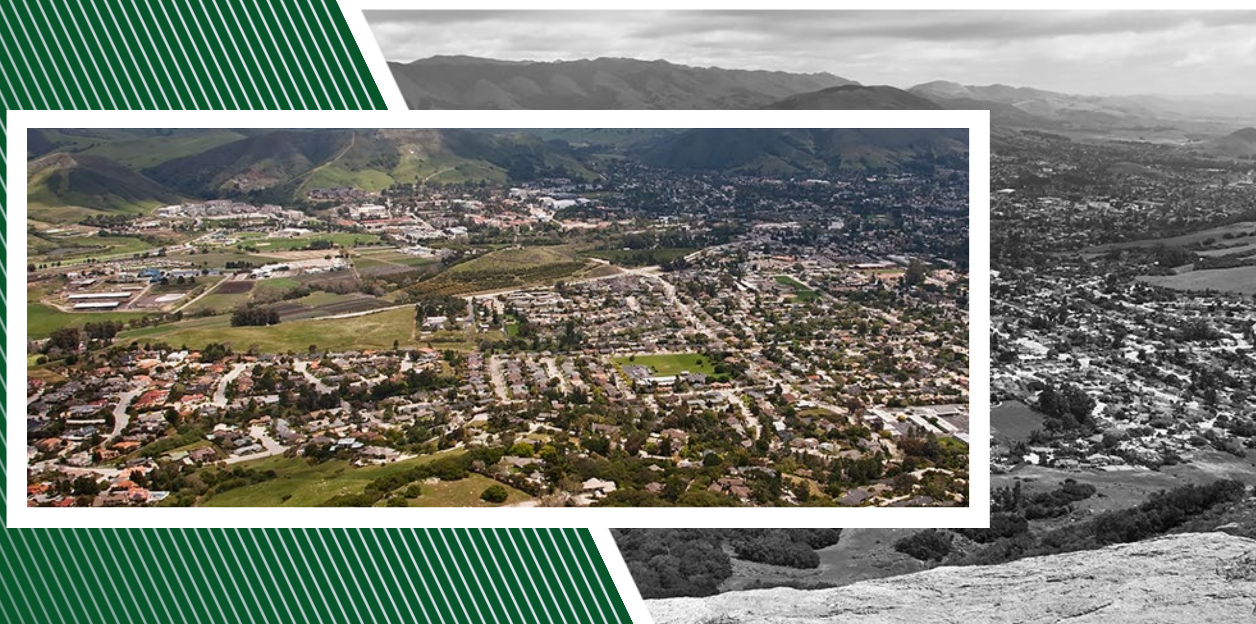
Draft Environmental Impact Report for the

2035 Master Plan



Prepared for:

Cal Poly

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Draft Environmental Impact Report for the

2035 Master Plan

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LIST OF ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
1983 NRPA Standards	1983 National Recreation and Park Association Standards
2035 Master Plan	Cal Poly 2035 Master Plan
AB	Assembly Bill
ADWF	average dry weather flow
AFV	alternative fuel vehicles
afy	acre-feet per year
APCD	Air Pollution Control District
ASI	Associated Students, Inc.
ASSHE	Advancement of Sustainability in Higher Education
AY FTES	Academic Year FTES
BACT	best available control technology
Basin Plan	Water Quality Control Plan for the Central Coast Basin
BCEC	Beef Cattle Evaluation Center
BMP	best management practices
C&D	construction and demolition
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal Poly	California Polytechnic State University, San Luis Obispo
CalEEMod	California Emissions Estimator Model
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CAP	Campus Administrative Policies
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCIC	Central Coast Information Center
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEP	Conference and Event Planning

CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
City	City of San Luis Obispo
CIWMA	California Integrated Waste Management Act
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
Cortese-Knox-Hertzberg Act	Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000
County Fire	San Luis Obispo County Fire Department
County	San Luis Obispo County
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSA	County Service Area
CSU	California State University
CWA	Clean Water Act
CWC	California Water Code
dB	decibels
DC	Design Character
diesel PM	exhaust from diesel engines
DOC	California Department of Conservation
DOT	U.S. Department of Transportation
DPR	Department of Parks and Recreation
DPS	Distinct Population Segment
Draft EIR	draft environmental impact report
DWR	California Department of Water Resources
EAP	Energy Action Plan
EDD	California Employment Development Department
EGU	electric generating units
EMFAC	Emission FACtors
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 1992
ESA	Endangered Species Act
EUI	Energy Use Index
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code

FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FPCP	Facilities Planning and Capital Projects
FTA	Federal Transit Administration
FTE	full-time-equivalent students
GHG	greenhouse gas
GP	General Principle
gpd	gallons per day
gpm	gallons per minute
GSA	groundwater sustainability agency
gsf	gross square feet
GSP	groundwater sustainability plan
HAP	hazardous air pollutants
HCP	habitat conservation plans
HMMP	Habitat Mitigation and Monitoring Plan
HRI	heat rate improvement
Hz	hertz
I	Implementation
IEPR	Integrated Energy Policy Report
in/sec	inches per second
IP	Implementation Program
IPaC	Information for Planning and Consultation
IS	Initial Study
ITRC	Irrigation and Training Research Center
KJf	Franciscan Complex
lb/day	pounds per day
LCFS	Low Carbon Fuel Standard
L_{dn}	Day-Night Level
LEED	Leadership in Energy and Environmental Design
L_{eq}	Equivalent Continuous Sound Level
LID	Low Impact Development
L_{max}	Maximum Sound Level
LOS	level of service
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level

mgd	million gallons per day
MMI	Modified Mercalli Intensity Scale
$MMTCO_2e$	metric tons of carbon dioxide equivalent
MOU	Memorandum of Understanding
mPa	micro-Pascals
MPO	metropolitan planning organizations
MRZ	Mineral Resource Zones
MS4	Municipal Separate Storm Sewer Systems
msl	mean sea level
$MTCO_2e$/year	metric tons of carbon dioxide equivalent per year
MW	megawatts
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NCCP	natural community conservation plans
NEHRP	National Earthquake Hazards Reduction Program
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO_2	nitrogen dioxide
NOA	Naturally occurring asbestos
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OCP	Odor Control Plan
OHP	Office of Historic Preservation
OHWM	ordinary high-water marks
OPR	California Governor’s Office of Planning and Research
OPR	Governor’s Office of Planning and Research
OR	Other Recommendation
ozone	photochemical smog
PDWF	peak dry weather flow
PG&E	Pacific Gas and Electric Company
PGA	peak ground accelerations
PM	particulate matter
PM_{10}	respirable particulate matter with aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with aerodynamic diameter of 2.5 micrometers or less

PolyCAP	Cal Poly Climate Action Plan
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1970
pph	persons per household
PPP	public-private partnership
PPV	peak particle velocity
PRC	Public Resources Code
PWWF	peak wet weather flow
Qya	Young Surficial Deposits
RCP	Representative Concentration Pathway
RHNA	Regional Housing Needs Allocation
RHNP	Regional Housing Needs Plan
RMS	root-mean-square
ROG	reactive organic gas
RTA	Regional Transit Authority
RWQCB	regional water quality control board
S	Sustainability and Environmental Stewardship
SAY	safe annual yield
SB	Senate Bill
SCCAB	South Central Coast Air Basin
sf	square feet
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIP	state implementation plan
SLCUSD	San Luis Coastal Unified School District
SLO Transit	San Luis Obispo Transit
SLOAPCD	San Luis Obispo County Air Pollution Control District
SLOCOG	San Luis Obispo Council of Governments
SLOFD	San Luis Obispo City Fire Department
SLOPD	City of San Luis Obispo Police Department
SLORTA	San Luis Obispo Regional Transit Authority
SO_2	sulfur dioxide
SPFC	State Plan of Flood Control
SPL	sound pressure level
SR	State Route
SRA	Sensitive Resource Areas
SRA	State Responsibility Area
SRTP	Short Range Transit Plan
STARS	Sustainability Tracking, Assessment, and Rating System
SWPPP	stormwater pollution prevention plan

SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants
TC	Transportation and Circulation
TDM	California State University Transportation Demand Management
TISM	California State University Transportation Impact Study Manual
TMDL	total maximum daily load
tons/quarter	ons per quarter
tons/year	tons per year
TRT	Total response time
Trustees	California State University Board of Trustees
UL	Residential Community and University Life
UPD	University Police Department
UPRR	Union Pacific Railroad
URL	Urban Reserve Line
US 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UU	University Union
VdB	vibration decibels
VMT	vehicle miles traveled
WQMP	Water Quality Management Plan
WQO	Water Quality Objective
WRF	Water Reclamation Facility
WRRF	Water Resource Recovery Facility
WSA	Water Supply Assessment
WTP	water treatment plant
ZEV	zero-emission vehicle
ZNE	zero-net energy

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This Executive Summary is provided in accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15123. It contains an overview of the programmatic analysis of the California Polytechnic State University, San Luis Obispo (Cal Poly) 2035 Master Plan ("2035 Master Plan" or "project"). As stated in the State CEQA Guidelines Section 15123(a), "[a]n EIR shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be as clear and simple as reasonably practical." State CEQA Guidelines Section 15123(b) states, "[t]he summary shall identify: 1) each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; 2) areas of controversy known to the Lead Agency, including issues raised by agencies and the public; and 3) issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." Accordingly, this summary includes a brief synopsis of the 2035 Master Plan and plan alternatives, environmental impacts and mitigation, areas of known controversy, and issues to be resolved during environmental review. Table ES-1 (at the end of this section) presents the summary of potential environmental impacts, their level of significance without mitigation measures, the mitigation measures, and the levels of significance following the implementation of mitigation measures.

ES.2 SUMMARY DESCRIPTION OF THE PROJECT

ES.2.1 Project Location

Located in San Luis Obispo County, the Cal Poly campus abuts the City of San Luis Obispo to the south and west, and open space, ranchland, and public land, the majority of which is owned by Cal Poly, to the north and east. Cal Poly's landholdings occupy 10,128 acres in San Luis Obispo and Santa Cruz Counties, primarily consisting of rangeland, farmland, and natural habitats. The 2035 Master Plan Area, as evaluated in this EIR, consists of 1,339 acres (referred to herein as the "Master Plan Area" or "campus") and includes the 855-acre main campus, which is comprised of four subareas, including the Academic Code, East Campus, North Campus, and West Campus subareas. Located in San Luis Obispo County (County), the Cal Poly campus abuts the City of San Luis Obispo (City) to the south and west, and open space, ranch land, and public land to the north and east.

ES.2.2 Background and Need for the Project

Originally established on March 8, 1901 by then California Governor Henry Gage as the California Polytechnic School, Cal Poly began as 281 acres of ranch land and has expanded to approximately 10,128 acres of land, 6,428 acres of which are located in San Luis Obispo County. The first formal Master Plan for Cal Poly was prepared in 1949 based on a projected enrollment of 4,080 students. In 1958, the California Department of Education dictated that all non-metropolitan state college campuses should plan for an enrollment of 12,000 full-time-equivalent students (FTES)[1] which led to the next Master Plan, prepared in 1962, and approved by the California State University Board of Trustees (Trustees) in May 1963. In 1970, the fourth revision to the Master Plan increased the enrollment capacity to 15,000 FTES. In the late 1990s, University leadership commissioned a comprehensive Master Plan update which was approved by the Trustees in 2001 (2001 Master Plan). The 2001 Master Plan raised the enrollment capacity to 17,500 FTES (20,900 headcount), where it remains today. With the opening of the Baker Center for Science and Mathematics

[1] FTES is a metric for evaluating educational capacity and is based on the assumption that a full-time undergraduate student is expected to enroll in 15 units each term (i.e., quarter) and that a full-time graduate student is expected to enroll in 12 units each term (i.e., quarter). FTES balances out the amount of instruction involved, and level of academic instruction required because not all students take exactly these loads each term. Refer to Chapter 2, "Project Description," of the EIR for further clarification.

in 2013, Cal Poly has completed most of the projects anticipated in the 2001 Master Plan. As projected enrollment within the CSU system continues to increase, Cal Poly is proposing an update to the Master Plan.

The proposed 2035 Master Plan provides for needed academic facilities, additional on-campus housing, recreation and athletic facilities, and other support facilities in the Master Plan area that would accommodate increased student and university demands for facilities and services. The Master Plan update process began in 2014 and has included over 200 meetings that addressed academic program demand, physical and environmental constraints, and opportunities to support a future student enrollment of 25,000 headcount (22,500 FTES).

The proposed 2035 Master Plan is a long-range planning document that guides the development and use of campus lands to accommodate growth in student enrollment and in fulfillment of Cal Poly's academic mission. The university anticipates growth in the student body of approximately 200 new students per year on average, for an addition of approximately 3,188 by 2035. The 2035 Master Plan provides for the anticipated increase in demand for academic facilities, additional housing on campus, recreation and athletics facilities, and other support facilities and services on campus to accommodate the increase in enrollment at Cal Poly and university needs through 2035.

