOX	DPM	PM10		PM2.5
Mobile	< 0.005	0.06	0	< 0.005	< 0.005	< 0.005		< 0.005
Area	0	0	0	0	0	0		0
Energy	0	0	0	0	0	0		0
Water								
Waste								
Refrig.								
Total	0.06		0	0	0	0		0
SLO APCD Thresholds	25		-	-	-	25		-
Exceeds CEQA Thresholds?	No		-	-	-	No		-

ANNUAL METRIC TONS GHG

Source	MTCO2e
Mobile	89
Area	2
Energy	5
Water	0
Waste	544
Refrig.	0.0
Total	**0**

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Cal Poly Slack and Grand - Proposed Project v2
Construction Start Date	6/1/2023
Operational Year	2025
Lead Agency	
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.2
Precipitation (days)	32.4
Location	35.296446, -120.652532
County	San Luis Obispo
City	Unincorporated
Air District	San Luis Obispo County APCD
Air Basin	South Central Coast
TAZ	3331
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq	Landscape Area	Special Landscap	Population	Description
Single Family Housing	33	Dwelling Unit	23	62000	87120		79	
Parking Lot	66	Space	0	0	0			

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Unmit.		0.44	8.57	4.55	18.7	0.03	0.06	0.1	0.15	0.06	0.02	0.08		3520	3520	0.14	0.04	0.57	3534
Daily, Winter (Max)																		
Unmit.		1.32	8.86	7.21	65	0.11	0.22	29.1	29.3	0.22	13.8	14		12121	12121	0.5	0.11	0.03	12165
Average Daily (Max)																		
Unmit.		0.21	5.16	1.9	10.6	0.02	0.03	1.99	2.01	0.03	0.87	0.9		1826	1826	0.08	0.02	0.17	1835
Annual (Max)																		

Unmit.		0.04	0.94	0.35	1.94	< 0.005		0.01	0.36	0.37		0.01	0.16	0.16		302	302	0.01	< 0.005		0.03	304

2.2. Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Daily - Summer (Max)																		
	2023	0.44	0.43	4.55	18.7	0.03	0.06	0.09	0.15	0.06	0.02	0.08	3520	3520	0.14	0.03	0.44	3534
	2024	0.29	0.28	2.19	14.8	0.02	0.04	0.09	0.13	0.04	0.02	0.07	2552	2552	0.1	0.03	0.54	2565
	2025	0.32	8.57	2.83	15.8	0.03	0.05	0.1	0.15	0.05	0.02	0.07	2697	2697	0.11	0.04	0.57	2711
	2026																	
Daily - Winter (Max)																		
	2023	1.32	1.31	7.21	65	0.11	0.22	29.1	29.3	0.22	13.8	14	12121	12121	0.5	0.11	0.03	12165
	2024	0.29	0.28	2.19	14.8	0.02	0.04	0.09	0.13	0.04	0.02	0.07	2549	2549	0.11	0.03	0.01	2562
	2025	0.54	8.86	4.81	26.8	0.04	0.07	0.19	0.26	0.07	0.04	0.12	4293	4293	0.17	0.05	0.02	4313
	2026	0.03	8.29	0.65	1.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	147	147	0.01	< 0.005	< 0.005	148
Average Daily																		
	2023	0.15	0.15	1.03	7.3	0.01	0.02	1.99	2.01	0.02	0.87	0.9	1361	1361	0.06	0.01	0.06	1367
	2024	0.21	0.2	1.57	10.6	0.02	0.03	0.06	0.09	0.03	0.02	0.05	1826	1826	0.08	0.02	0.17	1835
	2025	0.21	5.16	1.9	10.6	0.02	0.03	0.07	0.1	0.03	0.02	0.05	1792	1792	0.07	0.02	0.17	1801
	2026	< 0.005	0.41	0.03	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.2	7.2	< 0.005	< 0.005	< 0.005	7.24
Annual																		
	2023	0.03	0.03	0.19	1.33	< 0.005	< 0.005	0.36	0.37	< 0.005	0.16	0.16	225	225	0.01	< 0.005	0.01	226
	2024	0.04	0.04	0.29	1.93	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	302	302	0.01	< 0.005	0.03	304
	2025	0.04	0.94	0.35	1.94	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	297	297	0.01	< 0.005	0.03	298
	2026	< 0.005	0.07	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.19	1.19	< 0.005	< 0.005	< 0.005	1.2

2.4. Operations Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																		
Unmit.		2.04	3.73	2.03	13.8	0.03	0.06	2.24	2.3	0.05	0.57	0.62 11	3267	3278	1.26	0.14	11.7	3361
Daily, Winter (Max)																		
Unmit.		1.84	3.53	2.14	11.9	0.03	0.06	2.24	2.3	0.05	0.57	0.62 11	3180	3191	1.27	0.14	0.74	3266
Average Daily (Max)																		
Unmit.		1.98	3.67	2.15	13.5	0.03	0.06	2.2	2.25	0.05	0.56	0.61 11	3198	3209	1.26	0.14	5.3	3288
Annual (Max)																		
Unmit.		0.36	0.67	0.39	2.46	0.01	0.01	0.4	0.41	0.01	0.1	0.11 1.8	529	531	0.21	0.02	0.88	544

2.5. Operations Emissions by Sector, Unmitigated

Sector	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																		
Mobile		1.82	1.69	1.67	11.8	0.03	0.03	2.24	2.27	0.03	0.57	0.6	2722	2722	0.12	0.13	11.2	2775
Area		0.18	2.03	0.02	1.87	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0	5.01	5.01	< 0.005	< 0.005		5.02
Energy		0.04	0.02	0.33	0.14	< 0.005	0.03	0.03	0.03	0.03	0.03		534	534	0.06	< 0.005		536
Water												1.9	6.14	8.05	0.2	< 0.005		14.4
Waste												8.8	0	8.8	0.88	0		30.8
Refrig.																	0.44	0.44
Total		2.04	3.73	2.03	13.8	0.03	0.06	2.24	2.3	0.05	0.57	0.62 11	3267	3278	1.26	0.14	11.7	3361
Daily, Winter (Max)																		
Mobile		1.8	1.66	1.81	11.8	0.03	0.03	2.24	2.27	0.03	0.57	0.6	2640	2640	0.13	0.13	0.29	2684
Area		0	1.86	0	0	0	0	0	0	0		0 0	0	0	0	0		0
Energy		0.04	0.02	0.33	0.14	< 0.005	0.03	0.03	0.03	0.03	0.03		534	534	0.06	< 0.005		536
Water												1.9	6.14	8.05	0.2	< 0.005		14.4
Waste												8.8	0	8.8	0.88	0		30.8
Refrig.																	0.44	0.44
Total		1.84	3.53	2.14	11.9	0.03	0.06	2.24	2.3	0.05	0.57	0.62 11	3180	3191	1.27	0.14	0.74	3266
Average Daily																		
Mobile		1.78	1.64	1.8	11.6	0.03	0.03	2.2	2.23	0.03	0.56	0.59	2653	2653	0.13	0.13	4.85	2701
Area		0.16	2.01	0.02	1.69	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0	4.53	4.53	< 0.005	< 0.005		4.54
Energy		0.04	0.02	0.33	0.14	< 0.005	0.03	0.03	0.03	0.03	0.03		534	534	0.06	< 0.005		536
Water												1.9	6.14	8.05	0.2	< 0.005		14.4
Waste												8.8	0	8.8	0.88	0		30.8
Refrig.																	0.44	0.44
Total		1.98	3.67	2.15	13.5	0.03	0.06	2.2	2.25	0.05	0.56	0.61 11	3198	3209	1.26	0.14	5.3	3288
Annual																		
Mobile		0.33	0.3	0.33	2.12	< 0.005	0.01	0.4	0.41	< 0.005	0.1	0.11	439	439	0.02	0.02	0.8	447
Area		0.03	0.37	< 0.005	0.31	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0	0.75	0.75	< 0.005	< 0.005		0.75
Energy		0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		88.4	88.4	0.01	< 0.005		88.8
Water												0.3	1.02	1.33	0.03	< 0.005		2.38
Waste												1.5	0	1.46	0.15	0		5.1
Refrig.																	0.07	0.07
Total		0.36	0.67	0.39	2.46	0.01	0.01	0.4	0.41	0.01	0.1	0.11 1.8	529	531	0.21	0.02	0.88	544

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
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	3425	3425	0.14	0.03		3437
Demolition								0	0		0	0						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road Equipment		0.36	0.36	4.51	18.2	0.03	0.06		0.06	0.06		0.06	3425	3425	0.14	0.03		3437
Demolition								0	0		0	0						

Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Off-Road Equipment		0.03	0.03	0.32	1.29	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		244	244	0.01	< 0.005			245
Demolition								0	0		0	0								
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																				
Off-Road Equipment	< 0.005		< 0.005		0.06	0.24	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		40.4	40.4	< 0.005	< 0.005			40.5
Demolition								0	0		0	0								
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																				
Daily, Summer (Max)																				
Worker		0.07	0.07	0.05	0.56	0	0	0.09	0.09	0	0.02	0.02		94.8	94.8	0.01	< 0.005		0.44	96.6
Vendor		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Daily, Winter (Max)																				
Worker		0.07	0.07	0.05	0.55	0	0	0.09	0.09	0	0.02	0.02		90.9	90.9	0.01	< 0.005		0.01	92.3
Vendor		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Average Daily																				
Worker		0.01	< 0.005	< 0.005	0.04	0	0	0.01	0.01	0	< 0.005	< 0.005		6.52	6.52	< 0.005	< 0.005		0.01	6.63
Vendor		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Annual																				
Worker	< 0.005		< 0.005	< 0.005	0.01	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		1.08	1.08	< 0.005	< 0.005	< 0.005		1.1
Vendor		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0