ES.2.3 Project Objectives

The primary objective of the 2035 Master Plan is to support and advance the university's educational mission by guiding the physical development of the campus and its facilities to accommodate gradual student enrollment growth while preserving and enhancing the quality of campus life. To do so, the 2035 Master Plan lays out the land use, circulation, and physical development plans of the campus to educate a future student enrollment of 22,500 FTES (or 25,000 headcount). The following objectives of the 2035 Master Plan have been established in support of Cal Poly's primary goal:

- Support and advance the University's educational mission by guiding the physical development of the campus to accommodate gradual student enrollment growth up to a future enrollment of 22,500 FTES by year 2035 while preserving and enhancing the quality of campus life.
- Enhance academic quality and student success through Cal Poly's "Learn by Doing" teaching methodology through the provision of physical facilities that allow students to take a hands-on approach and conduct project-based learning.
- Expand campus programs, services, facilities, and housing to support and enhance the diversity of students, faculty, and staff.
- Site campus facilities and housing to strengthen the campus's compact Academic Core and promote cross-disciplinary synergies between complementary academic, student/faculty support, and housing programs.
- House all first- and second-year students plus 30 percent of upper-division students in residential communities on campus.
- Provide housing opportunities on campus primarily for university faculty and staff to promote recruitment and retention and enhance faculty and staff engagement with the campus. In addition, provide housing opportunities and complementary services that may be offered to nontraditional students such as graduate students, veterans, students with families; potentially alumni housing or a retirement community; and for members of the San Luis Obispo community.
- Provide and enhance campus facilities to create a more vibrant evening and weekend environment.
- Attain a modal shift from vehicles to more pedestrian, bicycle, and transit use.
- Advance campus-wide environmental sustainability and make progress toward goals of carbon neutrality and climate resilience.
- Consider the interface between Cal Poly and the surrounding communities with respect to shared economic health, housing, multimodal transportation, open space and agricultural resources, diversity, and public services.

- Preserve the core of the Main Campus for instructional and student service uses and move support functions/facilities to the perimeter.

ES.2.4 Characteristics of the Project

Development under the 2035 Master Plan would include approximately 7,200 new student beds; an additional 1.29 million gross square feet (gsf) of academic, administrative, and support space; 380 residential units intended primarily for faculty/staff with supporting uses (retail and recreational space); and a 200-unit university-based retirement community. In addition, 455,000 gsf of existing academic, administrative, and support space would be redeveloped and replaced with new facilities. The 2035 Master Plan proposes circulation infrastructure improvements, to provide for the safe and efficient movement of pedestrians, bicycles, and vehicles around campus, while also encouraging a more complete shift to an active transportation approach. Further, utilities infrastructure improvements, such as new water, wastewater, and storm drainage infrastructure, are also proposed to accommodate growth under the 2035 Master Plan. Refer to Chapter 2, "Project Description," of this EIR for further information regarding the components of the 2035 Master Plan.

ES.3 ENVIRONMENTAL IMPACTS AND RECOMMENDED MITIGATION MEASURES

This EIR has been prepared pursuant to the CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 1500, et seq.) to evaluate the physical environmental effects of the proposed 2035 Master Plan. The California State University (CSU) Board of Trustees (Trustees) is the lead agency for the project. The Trustees have the principal responsibility for approving and carrying out the project and for ensuring that the requirements of CEQA have been met. After the Final EIR is prepared and the EIR public-review process is complete, the Trustees is the party responsible for certifying that the EIR adequately evaluates the impacts of the project.

Table ES-1, presented at the end of this chapter, provides a summary of the environmental impacts for the 2035 Master Plan. The table provides the level of significance of the impact before mitigation, recommended mitigation measures, and the level of significance of the impact after implementation of the mitigation measures.

ES.3.1 Significant-and-Unavoidable Impacts and Cumulative Impacts

Section 21100(b)(2)(A) of the State CEQA Guidelines provides that an EIR shall include a detailed statement setting forth "in a separate section: any significant effect on the environment that cannot be avoided if the project is implemented." Accordingly, this section provides a summary of significant environmental impacts of the plan that cannot be mitigated to a less-than-significant level.

Chapter 3, "Existing Environmental Setting, Impacts, and Mitigation," provides a description of the potential environmental impacts arising from the implementation of the 2035 Master Plan and recommends various mitigation measures to reduce impacts, to the extent feasible. Chapter 4, "Cumulative Impacts," determines whether the incremental effects of this plan are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. After implementation of the recommended mitigation measures, most of the impacts associated with development of the plan would be reduced to a less-than-significant level. The following impacts are considered significant and unavoidable; that is, no feasible mitigation is available or the mitigation measures available were not sufficient to reduce the plan's impacts to a less-than-significant level. Note, this is only a summary of those impacts; it is important to review the discussions in Chapters 3 and 4 of this EIR to understand the full context of the impact determinations.

The 2035 Master Plan would result in the following significant and unavoidable impacts, following implementation of feasible mitigation measures:

- Impact 3.1-1: Result in a Substantial Adverse Effect on a Scenic Vista or Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and Its Surroundings
- Impact 3.1-2: Damage Scenic Resources within a State Scenic Highway
- Impact 3.2-1: Convert Agricultural Uses, Including Lands Designated as Important Farmland, to Nonagricultural Use
- Impact 3.3-2: Cause Construction-Generated Criteria Air Pollutant or Precursor Emissions to Exceed APCD-Recommended Thresholds
- Impact 3.3-3: Result in a Net Increase in Long-Term Operational Criteria Air Pollutant and Precursor Emissions That Exceed APCD-Recommended Thresholds
- Impact 3.3-6: Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People
- Impact 3.4-1: Cause Substantial Adverse Change in the Significance of a Historical Resource
- Impact 3.10-1: Generate Substantial Temporary (Construction) Noise
- Impact 3.10-3: Generate Substantial Long-Term Increase in Stationary Noise

Cumulative impacts to aesthetics (effects on a scenic vistas, existing visual character or quality of public views of the site and its surroundings, and scenic resources within a state scenic highway), agriculture (conversion of farmland in the region), air quality (criteria air pollutant emissions during construction and operation and odors), and historic resources (alteration of historic structures) would also be significant and unavoidable as a result of implementation of the 2035 Master Plan.

ES.4 ALTERNATIVES TO THE PROPOSED PROJECT

State CEQA Guidelines Section 15126.6, as amended, mandates that all EIRs include a comparative evaluation of the proposed plan with alternatives to the plan that are capable of attaining most of the plan's basic objectives but would avoid or substantially lessen any of the significant effects of the plan. CEQA requires an evaluation of a "range of reasonable" alternatives, including the "no project" alternative. The following provides brief descriptions of the alternatives evaluated in this Draft EIR. Table ES-2 presents a comparison of the environmental impacts between the alternatives and the proposed project.

- **Alternative 1: No Project Alternative.** This alternative would involve the continued implementation of the 2001 Master Plan. Planned growth as expressed in the 2001 Master Plan would continue up to its planned capacity (500,000 gsf), primarily associated with new academic/administrative space. Enrollment growth would be at the same levels projected in the 2035 Master Plan.
- **Alternative 2: Reduced Administrative/Academic Development Program.** Under this alternative, Cal Poly would implement a master plan with an overall reduction in planned campus development of administrative/academic space. Approximately 500,000 gross square feet (gsf) of new academic/administrative space would be provided, compared to approximately 1,290,000 gsf of new academic/administrative space under the 2035 Master Plan, resulting in less ground disturbance and other development-related impacts. Further, approximately 455,000 gsf of renovations would occur within existing structures under this alternative, for a total development/renovation of 955,000 gsf. Proposed growth in on-campus student housing (approximately 7,200 student beds) and growth in enrollment would be the same as the 2035 Master Plan.

- **Alternative 3: Net Student Growth Only.** Under Alternative 3, Cal Poly would implement a long-range campus plan that reduces the level of student housing development relative to the proposed increase of approximately 7,200 student beds. This alternative would provide up to 3,188 student beds, which would correspond to the projected increase in student enrollment at Cal Poly. The 1,750,000 gsf of new academic/administrative space proposed under the 2035 Master Plan would remain the same under this alternative. Under this alternative, the faculty, staff and workforce housing at Slack Street and Grand Avenue and the University-Based Retirement Community would not be constructed.
- **Alternative 4: No Development along City Interface.** This alternative would include development of the campus similar to that under the 2035 Master Plan, however no development would be proposed along (i.e., within 500 feet/0.1 mile) the campus's southern boundary with the city of San Luis Obispo. Those projects associated with the 2035 Master Plan that would be located within these areas would be relocated within the undeveloped areas of the Master Plan Area, predominately in the North and West Campus subareas. Under this alternative, the Farm Shop, the University-Based Retirement Community, Facilities Operations Complex (and interim parking lot) within the West Campus, and the faculty, staff and workforce housing site at Slack Street and Grand Avenue in the East Campus would not be constructed in their current locations but would be more centrally located within the Master Plan Area. Spanos Stadium expansion would still occur under this alternative, as it would be an expansion of an existing facility that could not be relocated to an alternative site within the interior campus.

The State CEQA Guidelines section 15126.6 states that an EIR should identify the "environmentally superior" alternative. "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Consistent with State CEQA Guidelines (California Code of Regulations Section 15126.6 [e][2]), because the environmentally superior alternative was identified as the No Project Alternative, another environmentally superior alternative shall be identified. Based on the environmental analysis contained in this Draft EIR, the environmentally superior alternative would be either the 2035 Master Plan or Alternative 4 (No Development Along City Interface Alternative), depending on decisions about the priority of types of environmental benefits and adverse effects by Cal Poly. In essence, decision-makers must weigh the relative importance of greater construction-related and proximity-related impacts to receptors within the City of San Luis Obispo associated with the 2035 Master Plan, compared to the greater operational and construction-related impacts associated with development further from existing development and infrastructure under Alternative 4. Nonetheless, each of the alternatives considered would result in long-term, significant and unavoidable environmental impacts. Therefore, the environmental impact differences between these two alternatives are not substantial enough that one is clearly superior to the other.

ES.5 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

A notice of preparation (NOP) was distributed for the 2035 Master Plan on October 3, 2016, to responsible agencies, interested parties, and organizations, as well as private organizations and individuals that may have an interest in the project. A public scoping meeting was held on September 21, 2016. The purpose of the NOP and the scoping meeting was to provide notification that an EIR for was being prepared for the project and to solicit input on the scope and content of the environmental document. The NOP and responses to the NOP are included in Appendix A of this Draft EIR. Key concerns and issues that were expressed during the scoping process included the following:

- bike and pedestrian facilities;
- baseline used for trip generation rates;
- trip reduction mitigation measures and traffic counts;
- impacts on police services;
- water supply and coordination with the City of San Luis Obispo Utilities Department;
- fire safety;
- wastewater treatment;

- off-campus student housing;
- impacts on San Luis Obispo Transit Authority Services;
- impacts to Highway 1;
- aesthetic impacts to State Route 1, which are part of the Scenic Highway System and a Priority Interregional Highway;
- evaluation of Caltrans' Smart Mobility 2010: A Call to Action for the New Decade;
- incorporation of intersection and ramp analysis in the traffic impact analysis; and
- analysis of VMT.

All of the substantive environmental issues raised in the NOP comment letters and at the scoping meeting have been addressed or otherwise considered during preparation of this Draft EIR.