3.3. Site Preparation (2023) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Onsite																	
Daily, Summer (Max)																	
Daily, Winter (Max)																	
Off-Road Equipment		0.5	0.5	2.59	28.3	0.05	0.1	0.1	0.1	0.1	0.1		5295	5295	0.21	0.04	5314
Dust From Material Movement								19.7	19.7		10.1	10.1					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																	
Off-Road Equipment		0.02	0.02	0.1	1.09	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	203	203	0.01	< 0.005	204
Dust From Material Movement								0.75	0.75		0.39	0.39					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005		< 0.005	0.02	0.2	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	33.6	33.6	< 0.005	< 0.005	33.7
Dust From Material Movement								0.14	0.14		0.07	0.07					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Daily, Winter (Max)																	
Worker		0.08	0.08	0.06	0.64	0	0	0.1	0.1	0	0.02	0.02	106	106	0.01	< 0.005	0.01	108
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Worker	< 0.005		< 0.005	< 0.005	0.02	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	4.1	4.1	< 0.005	< 0.005	0.01	4.16
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Worker	< 0.005		< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.68	0.68	< 0.005	< 0.005	< 0.005	0.69
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3.5. Grading (2023) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Onsite																	
Daily, Summer (Max)																	
Daily, Winter (Max)																	
Off-Road Equipment		0.64	0.64	4.43	35.3	0.06	0.12	0.12	0.12	0.12	0.12		6598	6598	0.27	0.05	6621
Dust From Material Movement								9.2	9.2		3.65	3.65					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																	
Off-Road Equipment		0.08	0.08	0.58	4.65	0.01	0.02	0.02	0.02	0.02	0.02		868	868	0.04	0.01	871
Dust From Material Movement								1.21	1.21		0.48	0.48					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment		0.02	0.02	0.11	0.85	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	144	144	0.01	< 0.005		144
Dust From Material Movement								0.22	0.22		0.09	0.09					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Daily, Winter (Max)																	
Worker		0.1	0.09	0.07	0.73	0	0	0.11	0.11	0	0.03	0.03	121	121	0.01	0.01	0.02	123
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Worker		0.01	0.01	0.01	0.09	0	0	0.01	0.01	0	< 0.005	< 0.005		16	16	< 0.005	< 0.005		0.03	16.3

Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Worker	< 0.005	< 0.005	< 0.005		0.02	0	0	< 0.005	< 0.005		0	< 0.005	< 0.005		2.66	2.66	< 0.005	< 0.005		0.01	2.7
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3.7. Building Construction (2023) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Onsite																		
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road Equipment		0.23	0.23	2.03	14.3	0.02	0.04		0.04	0.04		0.04	2397	2397	0.1	0.02		2406
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	< 0.005	< 0.005		0.02	0.11	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	18.8	18.8	< 0.005	< 0.005		18.8
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Off-Road Equipment	< 0.005	< 0.005	< 0.005		0.02	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	3.11	3.11	< 0.005	< 0.005		3.12
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																		
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker		0.06	0.05	0.04	0.44	0	0	0.07	0.07	0	0.02	0.02	72	72	0.01	< 0.005	0.01	73.1
Vendor		0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	81.8	81.8	< 0.005	0.01	0.01	85.4
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005		0	0	< 0.005	< 0.005		0	< 0.005	< 0.005	0.57	0.57	< 0.005	< 0.005	< 0.005	0.58
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.64	0.64	< 0.005	< 0.005	< 0.005	0.67
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005		0	0	< 0.005	< 0.005		0	< 0.005	< 0.005	0.09	0.09	< 0.005	< 0.005	< 0.005	0.1
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3.9. Building Construction (2024) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Onsite																		
Daily, Summer (Max)																		
Off-Road Equipment		0.23	0.23	2.03	14.3	0.02	0.04		0.04	0.04		0.04	2398	2398	0.1	0.02		2406
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road Equipment		0.23	0.23	2.03	14.3	0.02	0.04		0.04	0.04		0.04	2398	2398	0.1	0.02		2406
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Off-Road Equipment		0.16	0.16	1.45	10.2	0.02	0.03		0.03	0.03		0.03	1717	1717	0.07	0.01		1723
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Off-Road Equipment		0.03	0.03	0.27	1.87	< 0.005	0.01		0.01	0.01		0.01	284	284	0.01	< 0.005		285
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																		
Daily, Summer (Max)																		
Worker		0.06	0.05	0.03	0.41	0	0	0.07	0.07	0	0.02	0.02	73.8	73.8	< 0.005	< 0.005	0.33	75.2
Vendor		0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	80.7	80.7	< 0.005	0.01	0.21	84.5
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																		
Worker		0.05	0.05	0.04	0.4	0	0	0.07	0.07	0	0.02	0.02	70.7	70.7	0.01	< 0.005	0.01	71.8
Vendor		0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	80.7	80.7	< 0.005	0.01	0.01	84.3
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Worker		0.04	0.04	0.03	0.29	0	0	0.05	0.05	0	0.01	0.01	51	51	< 0.005	< 0.005	0.1	51.9
Vendor	< 0.005	< 0.005		0.09	0.04	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	57.8	57.8	< 0.005	0.01	0.06	60.4
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Worker		0.01	0.01	< 0.005	0.05	0	0	0.01	0.01	0	< 0.005	< 0.005	8.44	8.44	< 0.005	< 0.005	0.02	8.59
Vendor	< 0.005	< 0.005		0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	9.57	9.57	< 0.005	< 0.005	0.01	10
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3.11. Building Construction (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Onsite																		
Daily, Summer (Max)																		
Off-Road Equipment		0.23	0.23	2.03	14.3	0.02	0.04		0.04	0.04		0.04	2398	2398	0.1	0.02		2406
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road Equipment		0.23	0.23	2.03	14.3	0.02	0.04		0.04	0.04		0.04	2398	2398	0.1	0.02		2406
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Off-Road Equipment		0.14	0.14	1.26	8.9	0.01	0.03		0.03	0.03		0.03	1492	1492	0.06	0.01		1497
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Off-Road Equipment		0.03	0.03	0.23	1.62	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	247	247	0.01	< 0.005		248

Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																		
Daily, Summer (Max)																		
Worker		0.05	0.05	0.03	0.39	0	0	0.07	0.07	0	0.02	0.02	72.4	72.4	< 0.005	< 0.005	0.3	73.8
Vendor		0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	79.3	79.3	< 0.005	0.01	0.21	83
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																		
Worker		0.05	0.05	0.03	0.38	0	0	0.07	0.07	0	0.02	0.02	69.4	69.4	< 0.005	< 0.005	0.01	70.4
Vendor		0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	79.3	79.3	< 0.005	0.01	0.01	82.9
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Worker		0.03	0.03	0.02	0.23	0	0	0.04	0.04	0	0.01	0.01	43.5	43.5	< 0.005	< 0.005	0.08	44.2
Vendor	< 0.005	< 0.005		0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	49.3	49.3	< 0.005	0.01	0.06	51.6
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Worker		0.01	0.01	< 0.005	0.04	0	0	0.01	0.01	0	< 0.005	< 0.005	7.2	7.2	< 0.005	< 0.005	0.01	7.32
Vendor	< 0.005	< 0.005		0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.17	8.17	< 0.005	< 0.005	0.01	8.55
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3.13. Paving (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Onsite																	
Daily, Summer (Max)																	
Daily, Winter (Max)																	
Off-Road Equipment		0.16	0.16	1.93	10.6	0.01	0.03	0.03	0.03		0.03		1511	1511	0.06	0.01	1517
Paving			0.07														
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																	
Off-Road Equipment		0.01	0.01	0.14	0.78	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005		112	112	< 0.005	< 0.005	112
Paving			0.01														
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005		0.03	0.14	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005		18.5	18.5	< 0.005	< 0.005	18.6
Paving		< 0.005															
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Daily, Winter (Max)																	
Worker		0.06	0.06	0.04	0.48	0	0	0.09	0.09	0	0.02	0.02	87.6	87.6	< 0.005	< 0.005	0.01	88.9
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Worker	< 0.005	< 0.005	< 0.005		0.04	0	0	0.01	0.01	0	< 0.005	< 0.005	6.53	6.53	< 0.005	< 0.005	0.01	6.64
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Worker	< 0.005	< 0.005	< 0.005		0.01	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	1.08	1.08	< 0.005	< 0.005	< 0.005	1.1
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3.15. Architectural Coating (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
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			8.26														
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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			8.26														
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																	
Off-Road Equipment		0.01	0.01	0.39	0.58	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005		80	80	< 0.005	< 0.005	80.2
Architectural Coatings			4.94														
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005		0.07	0.11	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005		13.2	13.2	< 0.005	< 0.005	13.3
Architectural Coatings			0.9														
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker		0.01	0.01	0.01	0.08	0	0	0.01	0.01	0	< 0.005	< 0.005	14.5	14.5	< 0.005	< 0.005	0.06	14.8
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																		
Worker		0.01	0.01	0.01	0.08	0	0	0.01	0.01	0	< 0.005	< 0.005	13.9	13.9	< 0.005	< 0.005	< 0.005	14.1
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Worker		0.01	0.01	< 0.005	0.04	0	0	0.01	0.01	0	< 0.005	< 0.005	8.37	8.37	< 0.005	< 0.005	0.02	8.51
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual																						
Worker	< 0.005	< 0.005	< 0.005		0.01	0	0	< 0.005	< 0.005		0	< 0.005	< 0.005		1.39	1.39	< 0.005	< 0.005	< 0.005		1.41
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

3.17. Architectural Coating (2026) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Onsite																		
Daily, Summer (Max)																		
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			8.26															
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	< 0.005	< 0.005		0.03	0.05	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	6.53	6.53	< 0.005	< 0.005		6.55
Architectural Coatings			0.4															
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Off-Road Equipment	< 0.005	< 0.005		0.01	0.01	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	1.08	1.08	< 0.005	< 0.005		1.09
Architectural Coatings			0.07															
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																		
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker		0.01	0.01	0.01	0.07	0	0	0.01	0.01	0	< 0.005	< 0.005	13.6	13.6	< 0.005	< 0.005	< 0.005	13.8
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Daily																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005		0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.67	0.67	< 0.005	< 0.005	< 0.005	0.68
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005		0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																		
Single Family Housing		1.82	1.69	1.67	11.8	0.03	0.03	2.24	2.27	0.03	0.57	0.6	2722	2722	0.12	0.13	11.2	2775
Parking Lot		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		1.82	1.69	1.67	11.8	0.03	0.03	2.24	2.27	0.03	0.57	0.6	2722	2722	0.12	0.13	11.2	2775
Daily, Winter (Max)																		
Single Family Housing		1.8	1.66	1.81	11.8	0.03	0.03	2.24	2.27	0.03	0.57	0.6	2640	2640	0.13	0.13	0.29	2684
Parking Lot		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		1.8	1.66	1.81	11.8	0.03	0.03	2.24	2.27	0.03	0.57	0.6	2640	2640	0.13	0.13	0.29	2684
Annual																		
Single Family Housing		0.33	0.3	0.33	2.12	< 0.005		0.01	0.4	0.41	< 0.005		0.1	0.11	439	439	0.02	0.02	0.8	447
Parking Lot		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0.33	0.3	0.33	2.12	< 0.005		0.01	0.4	0.41	< 0.005		0.1	0.11	439	439	0.02	0.02	0.8	447

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																		
Single Family Housing													112	112	0.02	< 0.005		113
Parking Lot													0	0	0	0		0
Total													112	112	0.02	< 0.005		113
Daily, Winter (Max)																		
Single Family Housing													112	112	0.02	< 0.005		113
Parking Lot													0	0	0	0		0
Total													112	112	0.02	< 0.005		113
Annual																		
Single Family Housing													18.5	18.5	< 0.005	< 0.005		18.7
Parking Lot													0	0	0	0		0
Total													18.5	18.5	< 0.005	< 0.005		18.7

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO, $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																		
Single Family Housing		0.04	0.02	0.33	0.14	< 0.005		0.03		0.03	0.03	0.03	422	422	0.04	< 0.005		423
Parking Lot		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0
Total		0.04	0.02	0.33	0.14	< 0.005		0.03		0.03	0.03	0.03	422	422	0.04	< 0.005		423
Daily, Winter (Max)																		
Single Family Housing		0.04	0.02	0.33	0.14	< 0.005		0.03		0.03	0.03	0.03	422	422	0.04	< 0.005		423
Parking Lot		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0
Total		0.04	0.02	0.33	0.14	< 0.005		0.03		0.03	0.03	0.03	422	422	0.04	< 0.005		423
Annual																		
Single Family Housing		0.01	< 0.005		0.06	0.03	< 0.005		< 0.005		< 0.005	< 0.005		< 0.005			69.9	69.9	0.01	< 0.005		70.1
Parking Lot		0	0	0	0	0	0		0	0		0	0	0	0	0		0

Total		0.01	< 0.005		0.06	0.03	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005			69.9	69.9	0.01	< 0.005			70.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

Source	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO	NBCO	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																			
Hearths		0	0	0	0	0	0		0	0		0	0	0	0	0	0		0
Consumer Products			1.33																
Architectural Coatings			0.53																
Landscape Equipment		0.18	0.17	0.02	1.87	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		5.01	5.01	< 0.005	< 0.005		5.02
Total		0.18	2.03	0.02	1.87	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	0	5.01	5.01	< 0.005	< 0.005		5.02
Daily, Winter (Max)																			
Hearths		0	0	0	0	0	0		0	0		0	0	0	0	0	0		0
Consumer Products			1.33																
Architectural Coatings			0.53																
Total		0	1.86	0	0	0	0		0	0		0	0	0	0	0	0		0
Annual																			
Hearths		0	0	0	0	0	0		0	0		0	0	0	0	0	0		0
Consumer Products			0.24																
Architectural Coatings			0.1																
Landscape Equipment		0.03	0.03	< 0.005	0.31	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		0.75	0.75	< 0.005	< 0.005		0.75
Total		0.03	0.37	< 0.005	0.31	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	0	0.75	0.75	< 0.005	< 0.005		0.75

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO	NBCO	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																			
Single Family Housing												1.9		6.14	8.05	0.2	< 0.005		14.4
Parking Lot												0		0	0	0	0		0
Total												1.9		6.14	8.05	0.2	< 0.005		14.4
Daily, Winter (Max)																			
Single Family Housing												1.9		6.14	8.05	0.2	< 0.005		14.4
Parking Lot												0		0	0	0	0		0
Total												1.9		6.14	8.05	0.2	< 0.005		14.4
Annual																			
Single Family Housing												0.3		1.02	1.33	0.03	< 0.005		2.38
Parking Lot												0		0	0	0	0		0
Total												0.3		1.02	1.33	0.03	< 0.005		2.38

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO	NBCO	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																			
Single Family Housing												8.8		0	8.8	0.88	0		30.8
Parking Lot												0		0	0	0	0		0
Total												8.8		0	8.8	0.88	0		30.8
Daily, Winter (Max)																			
Single Family Housing												8.8		0	8.8	0.88	0		30.8
Parking Lot												0		0	0	0	0		0
Total												8.8		0	8.8	0.88	0		30.8
Annual																			
Single Family Housing												1.5		0	1.46	0.15	0		5.1
Parking Lot												0		0	0	0	0		0
Total												1.5		0	1.46	0.15	0		5.1

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO	NBCO	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																			
Single Family Housing																		0.44	0.44
Total																		0.44	0.44
Daily, Winter (Max)																			
Single Family Housing																		0.44	0.44
Total																		0.44	0.44
Annual																			
Single Family Housing																		0.07	0.07
Total																		0.07	0.07

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Equipment Type	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO	NBCO	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																			
Total																			
Daily, Winter (Max)																			
Total																			
Annual																			
Total																			

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Equipment Type	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO	NBCO	CO_2T	CH_4	N_2O	R	CO_2e	
Daily, Summer (Max)																			

Total
Daily, Winter (Max)
Total
Annual
Total

4.9. User Defined Emissions By Equipment Type
4.9.1. Unmitigated

Equipment Type	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO; $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																	
Total																	
Daily, Winter (Max)																	
Total																	
Annual																	
Total																	

4.10. Soil Carbon Accumulation By Vegetation Type
4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Vegetation	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO; $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																	
Total																	
Daily, Winter (Max)																	
Total																	
Annual																	
Total																	