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
Aesthetics			
Impact 3.1-1: Result in a Substantial Adverse Effect on a Scenic Vista or Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and Its Surroundings New construction and expansion within the Academic Core and North Campus subareas would be largely consistent with existing uses and would not be located in areas of high viewer sensitivity. As required by 2035 Master Plan Policies GP09 and S05, project design would preserve or enhance the existing visual character and quality of the site. The siting, scaling, and design of new development would help to maintain or preserve the existing visual quality and character. However, proposed new, permanent structures in the West Campus, specifically the Farm Shop and the University-Based Retirement Community, and in the East Campus, specifically the residential neighborhood proposed for the northeast corner of Slack Street and Grand Avenue, would be located in areas of high viewer sensitivity and could be incompatible with the existing visual character and quality of the sites. Project development in the West Campus would potentially result in adverse effects to scenic vistas, including views of the Morros, and development of the Slack and Grand project in the East Campus could result in substantial degradation of existing visual character. Therefore, this impact would be significant.	S	**Mitigation Measure 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.	SU
Impact 3.1-2: Damage Scenic Resources within a State Scenic Highway Project development within the Academic Core, North Campus, and East Campus subareas would not occur along SR 1 and visibility of these features would be limited. Proposed development would be compatible and visually cohesive with existing development and would not damage scenic resources within a state scenic highway. Development in the West Campus subarea would be constructed along SR 1, would be prominently visible, and would reduce views of Bishop Peak and the surrounding landscape. Therefore, the project would damage scenic resources within a state scenic highway, and this impact would be significant.	S	As discussed above under Impact 3.1-1, mitigation related to the aesthetic impacts associated with development of the West Campus subarea, in accordance with Section 15370 of the CEQA Guidelines, could include reducing the scale of the development or relocating the development to other less visually sensitive areas. However, because any construction at the proposed sites would block scenic views of Bishop Peak from SR 1, a state scenic highway, and alternative sites are not available, these mitigation measures are not considered feasible.	SU
Impact 3.1-3: Create a New Source of Substantial Light or Glare Which Would Adversely Affect Day or Nighttime Views in the Area Implementation of the 2035 Master Plan would introduce new sources of light and glare associated with new buildings and facilities, and new lighting at the Farm Shop, University-Based Retirement Community, and Slack and Grand project sites would contribute to degradation of visual character and quality of public views	S	**Mitigation Measure 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.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
(see Impact 3.1-1). Additionally, to support the Master Plan goal to create a 24-hour campus community, increased lighting would be required for longer hours. Such lighting could contribute to indirect lighting/glare on adjacent land uses that could adversely affect daytime or nighttime views and result in additional skyglow. This impact would be significant.		**Mitigation Measure 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. **Mitigation Measure 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. **Mitigation Measure 3.1-3d: Install Vegetated Barriers if Needed** If the use of permanent, high-intensity lighting without directional considerations is necessary for recreational facilities, Cal Poly shall require installation of landscaping adjacent to lighted recreational facilities, to include trees and vegetation, that will shield substantial sources of light and prevent spillover light from affecting nearby	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		receptors including existing residential neighborhoods. Barrier design would be determined at the time of individual project design, based on project details, proximity to existing land uses, and anticipated operational characteristics of the proposed development. Barriers shall be designed or approved by a qualified arborist or landscape architect, in coordination with Cal Poly, and shall consider vegetation types that are native to the region and provide year-round leaf cover, and overall design shall be consistent with other applicable University policies, while minimizing light spillover to the extent feasible.	
Agricultural Resources			
Impact 3.2-1: Convert Agricultural Uses, Including Lands Designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (Important Farmland), to Nonagricultural Use The 2035 Master Plan includes several policies related to the need to preserve and enhance the presence of agriculture. While implementation of the 2035 Master Plan largely avoids designated Important Farmland, the proposed Facilities Operations Complex, including the interim replacement surface parking lot that could be built as the first phase of development of the site, would be located on land designated as Prime Farmland. Based on data obtained through GIS analysis, this would result in the conversion of up to 10 acres of Important Farmland to nonagricultural use. The College of Agriculture has ceased to use the 10 acres for agricultural purposes: its size, condition, and configuration render it difficult to manage and of less value to the College. Nonetheless, because it is currently designated Prime Farmland, its loss would be a significant impact.	S	**Mitigation Measure 3.2-1: Preserve Other Campus Agricultural Land** Before conversion of Prime Farmland to nonagricultural uses to accommodate development of the Facilities Operations Complex (including the first phase interim replacement surface parking), Cal Poly shall preserve through a conservation easement or similar legal mechanism an equivalent acreage (up to 10 total acres for the entire 2035 Master Plan Area) of Prime Farmland within its existing land holdings for agricultural purposes (including agricultural teaching and research). If no suitable property exists within the campus, Cal Poly shall identify and purchase or place a conservation easement on a parcel containing equivalent acreage of Prime Farmland.	SU
Impact 3.2-2: Involve Other Changes in the Existing Environment That Could Result in Conversion of Important Farmland to Nonagricultural Use Development proposed under the 2035 Master Plan could result in the direct loss or conversion of existing agricultural uses on the Cal Poly campus. However, development would occur within the existing campus boundary, not resulting in sprawl or expansion of the urban growth boundary of the City or County. In addition, substantially increasing on-campus housing under the 2035 Master Plan would reduce development pressure from Cal Poly onto the City and County. This reduced pressure, in addition to City and County policies that discourage the conversion of agricultural land to nonagricultural uses (see Section 3.2.1, "Regulatory Setting"), would limit the potential for off-campus development on agricultural land. Thus, indirect impacts on agricultural resources would be less than significant.	LTS	No mitigation is required.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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Air Quality			
Impact 3.3-1: Conflict with or Obstruct Implementation of an Applicable Air Quality Plan The APCD has developed its *2001 Clean Air Plan* to guide the region toward achieving attainment of the federal 8-hour ozone standard and the California 1-hour and 8-hour ozone standards. The plan is based on an inventory of existing emission sources as well as projections about the future level of land use development in San Luis Obispo County. With implementation of the 2035 Master Plan, operational emissions per person, primarily associated with vehicle emissions, would decrease compared to existing conditions. On-campus improvements related to promoting pedestrian/bicycle modes of transportation and decreasing on-campus parking are consistent with objectives of the Clean Air Plan. Further, new buildings planned for development would be consistent with CSU and Cal Poly policy, including 2035 Master Plan Guiding Principles, which requires increased renewable energy, building efficiencies greater than required by building code, and development of on-site renewable energy sources, with goals to achieve zero net energy buildings, all of which would reduce project-generated emissions, consistent with the goals of the Clean Air Plan. For these reasons, the project would not conflict with the APCD's long-term air quality planning efforts and this impact would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.3-2: Cause Construction-Generated Criteria Air Pollutant or Precursor Emissions to Exceed APCD-Recommended Thresholds The project would be consistent with the *2001 Clean Air Plan's* goals and objectives. However, for purposes of disclosure, a quantitative analysis was performed that identifies construction-related emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ if multiple projects were to be under construction at the same time. Emissions were assumed to result from demolition, site preparation (e.g., excavation, clearing), off-road equipment, material and equipment delivery trips, worker commute trips, and other construction activities (e.g., building, asphalt paving, application of architectural coatings). Construction activities would result in daily and quarterly emissions of ROG and NO_X that could exceed the APCD's thresholds of 137 lb/day and 2.5 tons/quarter, as well as quarterly emissions of diesel PM_{10} that could exceed the APCD's threshold of 0.13 tons/quarter. Therefore, construction-generated emissions of ROG, NO_X, and diesel PM_{10} from multiple, simultaneous projects could contribute to the existing nonattainment status of San	S	**Mitigation Measure 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: <u>Standard Construction Emission Reduction Measures for All Projects</u> ▶ 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 off-road equipment operators of the 5-minute idling limit.	SU

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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Luis Obispo County for ozone and PM. While the 2035 Master Plan would not conflict with the 2001 Clean Air Plan, it is possible that multiple projects developed at the same time under the 2035 Master Plan could exceed APCD project-level thresholds. This impact would be significant.		▸ Reduce the amount of the disturbed area where possible. ▸ Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increase water frequency whenever wind speeds exceed 15 miles per hour (mph). Reclaimed (nonpotable) water should be used whenever possible. ▸ 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. ▸ 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. ▸ The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20	

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		percent opacity, and to prevent transport of dust off-site. Their duties include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons will be provided to APCD Compliance Division before the start of any grading, earthwork, or demolition. ▶ 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. 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. 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; ▶ 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.	

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Impact 3.3-3: Result in a Net Increase in Long-Term Operational Criteria Air Pollutant and Precursor Emissions That Exceed APCD-Recommended Thresholds Implementation of some of the larger projects under the 2035 Master Plan is likely to result in long-term operational emissions that would exceed the APCD's thresholds of significance (25 lb/day and 25 tons/year for ROG and NO_X combined, 550 lb/day for CO, 25 lb/day and 25 tons/year for PM_{10}, and 1.25 tons/year for diesel PM_{10}). Therefore, operation-generated emissions could conflict with the air quality planning efforts and contribute substantially to the nonattainment status of San Luis Obispo County with respect to ozone and PM_{10}. This impact would be significant.	S	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. Note that measures recommended below are based on current (i.e., 2012 and updated in 2017) APCD guidance and other applicable measures may become available overtime that may be applied as APCD guidance is updated, emissions trends change, or as applicable to the specific individual development. **Mitigation Measure 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. **Mitigation Measure 3.3-3b: Reduce Operational Emissions** The following measures shall be included, where appropriate, as part of individual development projects 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. Below is a list of APCD's recommended emission reduction measures that are applicable and feasible at the time this EIR was prepared: ▸ 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.	SU

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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Impact 3.3-4: Result in a Short- or Long-Term Increase in Localized CO Emissions That Exceed APCD-Recommended Thresholds. Long-term operation-related local mobile-source emissions of CO generated by development in the Master Plan Area would not violate a standard or contribute substantially to an existing or project air quality violation or expose sensitive receptors to substantial pollutant concentrations. As a result, this impact would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.3-5: Expose Sensitive Receptors to Substantial Increases in TAC Emissions Construction-related emissions of TACs associated with proposed land use development would be spread over a large geographic area, not affecting any one receptor for extended periods of time, and therefore, would not result in exposure of existing receptors to substantial TAC concentrations. The placement of new sensitive receptors in proximity to existing stationary sources of TAC, such as the co-generation facility, would not result in increased health risk because the diesel PM emissions generated at the facility are below the APCD threshold. The project would not result in the operation of new stationary sources of TACs. Thus, project-generated TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk greater than 10 in 1 million for construction and 89 in 1 million for operation. This impact would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.3-6: Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People The project would introduce new odor sources into the area (e.g., temporary diesel exhaust emissions during construction). However, these odor sources would be temporary, intermittent, and dissipate rapidly from the source. The project would also construct and operate a WRF to treat wastewater on-site that would be located within 1 mile of sensitive receptors. As a result, potential exposure of sensitive receptors to objectionable odors would be significant.	S	**Mitigation Measure 3.3-6: Prepare an Odor Control Plan** The following odor management conditions will be implemented by Cal Poly with respect to the WRF prior to its operation and would be consistent with the conditions of the site's Authority to Control or Permit to Operate issued by APCD: ▶ Cal Poly will prepare an Odor Control Plan (OCP), which will include known feasible measures to minimize the potential for a substantial odor increase at receptors within 1 mile of the WRF and will identify the facility's odor abatement system equipment, the system performance monitoring protocols, and the procedures for investigating and correcting public complaints. The APCD will ensure the OCP is consistent and not in conflict with the APCD requirements. All complaints received by facility management will be investigated and documented, and if verified, appropriate response action will be taken. The facility will provide a 24-hour hotline for public complaints, and the number will be posted at the facility entrance.	SU

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Archaeological, Historical, and Tribal Cultural Resources			
Impact 3.4-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource The 2035 Master Plan proposes general types of campus development to support projected campus population growth and to enable expanded and new program initiatives, including the renovation of some existing buildings, including historical structures. Some historical structures identified for renovation may be in need of substantial investment and, while not anticipated, could be replaced if renovation proves infeasible. This could result in damage to or destruction of historic buildings and structures, thereby resulting in a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. This impact would be potentially significant.	PS	**Mitigation Measure 3.4-1: Conduct Project-Specific Surveys and Identify and Implement Measures to Protect Identified Historic Resources** Before altering or otherwise affecting a building or structure that is 50 years old or older, Cal Poly shall retain a qualified architectural historian to record the building or structure on a California Department of Parks and Recreation DPR 523 form or equivalent documentation, if the building has not previously been evaluated. Its significance shall be assessed and documented by a qualified architectural historian in accordance with the significance criteria set forth for historic resources under CEQA Guidelines Section 15064.5. The evaluation process shall include the development of appropriate historical background research as context for the assessment of the significance of the structure in the history of the CSU system, Cal Poly, and the region. For buildings, structures, and other resources determined through this evaluation process not to meet the CEQA historical resource criteria, no further mitigation is required. For any building, structure, and or other resource that qualifies as a historic resource, the architectural historian and Cal Poly shall consult to consider measures that would enable the Master Plan project to avoid direct or indirect impacts to the historic building or structure. These could include preserving the building on site, using it "as is," or other measures that would not materially alter the historically significant components of the building or structure. If the project cannot feasibly avoid modifications to the historically significant features of the historic building or structure, the following measures shall be undertaken as appropriate: 1) If the building or structure can be preserved on-site, but remodeling, renovation or other alterations are required, this work shall be conducted in compliance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings" (NPS 1983). 2) If a significant historic building or structure is proposed for major alteration or renovation, or to be moved and/or demolished, Cal Poly shall ensure that a qualified architectural historian thoroughly documents the building and associated landscaping and setting. Documentation shall include still and video photography and a written documentary record of the building to the standards of the Historic American Building Survey or Historic American Engineering Record, including accurate scaled mapping, architectural descriptions, and	SU

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		scaled architectural plans, if available. A copy of the record shall be deposited with the University archives, Shields Library Special Collections. The record shall be accompanied by a report containing site-specific history and appropriate contextual information. This information shall be gathered through site specific and comparative archival research, and oral history collection as appropriate. 3) If preservation and reuse at the site are not feasible, the historical building shall be documented as described in item (2) and, when physically and financially feasible, be moved and preserved or reused.	
Impact 3.4-2: Cause a Substantial Adverse Change in the Significance of an Archaeological Resource Future development associated with the 2035 Master Plan could be located in areas that contain known or unknown archaeological resources and ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5. This impact would be potentially significant.	PS	**Mitigation Measure 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). 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	LTS

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		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	

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		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. **Mitigation Measure 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.	

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		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 Measure 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.	
Impact 3.4-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource Cal Poly sent letters inviting tribal consultation to the tribes that expressed interest in formal consultation pursuant to AB 52. No response to these letters was received within the 30-day period required to initiate consultation. However, it is possible that tribal cultural resources could be identified during analysis of subsequent projects. Compliance with PRC Section 21080.3.2 and Section 21084.3(a) would render this impact less than significant.	LTS	No mitigation is required.	LTS
Impact 3.4-4: Disturb Human Remains Construction and excavation activities associated with project development could unearth previously undiscovered or unrecorded human remains, if they are present. Compliance with California Health and Safety Code Sections 7050.5 and 7052 and PRC Section 5097 would make this impact less than significant.	LTS	No mitigation is required.	LTS
Biological Resources			
Impact 3.5-1: Have a Substantial Adverse Effect, Either Directly or Through Habitat Modifications, on Special-Status Plants Implementation of the 2035 Master Plan could result in conversion of undeveloped habitats that may provide marginally suitable habitat for several special-status plants. Removal of these undeveloped habitats could result in loss of special-status plants if they are present. Loss of special-status plants would be a significant impact.	S	**Mitigation Measure 3.5-1a: Conduct Special-Status Plant Surveys** Prior to approval of specific projects under the 2035 Master Plan, Cal Poly shall have a qualified botanist (i.e., a professional biologist with expertise in native and naturalized plants found in California who is able to use appropriate field survey methods and protocols that satisfy documentation and assessment requirements) evaluate the potential for special-status plant habitat at the proposed project sites	LTS

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		containing undeveloped land cover types as shown in Figure 3.5-1, "Land Cover." Should suitable habitat for any of the species listed in Table 3.5-3 be identified, the qualified botanist, at Cal Poly's direction, shall conduct protocol-level surveys for the potentially occurring special-status plants that could be removed or disturbed by project activities during the blooming period for the plant(s) that could be present on-site. Protocol-level surveys shall be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009). Concurrent with the special-status plant survey, the botanist shall document non-native invasive plants within the project areas and provide a separate report with the location and extent of non-natives within the project area to Cal Poly. If special-status plants are not found, the botanist shall document the findings in a letter report to CDFW and further mitigation shall not be required.	

Table 3.5-3 Normal Blooming Period for Special-Status Plants with Potential to Occur within the Main campus

Species	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Marsh sandwort *Arenaria paludicola*				■	■	■	■		
Mile's milk-vetch *Astragalus didymocarpus* var. *milesianus*		■	■	■	■	■			
Coulter's saltbush *Atriplex coulteri*		■	■	■	■	■	■	■	■
San Luis Obispo owl's clover *Castilleja densiflora* ssp. *obispoensis*		■	■	■					
Dwarf calycadenia *Calycadenia villosa*				■	■	■	■	■	■
San Luis Obispo sedge *Carex obispoensis*			■	■	■				
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*					■	■	■	■	■
San Luis Obispo fountain thistle [=Chorro Creek Bog Thistle] *Cirsium fontinale* var. *obispoense*	■	■	■	■	■	■			
La Graciosa thistle *Cirsium scariosum* var. *loncholepsis*				■	■	■	■		

Species	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*			■	■	■				
San Joaquin spearscale *Extriplex joaquiniana*			■	■	■	■	■	■	■
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	■	■	■	■	■				
Jones's layia *Layia jonesii*		■	■	■					
Spreading navarretia *Navarretia fossalis*			■	■	■				
Shining navarretia *Navarretia nigelliformis* ssp. *radians*			■	■	■				
Adobe sanicle *Sanicula maritima*	■	■	■	■					
Saline clover *Trifolium hydrophilum*			■	■	■				

Source: Data compiled by Ascent Environmental in 2019

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		Mitigation Measure 3.5-1b: Conduct Special-Status Plant Avoidance If special-status plant species are found on a particular project site and are located outside of the permanent footprint of any proposed structures/site features and can be avoided, Cal Poly shall avoid and protect these species by establishing a no-disturbance buffer around the area occupied by special-status plants and marking the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway); exceptions to this requirement are listed later in this measure. The no-disturbance buffers shall generally be a minimum of 40 feet from special-status plants, but the size and shape of the buffer zone may be adjusted if a qualified botanist determines that a smaller buffer is sufficient to avoid killing or damaging the plants or that a larger buffer is necessary to sufficiently protect plants from the proposed activity. The appropriate buffer size shall be determined based on plant phenology at the time of project initiation (e.g., whether the plants are in a dormant, vegetative, or flowering state), the individual species' vulnerability to the activity being conducted, and environmental conditions and terrain. Consideration of factors such as site hydrology, changes in light, edge effects, and potential introduction of invasive plants and noxious weeds may inform	

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		the determination of buffer width. If a no-disturbance buffer is reduced below 40 feet from a special-status plant, a qualified botanist shall provide a site- and/or activity-specific explanation with the biological technical justification for the buffer reduction, which shall be included in a memo to CDFW and Cal Poly. **Mitigation Measure 3.5-1c: Special-Status Plant Impact Minimization and Compensation Measures** If special-status plants are found during rare plant surveys and cannot be avoided, Cal Poly shall consult with CDFW and USFWS, as appropriate depending on species status, to determine the appropriate action(s) to achieve no net loss of occupied habitat or individuals. Mitigation measures may include, but are not limited to, preserving and enhancing existing populations, creating off-site populations on mitigation sites through seed collection or transplantation at a 3:1 ratio, and restoring or creating suitable habitat in sufficient quantities which would collectively achieve no net loss of occupied habitat or individuals. Potential mitigation sites could include suitable transplant locations within or outside of the campus. Cal Poly shall develop and implement a site-specific mitigation strategy describing how unavoidable losses of special-status plants shall be compensated consistent with this mitigation measure and the no net loss standard. Success criteria for preserved and compensatory populations shall include: a) The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat. b) Compensatory and preserved populations shall be self-producing. Populations shall be considered self-producing when: i) plants reestablish annually for a minimum of 5 years with no human intervention such as supplemental seeding; and ii) reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity. If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the project-specific mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria consistent	

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		with those listed above and other details, as appropriate to target the preservation of long-term viable populations. **Mitigation Measure 3.5-1d: 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). **Mitigation Measure 3.5-1e: Prepare Trail Management Plan** Prior to improving existing Cal Poly trails or constructing new trails in Cal Poly's natural lands, Cal Poly shall prepare a Trail Plan as described in 2035 Master Plan Principle IP 9. The Trail Plan shall emphasize the use of existing trails in the trail system, identify all sensitive resources within and adjacent to the trail(s) alignment(s), and ensure that the trail alignments do not necessitate the removal of or otherwise adversely affect the sensitive resources. If the Trail Plan includes the construction of new trails, the new trail alignments shall be surveyed for sensitive biological resources before trail design. The new trail alignments shall be designed to avoid or minimize direct and indirect impacts on any identified sensitive resources. The construction of new trails shall minimize the number of creek crossings in the trail system. If the construction of new trails or improvement of existing trails includes the installation of pedestrian bridges over Brizzolara Creek or other waterways, Cal Poly shall obtain the necessary permits from USACE, USFWS, CDFW, and/or RWQCB, as necessary. The Trail Plan shall include the following elements: a) Installation of interpretive signage to inform trail users of the presence of sensitive resources along the trails and identify appropriate trail use conduct.	

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		b) Identification of the department and/or individuals responsible for implementing all aspects of the trail plan. c) Provision of adequate buffers from waterways, seeps, springs, and other sensitive resources. d) Use of natural infiltration and best management practices for storm water management. Designs should focus on the use of natural dispersed infiltration systems, such as vegetated swales, rather than engineered systems, such as storm drains and catch basins, to the maximum extent feasible. e) Prohibition of public motor vehicle use of the trails. f) Identification of trails suitable for bicycle use and those for which bicycle use is prohibited. g) A trail decommissioning program to restore native habitats in trail sections that are no longer in use. h) A trail monitoring program.	
Impact 3.5-2: Have a Substantial Adverse Effect, Either Directly or through Habitat Modifications, on Special-Status Wildlife Species, Fish Species, or Habitats Implementation of the 2035 Master Plan could result in the disturbance or conversion of habitats occupied by or suitable for several special-status wildlife species. Disturbance or loss of these habitats could result in loss of special-status wildlife if they are present. Loss of special-status wildlife or their habitat would be a significant impact.	S	**Mitigation Measure 3.5-2a: Conduct Surveys for Areas with Significant Potential for Overwintering Monarch Butterfly Sites** 1. Cal Poly shall retain a monarch butterfly habitat specialist to conduct surveys in riparian, live oak woodland, and non-native oak woodland habitat and identify areas with significant potential for overwintering monarch butterflies. The monarch butterfly habitat specialist shall provide Cal Poly with a report summarizing the result of the surveys, including a map of areas with significant potential for overwintering monarch butterflies. Cal Poly shall use the report to identify overwintering sites that are within 300 feet of any proposed Master Plan project. If no projects are within 300 feet of identified habitat, no further mitigation is required. If projects are identified within 300 feet, then the following measure shall apply. 2. Preconstruction surveys shall be conducted for potential overwintering monarch butterfly sites within 300 feet of any proposed 2035 Master Plan project construction areas. Surveys for overwintering aggregations of monarch butterflies shall be conducted over the winter season (November 1 to first week of March) before construction activities within 300 feet of the potential butterfly overwintering zone. A minimum of two surveys shall be conducted at least one month (30 days) apart within the monarch butterfly wintering season (November 1 to first week of March). Surveys shall follow survey methods	LTS

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		specified by the Xerces Society for Invertebrate Conservation (Xerces 2011). If no overwintering monarch butterflies are found, no further mitigation is required. If overwintering monarch butterflies are found, then the following measures shall be implemented. **Mitigation Measure 3.5-2b: Implement Avoidance of Overwintering Monarch Butterfly and Protection of Active Overwintering Monarch Butterfly Sites** Construction activities in and around butterfly overwintering sites identified pursuant to Mitigation Measure 3.5-2a shall start outside of the overwintering season (overwintering season is typically between November 1 and first week of March), to the greatest extent feasible, to avoid potential impacts on monarch butterfly overwintering habitat. However, when it is not feasible to avoid the overwintering season and construction activities take place during this time, the following measures shall apply. If an active overwintering site is located, work activities shall be delayed within 300 feet of the site location until avoidance measures have been implemented. Appropriate avoidance measures shall include the following measures (which may be modified as a result of consultation with CDFW to provide equally effective measures): a) If the qualified wildlife biologist determines that construction activities would not affect an active overwintering site, activities shall proceed without restriction. b) If the wildlife biologist determines there is a potential to affect an active overwintering site, a no-disturbance buffer shall be established around the overwintering site to avoid disturbance or destruction. The extent of the no-disturbance buffers shall be determined by the qualified wildlife biologist familiar and in consultation with CDFW. Buffers shall be maintained until March 7 or until the qualified biologist determines that the monarch butterflies have left the wintering site. c) Throughout the year, Cal Poly shall avoid removing or trimming trees utilized by monarch butterflies or documented as active within the last 3 years pursuant to Mitigation Measure 3.5-2a, as well as trees adjacent to the documented active winter roost areas to prevent adverse indirect changes to the humidity, wind exposure, and temperature within the immediate vicinity of the roost site, unless Cal Poly consults with a monarch butterfly habitat specialist to identify appropriate variances to this measure. Any routine tree trimming shall be done between April and October to eliminate the risk of disturbance to overwintering	

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		monarch colonies during the core overwintering/clustering period and shall be conducted following the Management Guidelines for Monarch Butterfly Overwintering Habitat (Xerces 2017) and under the supervision of the monarch habitat specialist. This mitigation measure does not apply to removal or trimming of hazard trees or branches or management of the wintering site for the benefit of monarch butterfly. **Mitigation Measure 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. **Mitigation Measure 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	

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		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. **Mitigation Measure 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. **Mitigation Measure 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	

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		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. **Mitigation Measure 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. **Mitigation Measure 3.5-2h: Conduct Environmental Monitoring** During construction of future development that would directly affect reservoirs, ponds, or drainages or that would result in land disturbance within California red-legged frog critical habitat as defined by Mitigation Measure 3.5-2c, implement Mitigation Measure 3.5-1d, described above. **Mitigation Measure 3.5-2i: Prepare Trail Management Plan** Prior to improvements that would directly affect drainages or riparian habitat or that would result in land disturbance within California red-legged frog habitat as defined by Mitigation Measure 3.5-2c, implement Mitigation Measure 3.5-1e, described above. **Mitigation Measure 3.5-2j: Conduct Steelhead Impact Avoidance** As part of future design and planning of 2035 Master Plan projects that require work in Stenner Creek or Brizzolara Creek, their tributaries, or their riparian areas, all such work shall be conducted between June 15 and October 15 or as approved by a qualified biologist in coordination as required with USACE, NMFS, and CDFW. **Mitigation Measure 3.5-2k: Conduct Steelhead Consultation** Prior to implementation of 2035 Master Plan projects that require work in Stenner Creek, Brizzolara Creek, their tributaries, or riparian areas, Cal Poly shall coordinate with CDFW through the 1602 permitting process, and with USACE during the CWA Section 404 permitting to consult with NMFS regarding the potential for the project to result in take of steelhead and/or steelhead critical habitat. If USACE, in consultation with NMFS, determines that the project may affect or result in take of steelhead or result in the detrimental modification of critical habitat, NMFS may	

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		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 restoration, habitat compensation to ensure no net loss of habitat, and monitoring. Cal Poly shall reference and include the *Guidelines for Salmonid Passage at Stream Crossings* (NMFS 2001), or as updated by NMFS, in all future bridge/crossing designs over Stenner Creek and Brizzolara Creek. Any new crossings shall not create new barriers to fish passage into the upper reaches of the creeks. If USACE declines to take jurisdiction over the project, thus removing a federal nexus from the project, Cal Poly shall consult directly with NMFS pursuant to Section 10 of the ESA. If NMFS determines that the project may affect or result in take of steelhead 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. **Mitigation Measure 3.5-2l: Protect Steelhead Habitat through Implementation of Waterway Protection Measures** Prior to implementation of 2035 Master Plan projects that require work in Stenner Creek, Brizzolara Creek, their tributaries, or riparian areas, implement Mitigation Measure 3.5-3a through 3.5-3d, described below. Because mitigation for degradation or loss of riparian habitat and other sensitive natural communities would also minimize potential impacts on steelhead, those measures are recommended for this impact. **Mitigation Measure 3.5-2m: Conduct Environmental Monitoring** During implementation of 2035 Master Plan projects that require work in Stenner Creek, Brizzolara Creek, their tributaries, or riparian areas, implement Mitigation Measure 3.5-1d, described above. **Mitigation Measure 3.5-2n: Prepare Trail Management Plan** Prior to improvements that would directly affect Stenner Creek, Brizzolara Creek, their tributaries, or riparian areas or that would result in disturbance to steelhead habitat, Implement Mitigation Measure 3.5-1e, described above. **Mitigation Measure 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	

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		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. **Mitigation Measure 3.5-2p: Conduct Environmental Monitoring** During implementation of 2035 Master Plan projects that require work in riparian corridors where ringtail occupied habitat has been identified, implement Mitigation Measure 3.5-1d, described above. **Mitigation Measure 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.	