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO; $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																	
Total																	
Daily, Winter (Max)																	
Total																	
Annual																	
Total																	

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Species	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO; $NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																	
Avoided																	
Subtotal																	
Sequestered																	
Subtotal																	
Removed																	
Subtotal																	
Daily, Winter (Max)																	
Avoided																	
Subtotal																	
Sequestered																	
Subtotal																	
Removed																	
Subtotal																	
Annual																	
Avoided																	
Subtotal																	
Sequestered																	
Subtotal																	
Removed																	
Subtotal																	

5. Activity Data
5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per P	Phase Description
Demolition	Demolition	45170	45207	5	26	
Site Preparation	Site Preparation	45206	45225	5	14	
Grading	Grading	45224	45289	5	48	
Building Construction	Building Constru	45288	45975	5	492	
Paving	Paving	45974	46011	5	27	
Architectural Coating	Architectural Co	45717	46047	5	235	

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	Rubber Tired Do	Diesel	Tier 4 Final	2	8	367	0.4
Demolition	Excavators	Diesel	Tier 4 Final	3	8	36	0.38
Demolition	Concrete/Indust	Diesel	Tier 4 Final	1	8	33	0.73
Site Preparation	Rubber Tired Do	Diesel	Tier 4 Final	3	8	367	0.4
Site Preparation	Tractors/Loader	Diesel	Tier 4 Final	4	8	84	0.37
Grading	Graders	Diesel	Tier 4 Final	1	8	148	0.41
Grading	Excavators	Diesel	Tier 4 Final	2	8	36	0.38

Grading	Tractors/Loader	Diesel	Tier 4 Final	2	8	84	0.37
Grading	Rubber Tired Do	Diesel	Tier 4 Final	1	8	367	0.4
Grading	Scrapers	Diesel	Tier 4 Final	2	8	423	0.48
Building Construction	Forklifts	Diesel	Tier 4 Final	3	8	82	0.2
Building Construction	Generator Sets	Diesel	Tier 4 Final	1	8	14	0.74
Building Construction	Cranes	Diesel	Tier 4 Final	1	7	367	0.29
Building Construction	Welders	Diesel	Tier 4 Final	1	8	46	0.45
Building Construction	Tractors/Loader	Diesel	Tier 4 Final	3	7	84	0.37
Paving	Pavers	Diesel	Tier 4 Final	2	8	81	0.42
Paving	Paving Equipme	Diesel	Tier 4 Final	2	8	89	0.36
Paving	Rollers	Diesel	Tier 4 Final	2	8	36	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1	6	37	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips p	Miles per Trip	Vehicle Mix
Demolition				
Demolition	Worker	15	8.1	LDA,LDT1,LDT2
Demolition	Vendor		6.9	HHDT,MHDT
Demolition	Hauling	0	20	HHDT
Demolition	Onsite truck			HHDT
Site Preparation				
Site Preparation	Worker	17.5	8.1	LDA,LDT1,LDT2
Site Preparation	Vendor		6.9	HHDT,MHDT
Site Preparation	Hauling	0	20	HHDT
Site Preparation	Onsite truck			HHDT
Grading				
Grading	Worker	20	8.1	LDA,LDT1,LDT2
Grading	Vendor		6.9	HHDT,MHDT
Grading	Hauling	0	20	HHDT
Grading	Onsite truck			HHDT
Building Construction				
Building Construction	Worker	11.9	8.1	LDA,LDT1,LDT2
Building Construction	Vendor	3.53	6.9	HHDT,MHDT
Building Construction	Hauling	0	20	HHDT
Building Construction	Onsite truck			HHDT
Paving				
Paving	Worker	15	8.1	LDA,LDT1,LDT2
Paving	Vendor		6.9	HHDT,MHDT
Paving	Hauling	0	20	HHDT
Paving	Onsite truck			HHDT
Architectural Coating				
Architectural Coating	Worker	2.38	8.1	LDA,LDT1,LDT2
Architectural Coating	Vendor		6.9	HHDT,MHDT
Architectural Coating	Hauling	0	20	HHDT
Architectural Coating	Onsite truck			HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reductior	PM2.5 Reduction

5.5. Architectural Coatings

Phase Name	Residential Inter	Residential Exte	Non-Residential	Non-Residential	Parking Area Coated (sq ft)
Architectural Coating	125550	41850	0	0	

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Import	Material Exporte	Acres Graded (a	Material Demoli	Acres Paved (acres)
Demolition	0	0	0		
Site Preparation			21	0	
Grading			144	0	
Paving	0	0	0	0	1.09

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per d	PM10 Reductior	PM2.5 Reduction

5.7. Construction Paving

Land Use	Area Paved (acr	% Asphalt
Single Family Housing	0.36	0
Parking Lot	0.73	100

5.8. Construction Electricity Consumption and Emissions Factors

Year	kWh per Year	CO2	CH4	N2O
2023	0	204	0.03	< 0.005
2024	0	204	0.03	< 0.005
2025	0	204	0.03	< 0.005
2026	0	204	0.03	< 0.005

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
Single Family Housing	312	312	312	113705	3167	3167	3167	1155826

Parking Lot	0	0	0	0	0	0	0	0

5.10. Operational Area Sources
5.10.1. Hearths
5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	33
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coate	Residential Exte	Non-Residential	Non-Residential Parking Area Coated (sq ft)
125550	41850	0	0