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		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. **Mitigation Measure 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 3.5-1d, described above. **Mitigation Measure 3.5-2s: Conduct American Badger Surveys and Avoidance** For projects within undeveloped grassland habitat and before ground-disturbing activities, a qualified biologist shall conduct a preconstruction survey for American badger dens. The American badger survey shall be conducted no more than 2 weeks prior to construction. If the survey results are negative (i.e., no active badger dens observed), no additional mitigation is required. If the results are positive (American badger dens are observed), the biologist shall contact Cal Poly within 24 hours and work in the area shall be delayed until Cal Poly's biologist has made one of the following determinations: a) If the biologist determines that dens may be active, the biologist shall install a game camera for 3 days and 3 nights to determine if the den is in use. If the biologist determines that the den is a maternity den, construction activities shall be delayed during the maternity season (February to August), or until the	

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		badgers leave the den on their own accord or the biologist determines that the den is no longer in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated as described below. If the camera captures badger use of the den, the biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated as described below. b) If the biologist determines that potential dens are inactive, the biologist shall excavate the dens with hand tools to prevent badgers from reusing them. **Mitigation Measure 3.5-2t: Conduct Western Pond Turtle and Coast Range Newt Surveys and Relocation** To minimize adverse effects on western pond turtle and Coast Range newt during any projects that requires dewatering, dredging, fill of an aquatic site (e.g., a reservoir, pond, settling pond, or drainage), or the grading (during construction of new facilities) of inactive pasturelands or non-native grassland with a southern sun exposure within 500 feet of any of these aquatic habitats, Cal Poly shall retain a qualified biologist to survey for western pond turtle and Coast Range newt within 2 weeks of project activities. If no western pond turtle, Coast Range newt, or their eggs or nests are observed, no further mitigation is required. If western pond turtle, Coast Range newt, their eggs or nests are found then the following shall be conducted: a) Cal Poly shall retain a qualified biologist to capture and relocate western pond turtle and Coast Range newt adults and juveniles. Capture and relocation efforts must be conducted using visual survey and hand capture techniques. Any captured western pond turtles and Coast Range newts must be relocated to a nearby aquatic site that shall not be affected by project activities. b) If newt egg masses and/or larvae, or western pond turtle nests are identified, construction shall be delayed until the eggs have hatched and individuals are capable of vacating the site or being relocated. Because of the delicate nature of newt egg masses/larvae and habitat requirements of western pond turtle nests, delaying construction is the only viable method to protect the resource. **Mitigation Measure 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	

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		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: 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	

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		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. **Mitigation Measure 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 3.5-1d, described above. **Mitigation Measure 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	

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		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. **Mitigation Measure 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 3.5-1d.	
Impact 3.5-3: Result in Degradation or Loss of Riparian Habitat or Other Sensitive Natural Communities Implementation of the 2035 Master Plan could result in the degradation or loss of arroyo willow tickets and riparian woodland. Degradation or loss of these riparian habitats would be a significant impact.	S	**Mitigation Measure 3.5-3a: Avoid and Protect Brizzolara and Stenner Creeks** For projects in the vicinity of Brizzolara and Stenner Creeks, a 50-foot buffer from the outer extent of the top-of-bank or outer extent of riparian vegetation, whichever is greater, shall be established unless a qualified biologist determines, based on site-specific conditions, that a larger or smaller buffer would be sufficient to avoid impacts on arroyo willow thickets or riparian woodland. Development of new parking areas and buildings within this buffer shall be prohibited. If projects require work within the creeks or within the riparian area of the creeks, Cal Poly shall implement Mitigation Measures 3.5-2c through 3.5-2j, 3.5-2n, and 3.5-4. **Mitigation Measure 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.	LTS

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		Mitigation Measure 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. **Mitigation Measure 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. **Mitigation Measure 3.5-3e: Minimize Ground Disturbance in Sensitive Natural Community Areas** For projects that require the demolition of existing structures and vegetation removal within sensitive natural communities, Cal Poly shall require that ground disturbance, vegetation removal, and tree removal is limited to that necessary for construction, especially in sensitive natural communities and riparian areas. **Mitigation Measure 3.5-3f: Mitigate for the Loss of Sensitive Natural Communities** If loss of sensitive natural communities would not be otherwise mitigated by the proposed projects (i.e., the sensitive natural community is recognized as sensitive, but not protected pursuant to other regulations or policies), then additional actions shall be implemented based on site- and project-specific impacts in order to ensure no net loss of habitat function or acreage. Such actions may include creating, restoring, and/or preserving in perpetuity in-kind communities at a sufficient ratio to achieve no net loss of habitat function or acreage. If habitat enhancement or creation takes place, Cal Poly shall develop and implement a monitoring and management plan to assess the effectiveness of the mitigation. If monitoring indicates that the actions have not adequately mitigated for the	

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		project's impacts, Cal Poly shall implement further remedial actions, restoration, and other activities to reach a no net loss of habitat function or acreage. **Mitigation Measure 3.5-3g: Avoid Planting Invasive Plants** Project landscaping shall not utilize any species included on the most recent Cal-IPC Inventory. **Mitigation Measure 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. **Mitigation Measure 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. **Mitigation Measure 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. **Mitigation Measure 3.5-3k: Prepare Trail Management Plan** Implement Mitigation Measure 3.5-1e, described above.	

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Impact 3.5-4: Result in Degradation or Loss of State or Federally Protected Wetlands Development of new facilities, and construction associated with improvements to existing facilities, under the 2035 Master Plan could remove wetland vegetation, alter wetland hydrology or topography, and impair wetland functions in some locations. These disturbances could result in temporary or permanent degradation or loss of waters of the United States, waters of the state, and their habitat functions and values. The degradation or loss of state or federally protected wetlands would be a significant impact.	S	**Mitigation Measure 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 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.	LTS

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		▸ 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.	
Impact 3.5-5: Interfere with Important Wildlife Movement Corridors and Nursery Sites Implementation of the 2035 Master Plan projects could result in encroachment into Brizzolara Creek, Stenner Creek, and other drainage riparian corridors, which provide suitable wildlife movement corridors and nursery sites for some species within the Master Plan Area. Removal and/or encroachment of these corridors and/or nursery sites could interfere with important wildlife movements and reproduction. Degradation or loss of important wildlife movement corridors or nursery sites would be a significant impact.	S	**Mitigation Measure 3.5-5a: Avoid and Protect Brizzolara and Stenner Creeks** Implement Mitigation Measure 3.5-3a, described above. **Mitigation Measure 3.5-5b: Implement Low-Impact Development Principles** Implement Mitigation Measure 3.5-3b, described above. **Mitigation Measure 3.5-5c: Install Exclusion Fencing** Implement Mitigation Measure 3.5-3c, described above. **Mitigation Measure 3.5-5d: Map and Protect Waterways and Riparian Areas** Implement Mitigation Measure 3.5-3d, described above.	LTS

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Energy			
Impact 3.6-1: Result in the Wasteful, Inefficient, or Unnecessary Consumption of Energy or Wasteful Use of Energy Resources Construction and operation of new and renovated buildings and facilities under the 2035 Master Plan would result in consumption of fuel (gasoline and diesel), electricity, and natural gas. Energy consumption associated with construction would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. Through adherence to and exceedance of current building code requirements, energy consumption associated with operation of new buildings and facilities under the 2035 Master Plan would not result in wasteful, inefficient, or unnecessary consumption of energy. Transportation-related energy associated with project implementation would be reduced on a per-service-population basis as compared with existing conditions. For these reasons, this impact would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.6-2: Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency Renewable energy generation from the implementation of Mitigation Measure 3.8-1, in Section 3.8, Greenhouse Gas Emissions, would result in an increase in renewable energy use, which would directly support the goals and strategies in the state's 2008 Update Energy Action Plan (EAP) and the CSU Sustainability Policy. Construction and operating project buildings in compliance with the 2019 California Energy Code or later iterations of the code would improve energy efficiency compared to buildings built to earlier iterations of the code. Therefore, construction and operation of the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. No impact would occur.	NI	No mitigation is required.	NI
Geology and Soils			
Impact 3.7-1: Directly or Indirectly Cause Potential Substantial Adverse Effects, including the Risk of Loss, Injury, or Death Involving Seismic Ground Shaking Although the Master Plan Area is located in a seismically active region that includes several active earthquake faults of local and regional significance, none of these faults extend directly through campus. All structures proposed to be constructed or redeveloped would be required to comply with the CSU Seismic Requirements and the latest CBC, to ensure that all new and modified buildings would be capable of withstanding anticipated levels of ground shaking. For this reason, the potential impact related to ground shaking would be less than significant.	LTS	No mitigation is required.	LTS

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Impact 3.7-2: Directly or Indirectly Cause Potential Substantial Adverse Effects, including the Risk of Loss, Injury, or Death Involving Seismic-Related Ground Failure, including Liquefaction Due to the varied conditions and capabilities of subsurface soils and depth to the groundwater table, the potential for liquefaction and liquefaction-induced lateral spreading also varies throughout the Master Plan Area. However, all future development proposed by the 2035 Master Plan would be required to comply with the CSU Seismic Requirements and the latest CBC requirements. For this reason, compliance with CBC and CSU Seismic Requirements would ensure that the impact related to ground failure and liquefaction would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.7-3: Directly or Indirectly Cause Potential Substantial Adverse Effects, including the Risk of Loss, Injury, or Death Involving Landslides The Master Plan Area incorporates a few existing steep slopes within the eastern boundary of the East Campus subarea and along the northern portion of the North Campus subarea. All structures proposed to be constructed or redeveloped under the 2035 Master Plan would be required to comply with the CSU Seismic Requirements and the latest CBC, to ensure structural design of all new and modified buildings would not result in adverse effects resulting from landslides. However, because of the presence of steep slopes along the eastern and northern portion of the Master Plan Area, and the recent landslide that occurred within the East Campus subarea, future development in these areas is considered to have the potential to expose people and structures to risks from landslides. This impact would be significant.	S	**Mitigation Measure 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; ▸ 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.	LTS

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Impact 3.7-4: Result in Substantial Erosion or Loss of Topsoil during Construction Construction of development and redevelopment projects under the 2035 Master Plan would involve clearing and grading of soils, which could result in erosion and loss of topsoil, particularly if soils are exposed to wind or stormwater during construction. However, through compliance with all required regulations, such as SWRCB General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ), and a Storm Water Pollution Prevention Plan (SWPPP) for projects that would result in more than 1 acre of ground disturbance, the impact related to substantial erosion or loss of topsoil during construction would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.7-5: Be Located on a Geologic Unit That Is Unstable, or That Would Become Unstable as a Result of the Project, and Potentially Result in On- or Off-Site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse Construction activities under the 2035 Master Plan, such as grading and excavation, could increase the risk that soils would become unstable, which could eventually result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Development and redevelopment projects that are proposed in areas where unstable soils are present could result in building damage. Because future projects could potentially be located on a geologic unit that is unstable, or that would become unstable as a result of the project, this impact would be significant.	S	**Mitigation Measure 3.7-5: Perform Site-Specific Geotechnical Investigations** Implement Mitigation Measure 3.7-3, described above.	LTS
Impact 3.7-6: Be Located on Expansive Soil, Creating Substantial Direct or Indirect Risks to Property The Master Plan Area includes several soils with high shrink-swell and linear extensibility potential. Ground-disturbing construction activities associated with this development on soils that have a high shrink-swell potential and/or linear extensibility could result in adverse effects such as damage to foundations from ground movement. Development and redevelopment projects within the 2035 Master Plan on soils that have a high shrink-swell potential and/or linear extensibility could result in shrinking and swelling of soils, which can cause damage to foundations. Thus, this impact would be significant.	S	**Mitigation Measure 3.7-6: Perform Site-Specific Geotechnical Investigations** Implement Mitigation Measure 3.7-3, described above.	LTS
Impact 3.7-7: Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geological Feature Although the Master Plan Area is underlain by Franciscan Complex (KJf) and Young Surficial Deposits (Qya) deposits, which are not known to host paleontological resources, discoveries of yet unknown paleontological resources during ground-	S	**Mitigation Measure 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	LTS

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disturbing activities under development of the 2035 Master Plan could still occur. Thus, this impact would be significant.		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			
Impact 3.8-1: Generate GHG Emissions That May Have a Significant Impact on the Environment Construction activity associated with development of the project is estimated to generate a total of 20,819 MTCO2e. Operation of the project would result in GHG emissions associated with mobile sources, area sources, building energy, water consumption, and wastewater and solid waste generation. After full buildout, the project would generate approximately 15,025 MTCO2e/year, including the total construction emissions amortized over 25 years. This would exceed the identified threshold of 4,255 MTCO2e/year. This impact would be significant.	S	**Mitigation Measure 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.	LTS

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		▶ 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. Anticipated GHG emissions reductions resulting from the above mitigation measures were quantified and summarized below in Table 3.8-4.	

Table 3.8-4 Summary of GHG Emissions Reduction from Mitigation Measure 3.8-1

Emissions Source	GHG Emissions ($MTCO_2e$/year)
Area	64
Building Energy	1,784
Mobile	9,154
Water-Related	172

Emissions Source	GHG Emissions ($MTCO_2e$/year)
Solid Waste	325[1]
Amortized Construction	833
Total	**12,331**
Mass Emission Threshold	**4,255**

Notes: GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

[1] Emissions reduction related to the mitigation measure recommending zero waste by 2040 was not calculated owing to the uncertainty in available strategies for achieving the target. Rather, it was assumed that Cal Poly would continue to achieve, at a minimum, a diversion rate of 86 percent, a rate achieved in 2017. Thus, mitigated emissions were reduced consistent with current levels of waste diversion.

Source: Modeling conducted by Ascent Environmental in 2019

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		As shown in Table 3.8-4, implementation of Mitigation Measure 3.8-1 would reduce GHG emissions associated with the 2035 Master Plan to 12,331 $MTCO_2e$/year, reducing the project's operational emissions by 2,694 $MTCO_2e$/year. Most of these emissions would come from mobile sources. To meet the established threshold of significance, additional reductions of 8,076 $MTCO_2e$/year would be required. **Mitigation Measure 3.8-2: Purchase GHG Offsets** Annual project-generated GHG emissions would exceed the established threshold by 8,076 $MTCO_2e$/year after incorporation of Mitigation Measure 3.8-1. Additional GHG emissions reductions could be achieved from the development of a local (i.e., campus) offset program or direct investments in existing local programs such as financing installation of regional electric vehicle–charging stations or investing in local urban forests. Where development or investments in local programs are not feasible or available, Cal Poly may choose to mitigate additional GHG emissions through the purchase of carbon credits available through any one of the following verifiable entities/registries: CARB, Climate Action Reserve, California Air Pollution Control Officers Association, the APCD, or any other equivalent or verifiable registry. Such offsets, either established by Cal Poly or purchased, will meet the requirements of CEQA Guidelines Section 15126.4(C)(3), and meet the following criteria: ▸ **Real**—They represent reductions actually achieved (not based on maximum permit levels).	

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		▸ **Additional/surplus**—They are not already planned or required by regulation or policy (i.e., not double counted). ▸ **Quantifiable**—They are readily accounted for through process information and other reliable data. ▸ **Enforceable**—They are acquired through legally binding commitments/agreements. ▸ **Validated**—They are verified through the accurate means by a reliable third party. ▸ **Permanent**—They will remain as GHG reductions in perpetuity. Carbon offset credits must be purchased prior to occupancy of individual structures developed under the Master Plan up to 201,900 $MTCO_2e$ of credits (i.e., 25 years multiplied by 8,076 $MTCO_2e$) for the entire campus. The amount to be purchased for each development under the Master Plan can either be calculated based on the percentage share of the development as it relates to overall development under the Master Plan or based on updated modeling at the time the development is considered for approval. The price per MT of CO_2e varies depending on the availability of credits on the market, the number of credits purchased at one time, and the type and location of carbon offset being purchased. Current pricing estimates range from \$0.85 to \$8.5 per $MTCO_2e$.	
Impact 3.8-2: Conflict with an Applicable Plan, Policy or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of GHGs Both construction and operation of the project would include GHG efficiency measures consistent with all state and Cal Poly policies and plans adopted for the purpose of reducing GHG emissions and enabling the achievement of the statewide reduction target of SB 32 of 2016. The project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. Therefore, this impact would be less than significant.	LTS	No mitigation is required.	LTS
Hydrology and Water Quality			
Impact 3.9-1: Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface Water or Groundwater Quality during Construction Construction and grading activities could adversely affect water quality if construction materials brought on-site result in accidental spills or potential increase in the pollutant load in runoff. Storm events could generate enough runoff to carry storm water from construction sites into surface water bodies.	LTS	No mitigation is required.	LTS

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However, through required compliance with existing regulations, such as the 2013 General Permit, Small MS4 Permit, and SWPPPs (required by the 2013 General Permit for development over 1 acre), implementation of the 2035 Master Plan would not violate any water quality standards or waste discharge requirements during construction. This impact would be less than significant.			
Impact 3.9-2: Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface Water or Groundwater Quality during Operation During project operation, increased rates of surface water runoff associated with new impervious surfaces could promote increased erosion and sedimentation or other storm water contamination and adversely affect surface water and groundwater quality. The 2035 Master Plan would comply with the 2013 General Permit, the Small MS4 Permit, SWPPPs, and associated BMPs. Further, the use of low-impact development (LID) techniques would control storm water flow and prevent contamination of surface water resources. Continued compliance with the Small MS4 Permit and the 2013 General Permit would ensure that impacts on water quality standards during operations would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.9-3: Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management of the Basin New land uses proposed under the 2035 Master Plan would not require additional pumping of groundwater to serve the University's potable water needs. However, development and redevelopment under the 2035 Master Plan could result in an increase in impervious surfaces within the main campus, which could reduce storm water infiltration with the underlying groundwater aquifers, and thus impede groundwater recharge. For this reason, the impact on groundwater recharge would be potentially significant.	PS	**Mitigation Measure 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.	LTS

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		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).	
Impact 3.9-4: Substantially Alter the Existing Drainage Pattern of the Site or Area Such That Substantial Erosion, Siltation, Flooding, Polluted Runoff, or an Exceedance of the Capacity of Storm Drainage Systems Would Occur New land use development could result in increased rates of surface water runoff associated with new impervious surfaces and could promote increased erosion and sedimentation or other storm water contamination, and exceedance of the capacity of existing storm drain systems. Because project-level details of future projects, including their impacts on the existing drainage system of their sites, are not known at this time, the project would result in a potentially significant impact on the existing drainage pattern of the site or the surrounding area.	PS	**Mitigation Measure 3.9-4a: Prepare a Drainage Plan and Supportive Hydrologic Analysis** Implement Mitigation Measure 3.9-3, described above. **Mitigation Measure 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.	LTS
Impact 3.9-5: Be Located within Flood Hazard, Tsunami, or Seiche Zones, and Risk Release of Pollutants Due to Project Inundation Portions of the Master Plan Area are located within special flood hazard areas subject to inundation in a 100-year flood). Increased intensity of development within flood hazard zones could result in risk of release of pollutants such as oil, pesticides, herbicides, sediment, trash, bacteria, and metals during a flood event. This impact would be potentially significant.	PS	**Mitigation Measure 3.9-5: Avoid Development in 100-Year Flood Zones Where Feasible and Incorporate Design Measures to Address Release of Pollutants** All development pursuant to the 2035 Master Plan shall be sited to avoid the 100-year flood zone to the extent practicable. If development within the flood zone cannot be avoided, design measures shall be incorporated into all habitable and critical structures to ensure finished floor levels are constructed above the 100-year flood elevation, or other flood-proofing measures, including a pollutant control plan in the event of a flood, shall be incorporated and approved by Cal Poly in conjunction with FEMA to ensure structures are designed to meet state and federal flood- proofing requirements and to prevent the release of pollutants if flooding does occur.	LTS

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Impact 3.9-6: Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan Cal Poly will continue to adhere to all applicable plans, permits, and regulations governing water quality, and the 2035 Master Plan would not increase the University's use of groundwater. Therefore the 2035 Master Plan would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. During construction and operation of future development under the 2035 Master Plan, Cal Poly would comply with the 2013 General Permit, as well as SWPPP requirements, and implement any associated/necessary BMPs. Further, the use of LID techniques would control storm water flow and discharges and prevent contamination to surface water resources. For these reasons, this impact would be less than significant.	LTS	No mitigation is required.	LTS
Noise			
Impact 3.10-1: Generate Substantial Temporary (Construction) Noise Implementation of the 2035 Master Plan would result in construction activities associated with the development of facilities to accommodate projected student enrollment and furtherance of the University's academic mission. Although construction activities would be intermittent and temporary, construction noise could reach high levels at nearby noise-sensitive land uses and could result in human disturbance. As a result, this impact would be significant.	S	**Mitigation Measure 3.10-1: Implement Construction-Noise Reduction Measures** 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 possible 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-site 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.	SU

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		▶ 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 L_{max} 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 L_{max} 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. 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 ensure that the City of San Luis Obispo exterior noise level standard of 60 dBA L_{max} for temporary construction noise is not exceeded at any residence. Typical residential structures with windows closed achieve a 25-30 dBA exterior-to-	

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		interior noise reduction (Caltrans 2002). Thus, using the lower end of this range, an exterior noise level of 60 dBA L_{max} would result in interior noise levels of about 35 dBA L_{max}, which would not result in a substantially increased risk for sleep disturbance. If exterior noise levels of 60 dBA Lmax are infeasible due to type of construction activity and proximity to residential structure, ensuring interior noise levels do not exceed 45 dBA L_{eq}, consistent with City standards, would ensure residents are not disturbed. To achieve this performance standard, one or more of the following or equivalent measures shall be considered and implemented where appropriate: ▪ Use of noise-reducing enclosures and techniques around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors). ▪ Installation of temporary noise curtains installed as close as possible to the boundary of the construction site within the direct line of sight path of the nearby sensitive receptor(s) and 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 noise reduction measures are achieved the necessary reductions such that levels at the receiving land uses do not exceed exterior noise levels of 60 dBA L_{max} for construction activity occurring during these noise-sensitive hours.	
Impact 3.10-2: Generate Substantial Increase in Long-Term (Traffic) Noise Levels Population growth and development associated with implementation of the 2035 Master Plan would increase traffic within and outside the 2035 Master Plan Area. However, project-generated traffic volumes would not be at levels high enough to cause substantial increases in noise (i.e., 3 dB or more). This impact would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.10-3: Generate Substantial Long-Term Increase in Stationary Noise The new buildings and facilities constructed as part of the 2035 Master Plan may include new stationary noise sources and equipment (e.g., mechanical equipment), and increased noise levels associated with athletic and special events. Depending on location and design, equipment location, intervening shielding, and noise-reduction features incorporated, noise levels associated with new stationary noise sources (Spanos Stadium, parking facilities, HVAC systems) could result in	S	**Mitigation Measure 3.10-3a: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of Spanos Stadium** To minimize noise levels generated by the Spanos Stadium expansion, the following measures shall be implemented: ▸ Prior to final design, a noise assessment shall be conducted by a qualified acoustical engineer or noise specialist to evaluate potential increases in noise levels associated with the proposed expansion of Spanos Stadium. Noise-	SU

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exceedances of exterior noise limits at existing sensitive land uses. This impact would be significant.		reduction measures shall be incorporated to reduce significant increases in existing operational noise levels (i.e., 3 dBA, or greater) at nearby noise-sensitive land uses, including Mustang Village Apartments, to the extent feasible. Such measures may include, but are not limited to, the incorporation of structural shielding, enclosed bleachers, and revised placement for amplified sound system speakers. **Mitigation Measure 3.10-3b: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of the Proposed Parking Structures** To minimize noise levels generated by the proposed parking structures, the following measures shall be implemented: ▸ Prior to final design, a noise assessment shall be conducted by a qualified acoustical engineer or noise specialist to evaluate potential increases in noise levels associated with the proposed expansion of any proposed parking structure. Noise-reduction measures shall be incorporated to reduce to the extent feasible significant increases in existing operational noise levels (i.e., 3 dBA, or greater) at nearby noise-sensitive land uses, including campus student housing. Such measures may include, but are not limited to, locating parking structures as far away as possible from noise-sensitive land uses, constructing noise barriers between parking structures and noise-sensitive land uses, or using buildings and topographic features to provide acoustic shielding for noise-sensitive land uses. **Mitigation Measure 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 L_{eq} and 70 dba L_{max}, or less during the daytime (i.e., 7:00 a.m. to 10:00 p.m.) and 45 L_{eq} and 60 dBA L_{max}, or less during the nighttime (i.e.,	

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		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.	
Impact 3.10-4: Generate Substantial Temporary (Construction) Vibration Levels If pile driving is required during project construction, it could expose existing nearby sensitive receptors and structures to levels of ground vibration that could result in structural damage and/or human disturbance. This impact would be significant.	S	**Mitigation Measure 3.10-4a: Implement Measures to Reduce Ground Vibration** For any future construction activity that would involve pile driving and be located within 300 feet of an existing sensitive land use or occupied building, the following measures shall be implemented: ▸ To the extent feasible, earthmoving and ground-impacting operations shall be phased so as not to occur simultaneously in areas close to sensitive receptors (i.e., within 300 feet). The total vibration level produced could be significantly less when each vibration source is operated at separate times. ▸ Where there is flexibility in the location of use of heavy-duty construction equipment, or impact equipment, the equipment shall be operated as far away from vibration-sensitive sites as reasonably feasible. **Mitigation Measure 3.10-4b: Develop and Implement a Vibration Control Plan** To assess and, when needed, reduce vibration and noise impacts from construction activities, the following measures shall be implemented: ▸ A vibration control plan shall be developed prior to initiating any pile-driving activities. Applicable elements of the plan shall be implemented before, during, and after pile-driving activity. The plan will include measures sufficient to reduce vibration at sensitive receptors to levels below applicable thresholds. Items that will be addressed in the plan include, but are not limited to, the following: ▪ Identification of the maximum allowable vibration levels at nearby buildings may consider Caltrans's recommended standards with respect to the prevention of architectural building damage of 0.25 in/sec PPV for historic and some old buildings and for buildings that are occupied at the time of pile driving, FTA's maximum-acceptable-vibration standard with respect to human response, 80 VdB. However, based on site-specific parameters (e.g., building age, structural integrity), and construction specifics (e.g., time of day when vibration activities occur, pile frequency), these standards may be adjusted, as long as sensitive receptors and structures are protected.	LTS

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		▪ Pre-construction surveys shall be conducted to identify any pre-existing structural damage to buildings that may be affected by project-generated vibration. ▪ Identification of minimum setback requirements for different types of ground-vibration-producing activities (e.g., pile driving) for the purpose of preventing damage to nearby structures and preventing adverse effects on people. Factors to be considered include the nature of the vibration-producing activity, local soil conditions, and the fragility/resiliency of the nearby structures. Initial setback requirements can be reduced if a project- and site-specific analysis is conducted by a qualified geotechnical engineer or ground vibration specialist that indicates that no structural damage to buildings or structures would occur. ▪ Vibration levels from pile driving shall be monitored and documented at the nearest sensitive land use to document that applicable thresholds are not exceeded. Recorded data shall be submitted on a twice-weekly basis to Cal Poly. If it is found at any time that thresholds are exceeded, pile driving shall cease in that location, and methods shall be implemented to reduce vibration to below applicable thresholds, or an alternative pile installation method shall be used at that location.	
Population and Housing			
Impact 3.11-1: Directly or Indirectly Induce Substantial Unplanned Population Growth and Housing Demand The projected increase in student enrollment and availability of on-campus housing for new and existing students, under the 2035 Master Plan, would increase the on-campus population up to a planned cap in response to CSU systemwide and campus enrollment growth directives and corresponding funding, the effects of which are evaluated throughout this EIR (refer to Sections 3.1 through 3.10, Sections 3.12 through 3.14, and Chapters 4 and 5). The 2035 Master Plan would provide substantially more student beds than are necessary to accommodate the planned increase in student enrollment. For these reasons, the enrollment increase would not directly or indirectly induce substantial unplanned population growth on campus beyond what is projected by the 2035 Master Plan, or result in a shortage of housing to accommodate this increase. This impact would be less than significant.	LTS	No mitigation is required.	LTS