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0
Summer Days	day/yr	330

5.11. Operational Energy Consumption
5.11.1. Unmitigated

Land Use	Electricity (kWh/	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	200091	204	0.033	0.004	1316704
Parking Lot	0	204	0.033	0.004	0

5.12. Operational Water and Wastewater Consumption
5.12.1. Unmitigated

Land Use	Indoor Water (g	Outdoor Water (gal/year)
Single Family Housing	997326	1444347
Parking Lot	0	0

5.13. Operational Waste Generation
5.13.1. Unmitigated

Land Use	Waste (ton/year	Cogeneration (kWh/year)
Single Family Housing	16.3	
Parking Lot	0	

5.14. Operational Refrigeration and Air Conditioning Equipment
5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak	Service Leak Rat	Times Serviced
Single Family Housing	Average room A	R-410A	2088	< 0.005	2.5	2.5	10
Single Family Housing	Household refri	R-134a	1430	0.12	0.6	0	1

5.15. Operational Off-Road Equipment
5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Da	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources
5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (M	Daily Heat Input	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation
5.18.1. Land Use Change
5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil `	Initial Acres	Final Acres

5.18.1. Biomass Cover Type
5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration
5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report
6.1. Climate Risk Summary
Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Projec	Unit

Temperature and Extreme Heat	6.73	annual days of extreme heat
Extreme Precipitation	7.35	annual days with precipitation above 20 mm
Sea Level Rise	0	meters of inundation depth
Wildfire	50.5	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for th
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities fo

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capaci	Vulnerability Score
Temperature and Extreme Hea	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capaci	Vulnerability Score
Temperature and Extreme Hea	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	
AQ-Ozone	14.9
AQ-PM	9.16
AQ-DPM	13.2
Drinking Water	83.2
Lead Risk Housing	13.7
Pesticides	55
Toxic Releases	12
Traffic	78.5
Effect Indicators	
CleanUp Sites	0
Groundwater	39.4
Haz Waste Facilities/Generator	74.7
Impaired Water Bodies	23.9
Solid Waste	52.9
Sensitive Population	
Asthma	0.11
Cardio-vascular	2.08
Low Birth Weights	
Socioeconomic Factor Indicators	
Education	
Housing	99.9
Linguistic	17.3
Poverty	99.9
Unemployment	96.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	
Above Poverty	
Employed	
Median HI	
Education	
Bachelor's or higher	
High school enrollment	
Preschool enrollment	
Transportation	
Auto Access	
Active commuting	

Social	
2-parent households	
Voting	
Neighborhood	
Alcohol availability	
Park access	
Retail density	
Supermarket access	
Tree canopy	
Housing	
Homeownership	
Housing habitability	
Low-inc homeowner severe housing cost burden	
Low-inc renter severe housing cost burden	
Uncrowded housing	
Health Outcomes	
Insured adults	
Arthritis	0
Asthma ER Admissions	100
High Blood Pressure	0
Cancer (excluding skin)	0
Asthma	0
Coronary Heart Disease	0
Chronic Obstructive Pulmonary	0
Diagnosed Diabetes	0
Life Expectancy at Birth	0
Cognitively Disabled	89
Physically Disabled	100
Heart Attack ER Admissions	100
Mental Health Not Good	0
Chronic Kidney Disease	0
Obesity	0
Pedestrian Injuries	0
Physical Health Not Good	0
Stroke	0
Health Risk Behaviors	
Binge Drinking	0
Current Smoker	0
No Leisure Time for Physical Ac	0
Climate Change Exposures	
Wildfire Risk	0.6
SLR Inundation Area	0
Children	99
Elderly	100
English Speaking	0
Foreign-born	0
Outdoor Workers	62
Climate Change Adaptive Capacity	
Impervious Surface Cover	92
Traffic Density	0
Traffic Access	0
Other Indices	
Hardship	0
Other Decision Support	
2016 Voting	0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for P	33
Healthy Places Index Score for Project Location (b)	
Project Located in a Designatec	No
Project Located in a Low-Incom	Yes
Project Located in a Communit	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

Measure Title	Co-Benefits Achieved

7.5. Evaluation Scorecard

Category	Number of Appl	Total Points Earı	Max Possible Po	Weighted Score

7.6. Health & Equity Custom Measures

Measure Title	Sponsor

8. User Changes to Default Data

Screen	Justification
Land Use	Project is on 2 acres. Square footage based on PD. Landscaping assumed to be on 2 acres.
Construction: Construction Pha	Schedule based on default schedule (22 months) adjusted to reflect project schedule (29 months). Each phase overlaps with previous phase for 1 day for modeling purposes except for coatings, which starts halfway through the building construction phase.
Construction: Off-Road Equipm	All pieces are Tier 4. Default fleet mix and usage.
Construction: Paving	0.73 acres of paving based on 480 sf per space, 66 spaces, and 43560 sf per acre
Operations: Vehicle Data	9.44 ADT/DU for single family. no trips for parking. default length and mode splits

Appendix C

Wetland Alternatives Evaluation

MP EIR ADDENDA ALTERNATIVE EVALUATION

The 2035 Cal Poly Master Plan identifies Faculty & Staff Housing as a project intended to provide workforce housing with some community facilities, focused first on the Cal Poly community. https://masterplan.calpoly.edu/docs/cal-poly-campus-master-plan-abridged.pdf.