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Public Services and Recreation			
Impact 3.12-1: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision or the Need for New or Physically Altered Fire Facilities, to Maintain Acceptable Service Ratios Implementation of the project would result in an increase in on-campus facilities and population. New facilities would be constructed within the main campus in compliance with fire and emergency safety requirements and would not result in an expansion of service area. Nor would the increase in population result in an increase in service calls beyond the capacity of existing fire protection services and facilities. SLOFD would continue to provide fire protection services to campus through various agreements. This includes Cal Poly's agreement to receive enhanced fire protection services from SLOFD is in effect through 2023 and Cal Poly is committed to diligently pursue the extension of the agreement. Therefore, existing fire facilities would be adequate and impacts would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.12-2: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision or the Need for New or Physically Altered Police Facilities, to Maintain Acceptable Service Ratios Implementation of the 2035 Master Plan would result in an increase in campus population requiring additional on-campus police services. The UPD would require additional staff to maintain adequate police response and service, resulting in the construction of a new police facility, the effects of which are evaluated throughout this EIR. No additional facilities would be required to serve the project. Therefore, this impact would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.12-3: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision or the Need for New or Physically Altered Schools, to Maintain Acceptable Service Ratios Master Plan implementation would increase the campus residential population through the introduction of faculty and staff workforce housing and the creation of new employment opportunities that could induce new residents to relocate to the area, both of which could generate students and increase school attendance within SLCUSD. However, the increase in demand would be modes and is not, in and of itself, expected to result in the need for new or expanded school facilities. Therefore, this impact would be less than significant.	LTS	No mitigation is required.	LTS

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Impact 3.12-4: Result in Substantial Deterioration of Neighborhood and Regional Parks, or Require Construction or Expansion of Recreational Facilities The project would result in increased enrollment and campus population growth and would, therefore, increase demand for park and recreational services. Improvements, expansion, and construction of recreational facilities would be included under the project and would adequately serve the campus population. Additionally, the 2035 Master Plan Guidelines would address the deterioration of on-campus facilities and address increased demand for off-campus facilities by providing new recreational facilities. This impact would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.12-5: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision or the Need for New or Physically Altered Library Facilities, to Maintain Acceptable Service Ratios The increase in campus population that is expected to occur under the 2035 Master Plan could result in an increased demand for public libraries. However, this increase in demand is covered as part of the 2035 Master Plan through the expansion of Kennedy Library and is not expected to result in the need for new or expanded public facilities beyond this facility. Therefore, this impact would be less than significant.	LTS	No mitigation is required.	LTS
Transportation			
Impact 3.13-1: Result in Vehicle Miles Traveled That Exceed Regional Vehicle Miles Traveled Targets With implementation of the 2035 Master Plan, Cal Poly, as a whole, would exceed the countywide VMT per service population target of 19.22 (15 percent below existing regional VMT per service population). Although implementation of the 2035 Master Plan would reduce VMT per capita compared to existing conditions due to the location of all new and a greater proportion of total student enrollment in on-campus housing, this impact would be significant.	S	**Mitigation 3.13-1: Develop and Implement a Transportation Demand Management Plan** Using the CSU TDM Manual (Nelson Nygaard 2012) as a guide, Cal Poly shall develop and implement a TDM plan to reduce daily trips and VMT generated by campus employees, residents, and students by a minimum of 5.04 VMT per service population. TDM measures best suited for college towns generally include measures intended to reduce driving on campus such as subsidized transit passes, improved transit and shuttles, parking management, encouraging bicycle and pedestrian travel, and locating student housing on-campus. TDM policies that could reduce vehicle trip generation and VMT include, but are not limited to, the following: ▸ Expand and/or maximize the efficiency of the local and regional public transit service. This includes coordination and fair-share contributions towards additional SLO Transit and SLORTA transit routes, as well as potential expansion of facilities (e.g., the Government Center transfer point). ▸ Support active transportation projects on and near campus through infrastructure improvements to enhance safety and efficiency of these travel modes. This would include additional on-campus shuttle service or separated facilities for active	LTS

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		transportation, including bike and transit. In addition, campus would expand information programs to educate students about transportation options. ▸ Implement carpool and/or vanpool incentive programs. This could include expanded programs/incentives for both faculty/staff and students, including trip credits, the emergency ride home program, and rideshare. ▸ Offer remote working options for employees. This could include offering online courses/lectures for students where faculty/staff could work and students would participate remotely. As part of the TDM plan, Cal Poly shall develop and implement a parking management plan. The parking management plan shall implement policies that focus on reducing academic and residential parking demand. Parking management strategies that would reduce vehicle trip generation and VMT include, but are not limited to the following: ▸ Restrict parking spaces by student class – Reduce the availability of or eliminate on-campus parking for freshman and/or sophomores. ▸ Adjust the cost of parking permits – Increase the cost of on-campus resident parking permits, implement tiered parking pricing based on the distance to campus or time of day, and/or employ a tiered pricing from limited days (1-day, 2-day, etc.). ▸ Designate parking locations – Establish designated parking locations by academic program to manage the academic parking demand. ▸ Establish pick-up/drop-off parking district(s) – To account for emerging forms of transportation, such as transportation network companies (e.g., Uber and Lyft) and the associated VMT generated, develop a parking district or districts that charge for pick-up and drop-off on campus. As part of the parking management plan, to better understand the commute patterns of students, residents, and employees Cal Poly shall study the distribution of VMT by commute-shed (e.g., intra-county trips, inter-county trips, on-campus trips) to help develop appropriate TDM and parking management policy responses. On a biannual (every two years) basis, Cal Poly shall monitor and evaluate the efficacy of the TDM Plan and its strategies. If necessary and in order to achieve the target VMT reduction, Cal Poly shall increase the level of implementation and/or scope of TDM measures in order to ensure the 5.04 or greater VMT standard is met.	

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Impact 3.13-2: Conflict with a Program, Plan, Ordinance, or Policy Addressing Circulation and Transit Implementation of the 2035 Master Plan would increase demand for transit, which may require investments in additional transit service and/or facilities to maintain the level and quality of service necessary to retain and expand ridership. Failure to maintain quality service could lead to losses of ridership and increases in travel by other modes (e.g., automobiles) that could result in environmental effects such as increased emissions. This impact would be significant.	S	**Mitigation Measure 3.13-2: Monitor Transit Service Performance and Support Transit Improvements** Currently, SLO Transit regularly monitors transit service performance and adjusts service levels, as feasible, according to established service standards. Cal Poly shall work with SLO Transit staff to identify and support implementation of transit service and/or facility improvements (e.g., through fair share contribution[s] based on University-related ridership) necessary to adhere to applicable, established service standards (e.g., fewer than 125 percent of seated capacity) identified in the SLO Transit Short Range Transit Plan (SRTP) and, in turn, maintain a high-quality customer experience so as not to deter existing and potential ridership. Potential transit improvements could include modifying existing transit routes or adding new routes to serve areas of the campus underserved by transit, adding service capacity (through increased headways and/or larger vehicles) to prevent chronic overcrowding, improving terminal facilities to accommodate additional passengers and transit vehicles, and improving coordination between transit providers. In the event that SLO Transit updates its SRTP during implementation of the 2035 Master Plan, transit improvements shall result in service performance that meets the performance targets established in the latest SLO Transit SRTP. Transit facility and roadway improvements shall be designed and constructed in accordance with industry best practices and applicable standards. Improvements shall be implemented or constructed in a manner that would not physically disrupt existing transit service or facilities (e.g., additional bus service that exceeds available bus stop or transit terminal capacity) or otherwise adversely affect transit operations.	LTS
Impact 3.13-3: Conflict with a Program, Plan, Ordinance, or Policy Addressing Bicycle Facilities Implementation of the 2035 Master Plan would not interfere with implementation of planned bicycle facilities in the City and County of San Luis Obispo. It would increase bicycle travel on campus, which could generate bicycle volumes that physically disrupt the use of existing facilities. Implementation of the 2035 Master Plan would increase automobile, transit, bicycle, and pedestrian trips to, from, and within campus, which would increase the competition for physical space between the modes; thus, increasing the risk of collisions. This impact would be significant.	S	**Mitigation Measure 3.13-3: Monitor Bicycle-Related Collisions to Implement Countermeasures Minimizing Potential Conflicts with Bicycle Facilities** Following adoption of the 2035 Master Plan and every two years thereafter during implementation of the 2035 Master Plan, Cal Poly shall record on-campus bicycle volumes and collisions involving bicyclists and establish a bicycle collision rate. The rate should be sensitive to context (e.g., Academic Core subarea versus new student housing along the edge of current campus development) and facility type (e.g., intersection versus segment). Cal Poly shall determine the on-campus bicycle collision rate as part of its biennial mitigation monitoring program. In instances where the rate increases from the prior observation period, Cal Poly shall develop and implement countermeasures designed to reduce the rate and primary collision factors. Cal Poly	LTS

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		shall also identify and develop countermeasures for locations where the change in the mix of travel patterns and behavior is determined to be incompatible with the facility as designed. Potential countermeasures include the following: ▸ Construct physically separated facilities for each mode in shared operating environments (particularly high- versus low-speed travel modes). ▸ Restrict select modes in certain areas where one mode is prioritized over another to minimize collision potential. ▸ Increase the number of bicycle parking facilities and distribute them to minimize crowding on connecting bicycle facilities. ▸ Enforce ‘rules of the road’ per the California Vehicle Code and applicable University policies. ▸ Educate existing and prospective bicyclists to give people the skills and abilities to ride. ▸ Control class schedules and passing periods to minimize effects of peak bicycle traffic. ▸ Expand core area restrictions on service vehicles. Anticipated increases in bicycle activity would be concentrated near focal points for students and staff activities, including new on-campus housing developments, existing and new academic and recreational facilities (e.g., classrooms, lecture halls, athletic fields) in the Academic Core subarea, and along bicycle facilities connecting activity generators. Bicycle facility and roadway improvements that intend to minimize conflicts between bicyclists and other travel modes shall be designed and constructed in accordance with applicable CSU and California standards. In addition, Cal Poly shall coordinate with the City regarding the connection points and sizing of on-campus facilities at their intersection points with City facilities to ensure the safe transition of bicyclists between City and campus facilities and vice versa. Cal Poly could prepare a Multimodal Transportation Management Plan that identifies the expected locations and types of bicycle improvements that may be necessary to accommodate growth resulting from the 2035 Master Plan. Potential modifications to the existing transportation network for active transportation modes should be based on, but not limited to, the following objectives: ▸ desired level of traffic stress or user experience, and	

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		▸ the need for physical separation between the modes (to address either volume or speed differentials). The plan should include an implementation program that identifies the prioritization and sequencing of improvements as they relate to specific on-campus facilities (e.g., new student residences). The plan should be flexible to respond to changing conditions during implementation of the 2035 Master Plan and should contain optional strategies and improvements that can be applied to specific problems that arise as the 2035 Master Plan's implementation proceeds.	
Impact 3.13-4: Conflict with a Program, Plan, Ordinance, or Policy Addressing Pedestrian Facilities Implementation of the 2035 Master Plan would increase pedestrian travel on and off campus, which could generate pedestrian volumes that physically disrupt the use of existing facilities. Implementation of the 2035 Master Plan would increase automobile, transit, bicycle, and pedestrian trips to, from, and within campus, which would increase the competition for physical space between the modes, which increases the risk of collisions. This impact would be significant.	S	**Mitigation Measure 3.13-4: Monitor Pedestrian-Related Collisions to Implement Countermeasures Minimizing Potential Conflicts with Pedestrian Facilities** Following adoption of the 2035 Master Plan and every two years thereafter during implementation of the 2035 Master Plan, Cal Poly shall record on-campus pedestrian volumes and collisions involving pedestrians and establish a pedestrian collision rate. The rate should be sensitive to context (e.g., Academic Core subarea versus new student housing along the edge of current campus development) and facility type (e.g., intersection versus segment). Cal Poly shall determine the on-campus pedestrian collision rate as part of its biennial mitigation monitoring program. In instances where the rate increases from the prior observation period, Cal Poly shall develop and implement countermeasures designed to reduce the rate and primary collision factors. Cal Poly shall also identify and develop countermeasures for locations where the change in the mix of travel patterns and behavior is determined to be incompatible with the facility as designed. Potential countermeasures include the following: ▸ Construct physically separated facilities for each mode in shared operating environments (particularly high- versus low-speed travel modes). ▸ Restrict select modes in certain areas where one mode is prioritized over another to minimize collision potential. ▸ Improve and/or expand existing pedestrian facilities. Anticipated increases in pedestrian activity would be concentrated near focal points for students and staff activities, including new on-campus housing developments, existing and new academic and recreational facilities (e.g., classrooms, lecture halls, athletic fields) in the Academic Core subarea, and along pedestrian facilities connecting activity generators. Bicycle facility and roadway improvements that intend to minimize conflicts between pedestrians and other travel modes shall be	LTS