The vacant land at the northeast corner of Slack Street and Grand Avenue represents an underutilized Cal Poly property and residential faculty and staff housing represents the highest and best use for the site. The site has several attributes conducive to residential development, including its close proximity to the surrounding residential community, various campus amenities including the Performing Arts Center, various on-campus athletic venues, as well as the 101 Freeway; land available for self-contained parking; and easy access to and from the community and campus.

Access to attainable housing is consistently cited as a major hurdle in hiring and retaining new faculty and staff members at California Polytechnic State University in San Luis Obispo. The Cal Poly Corporation (CPC), alongside the university, is developing additional housing for campus community members to help ease this burden.

- In November 2015, the campus received the CSU Chancellor's Office support from the Land Development Review Committee (LDRC) for a workforce housing project on the project site and in March 2016 the CSU Board of Trustees approved the conceptual proposal to pursue a public-private partnership plan for the development of the project. The project as proposed in 2016 was a high-density four to five story 400+ unit apartment development situated at the corner of Slack and Grand Avenue.
    - Due to concerns over the project size and adjacencies to existing single family development along the southern edge of Slack Street, the project was put on hold and the campus initiated a new programming phase for the project. Due to the COVID pandemic the project was again put on hold until late 2021 when the project was restarted and programming was completed for a 200-unit project utilizing approximately 10 acres at the site identified on the corner of Slack Street and Grand Avenue.
    - Based on the proposed building types and locations for the 200-unit development, a detailed geotechnical investigation was prepared by Earth Systems, a firm that has extensive experience on the Cal Poly campus and on this property specifically. Due to several months of heavy rains saturating the soils and the steep slope conditions on site, Earth Systems could not initiate testing until early May 2023. The results of this analysis indicated that much of the proposed development area was underlain by shallow, unweathered bedrock or historic deep-seated landslide debris. Although a significant grading operation had been anticipated in order to create building pads for the proposed housing, the geological conditions identified presented two significant challenges to the economic feasibility of 200-unit 75% schematic site plan: 1) the presence of shallow bedrock (1.5 feet to 8.5 feet below the surface throughout the majority of the site) would require more significant and costly excavation activity to create level building pads and allow for utility trenching, and 2) the presence of deep-seated landslide debris in the northwest section of the site would require up to 40 feet of excavation and re-compaction of soil, based on the recommendation of Earth Systems.
    - Following these extensive geotechnical studies, it was determined that the scope of the project would need to be reduced. The development team iterated and produced up to ten different fit studies over the project site to achieve a unit density per acre that produced a financially and technically viable development project. Due to the topography, the site is an import site, meaning regardless of the configuration, soil will need to imported to

successfully develop building pads to support housing. During the iteration process the design/development team iterated to find a design that not only supported the needed density, but also limited the amount of soil imported on to the site for financial and environmental considerations. The result was a scope to develop 33 for-sale faculty-staff housing units and supporting neighborhood improvements over 6 acres on the corner of Slack Street and Grand Avenue. The design/development team took into consideration the natural topography and grading has been minimized as much as possible over the single-family housing pads to achieve financially sustainable density and leave areas to support the natural environment and supportive amenities. Areas of the site with over a 20% slope have been avoided and have been incorporated to support planned landscaping, recreation, and amenities. Large retaining walls have been studied across the project site and have proven to be technically and financially infeasible.

- In its current configuration it is contemplated that units will sell at 20-30% below existing market rates. The design / development team studied an alternative that would eliminate five (5) housing units from the development leaving twenty-eight (28) homes. This alternative would still require a stormwater management / retention design that would utilize the existing stream and stormwater infrastructure system to handle water that falls on the project site.
    - In this scenario the fixed / site costs to develop this alternative would remain relatively constant and these costs would be allocated across a fewer number of housing units. The result of this would render the price of homes over $1.4M per home, rendering the project financially unfeasible.

- The on-campus location at the university's southern edge provides a housing alternative for faculty and staff that will provide high-quality housing in a community environment, enhance faculty and staff connectivity with the campus, reduce commutes and neighborhood traffic.
- The faculty and staff housing use is consistent with the comprehensive master plan for the Cal Poly campus and the corresponding community need to add additional housing in the San Luis Obispo County region. We anticipate low to moderate local neighborhood opposition due to the fact that the single-family portion of the project complements the existing single-family neighborhood that is adjacent to the project site and multi-family units are located closer to the interior of campus and are adjacent to existing three story student dormitories.
- No prime agricultural sites are impacted by this development. In addition, over 3 acres of the project site will be dedicated and preserved as open space to complement the housing projects and to be utilized by the occupants to support recreation.
- The planned housing development will create a walkable neighborhood that will encourage alternative forms of transportation for faculty and staff leading to a reduction in single occupant car trips and will minimizes negative impacts such as traffic congestion in the region.

Appendix D

Noise Modeling Results

Cal Poly Slack and Grand

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	173	75.0
Slack Street	25	91.8
Grand Avenue	65	83.5
Water Tanks	530	65.3
Standard (50 ft)	50	85.8

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	0.4
Excavator	85	0.4
Dozer	85	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	81.0
Excavator	81.0
Dozer	81.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
85.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.