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		designed and constructed in accordance with applicable CSU and California standards. In addition, Cal Poly shall coordinate with the City regarding the connection points and sizing of on-campus facilities at their intersection points with City facilities to ensure the safe transition of pedestrians between City and campus facilities and vice versa. Cal Poly could prepare a Multimodal Transportation Management Plan that identifies the expected locations and types of pedestrian improvements that may be necessary to accommodate growth resulting from the 2035 Master Plan. Potential modifications to the existing transportation network for active transportation modes should be based on, but not limited to, the following objectives: ▸ desired pedestrian level of service or user experience, and ▸ the need for physical separation between the modes (to address either volume or speed differentials). The plan should include an implementation program that identifies the prioritization and sequencing of improvements as they relate to specific on-campus facilities (e.g., new student residences). The plan should be flexible to respond to changing conditions during implementation of the 2035 Master Plan and should contain optional strategies and improvements that can be applied to specific problems that arise as Master Plan's implementation proceeds.	
Utilities and Service Systems			
Impact 3.14-1: Require or Result in the Relocation or Construction of New or Expanded Water Infrastructure Implementation of the 2035 Master Plan would increase the volume of water conveyed through the existing City connections. Modeling indicates that there is adequate conveyance capacity to accommodate anticipated development associated with the 2035 Master Plan under average day demand, peak daily demand, and peak hourly flow. New campus development would require connections to water supply pipelines. Because the campus already contains substantial pipelines and water delivery infrastructure, construction of additional infrastructure to connect new academic buildings, student housing, and other development to the existing system is expected to be minor, consisting of relatively short pipeline connections to the existing delivery pipeline. Thus, the impact would be less than significant.	LTS	No mitigation is required.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
Impact 3.14-2: Require or Result in the Relocation or Construction of New or Expanded Electricity, Natural Gas, or Telecommunications Facilities Implementation of the 2035 Master Plan could require new electrical infrastructure, natural gas, and telecommunication infrastructure to support new facilities. The construction impacts anticipated to result from implementation of the 2035 Master Plan, including the construction or undergrounding of energy transmission and/or distribution lines, are located within the 2035 Master Plan's development footprint, and comprehensively analyzed in this EIR. Thus, the potential impacts resulting from the extension of utility infrastructure to serve new/redeveloped land uses within the campus are considered to be evaluated within the scope of this EIR's analysis, and additional significant impacts would not occur. Thus, this impact would be less than significant.	LTS	No mitigation is required.	LTS
Impact 3.14-3: Have Insufficient Water Supplies Available to Serve the Project and Reasonably Foreseeable Future Development during Normal, Dry and Multiple Dry Years Development of the 2035 Master Plan would result in increased population levels and development of new buildings, which would increase demand for water supply. Campus water demand would also be reduced through conservation measures, transfer of water supply service from Cal Poly to the City, and development of the WRF. Under the 2035 Master Plan, adequate water supplies would be available to meet future demands if the first phase of the WRF is operational in 2022 and the second phase is operational in 2028. Without the availability of reclaimed water from the WRF, there would not be adequate supplies beginning in 2025. Because the design, timing, and other details of the WRF are not yet established, it cannot be determined with certainty that water supplies would be available to meet increased demand from implementation of the 2035 Master Plan. Thus, the impact on water supply would be significant.	S	**Mitigation Measure 3.14-3: Initiate Operation of the WRF to Ensure That It Can Meet the Offset Demand Associated with Campus Growth** If the initial phase of the WRF is not operational by 2022 or if other near-term 2035 Master Plan projects are constructed before operation of the first phase of the WRF, Cal Poly shall not initiate operation of any new facilities or developments until such time as the WRF's treatment capacity and recycled water supplies are available for use, or unless Cal Poly can demonstrate that, notwithstanding delay in WRF operation, adequate water supplies are available to serve the new development. Alternatively, Cal Poly could arrange for the purchase of temporary non-potable water supplies from the City (within the limits of Cal Poly's existing agreement with the City related to treatment capacity) that could be used to offset the net increase in demand until such time as the first phase of the WRF is operational. If nonpotable water supplies are purchased, these supplies shall be dedicated to agricultural needs and potable water supplies currently used for agricultural purposes shall be diverted for treatment and delivery to the main campus to offset any increase in potable water demand.	LTS
Impact 3.14-4: Result in Inadequate Wastewater Treatment Capacity Under the 2035 Master Plan, Cal Poly development and operation of proposed buildings and increased campus population levels would increase wastewater flows. Several conservation actions would reduce wastewater generation, such as replacing toilets, urinals, faucets, and showerheads with low-flow alternatives. Cal Poly plans to construct an on-campus WRF in two phases, each of which would have a treatment capacity of 190 afy (169,621 gpd), for a total capacity of 380 afy (339,242 gpd). Phases 1 and 2 are expected to be operational in 2022 and 2028,	PS	**Mitigation Measure 3.14-4a: Initiate Operation of the WRF to Ensure That It Can Meet the Offset Demand Associated with Campus Growth** Implement Mitigation Measure 3.14-4a described above. If the initial phase of the WRF is not operational by 2022 or if other near-term 2035 Master Plan projects are constructed before operation of the first phase of the WRF, Cal Poly shall not initiate operation of any new facilities or developments until such time as the WRF is available for use, or unless Cal Poly can demonstrate that, notwithstanding delay in WRF operation, adequate wastewater capacity is available to serve the new	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
respectively. While general timing of WRF construction and operation are planned, specific timing and other details are yet unknown. Planned water conservation actions would not be sufficient in and of themselves to reduce wastewater generation such that capacity of the City's wastewater conveyance system could accommodate 2035 Master Plan development. Because the timing of adequate wastewater capacity is unknown and development of new campus buildings and facilities could exceed available wastewater treatment capacity, the impact would be significant.		development through contractual treatment rights at the City's WRRF and/or conservation or other flow reduction measures. **Mitigation Measure 3.14-4b: Implement Capital Improvement Projects to Reduce Wastewater Flows** Cal Poly, as part of its Utility Master Plan, shall include capital improvement projects that would reduce wastewater flows and implement such plans prior to the development of new facilities that have the potential to increase wastewater flows such that no net increase in wastewater flows above 2018/2019-academic-year levels will occur from Cal Poly to the city's infrastructure. Capital improvements shall include, but are not limited to, the following: ▸ implement inflow and infiltration (I/I) reduction projects, including the replacement of on campus wastewater transmission pipes and systems in order to reduce PWWF to 2018/2019 academic year levels or less. Note, the I/I projects, including wastewater transmission pipe replacement, are addressed as part of the overall 2035 Master Plan development program which includes up to 1 linear mile of annual pipeline infrastructure replacement. ▸ additional water conservation measures, such as additional water use restrictions and upgrades of existing fixtures for on-campus facilities. Design and planning of improvements shall be completed in coordination with the City and in a compatible manner with the City's existing wastewater transmission and treatment network. Cal Poly shall not initiate operation of any new on-campus facilities that would increase wastewater flows as part of the 2035 Master Plan until Cal Poly completes upgrade projects to reduce PWWF and Cal Poly can demonstrate no increase in PWWF to the City compared to 2018/2019-academic-year levels or additional City wastewater transmission and treatment capacity becomes available for use by Cal Poly.	
Impact 3.14-5: Generate Solid Waste in Excess of State or Local Standards or in Excess of the Capacity of Local Infrastructure or Otherwise Impair the Attainment of Solid Waste Reduction Goals or Requirements Implementation of the 2035 Master Plan would increase solid waste generation at Cal Poly. However, adequate landfill capacity is available at local and regional landfills to accommodate additional solid waste generated by the project through the year 2035 (and beyond). Compliance with the Cal Poly Zero Waste Policy would continue to reduce landfill contributions, consistent with CIWMA, AB 341, SB 1374, AB 1826, and SB 1383. This impact would therefore be less than significant.	LTS	No mitigation is required.	LTS

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1 INTRODUCTION

This draft environmental impact report (Draft EIR) evaluates the environmental impacts of the proposed California Polytechnic State University, San Luis Obispo (Cal Poly) 2035 Master Plan (2035 Master Plan or project). This Draft EIR has been prepared under the direction of California State University (CSU) Board of Trustees (Trustees) in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines. This chapter of the Draft EIR provides information on the following:

- project requiring environmental analysis (synopsis);
- type, purpose, and intended uses of the Draft EIR;
- scope of the Draft EIR;
- agency roles and responsibilities; and
- standard terminology.

1.1 PROJECT REQUIRING ENVIRONMENTAL ANALYSIS

The following is a synopsis of the project characteristics. For further information on the 2035 Master Plan, see Chapter 2, Project Description.

The Trustees require every CSU campus to have a Master Plan depicting existing and anticipated facilities "necessary to accommodate a specified enrollment at an estimated planning horizon, in accordance with approved educational policies and objectives" (CSU 2012a). Master Plans are based on annual full-time-equivalent-student (FTES) college year enrollment targets prepared by each campus in consultation with the CSU Chancellor's Office (CSU 2012b). The 2035 Master Plan is a long-range planning document that guides the development and use of campus lands to accommodate growth in student enrollment and in fulfillment of Cal Poly's academic mission. As a long-term guide for development of the campus, the 2035 Master Plan is intended to address future enrollment capacity rather than specific enrollment fluctuations on a year-to-year basis.

To that end, the 2035 Master Plan identifies new/improved academic facilities, additional housing, recreation and athletics facilities, and other support facilities and services on campus that are necessary to accommodate the projected increase in enrollment at Cal Poly and academic needs through 2035. This would include approximately 7,200 new student beds; an additional 1.29 million gross square feet (gsf) of new academic, administrative, and support space; 380 residential units intended primarily for faculty/staff with supporting uses (retail and recreational space); and a 200-unit University-Based Retirement Community. In addition, 455,000 gsf of existing academic, administrative, and support space would be replaced with new facilities, for a total of 1.75 million gsf of new or replaced academic, administrative, and support space.

The 2035 Master Plan includes anticipated projects and improvements through the 2035 planning horizon, identifying the land use pattern and forecasting the facilities needs of the campus as enrollment grows and programs adapt, to meet the needs of the changing campus. Although it is a long-range planning document, it needs to be revisited periodically for adjustments and amendments as University interests change. The University anticipates that the 2035 Master Plan would be revisited and updated periodically to ensure it is still on track with University goals.

The 2035 Master Plan also includes goals that help shape Cal Poly's future image within the academic setting, the community, and the environment. The underlying purpose of the 2035 Master Plan, as developed by Cal Poly's leadership, is to "lay out the land use, circulation, and physical development of the campus to educate a future student enrollment of 25,000 headcount and 22,500 full-time-equivalent students (FTES)."[1] While the expression of a

[1] The FTES calculation is based on the assumption that full-time undergraduate and graduate students are expected to enroll in 15 units and 12 units, respectively, each quarter. FTES, as a metric, is lower than headcount because not all students take full-time loads each term. "Academic Year FTES" (AY FTES) refers to the average FTES for the fall, winter, and spring terms.

physical master plan is most easily seen in maps and accompanying diagrams, those visual elements are based on numerous ideas about what a campus should look like and how it should function. Those ideas have been largely articulated in the 2035 Master Plan as guiding principles. In addition to guiding principles, the planning process involved the development of more detailed "Master Plan Principles." Development of the 2035 Master Plan Principles came from the work of six advisory committees appointed by the President and assigned to focus on different topics.

1.2 PURPOSE AND INTENDED USES OF THIS DRAFT EIR

As noted above, this Draft EIR has been prepared under the Trustees' direction in accordance with the requirements of CEQA (PRC Sections 21000-21177) and the State CEQA Guidelines (CCR Title 14, Division 6, Chapter 3, Sections 15000-15387). The Trustees serve as the lead agency under CEQA for consideration of certification of this EIR and potential project approval; CCR Section 151367 defines the lead agency as the agency with principal responsibility for carrying out and approving a project. Cal Poly is part of the CSU, a constitutionally created entity of the state of California with the power to consider and provides authority for all land use decisions on property owned or controlled by the CSU that are in furtherance of the CSU's education purposes.

According to CEQA, preparation of an EIR is required whenever it can be fairly argued, based on substantial evidence, that a proposed project may result in a significant environmental impact. An EIR is an informational document used to inform public-agency decision makers and the general public of the significant environmental impacts of a project, identify possible ways to minimize the significant impacts, and describe reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project. This Draft EIR has been prepared to meet the requirements of a program EIR as defined by Section 15168 of the State CEQA Guidelines. As described in CEQA Guidelines Section 15168(a), a program EIR may be prepared for a series of action that can be characterized as one large project and are related either:

(1) geographically;

(2) as logical parts in the chain of contemplated actions;

(3) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or

(4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways."

A program EIR can be used as the basic, general environmental assessment for an overall program of projects developed over a multi-year planning horizon, and therefore is an appropriate review document for the 2035 Master Plan. A program EIR has several advantages. For example, it provides a basic reference document to avoid unnecessary repetition of facts or analysis in subsequent project-specific assessments. It also allows the lead agency to consider the broad, regional impacts of a program of actions before its adoption and eliminates redundant or contradictory approaches to the consideration of regional and cumulative impacts.

As noted in Chapter 2, "Project Description," this Draft EIR evaluates the entire program/plan and also identifies several near-term projects that would likely be developed in the first 10 years of plan implementation. This Draft EIR also identifies alternatives to the 2035 Master Plan that would reduce or avoid potential adverse environmental effects. Mitigation measures are identified in this EIR which, if adopted, would be implemented to reduce and minimize physical environmental effects of the 2035 Master Plan components, where feasible. Implementation of mitigation measures will be monitored to ensure implementation as the 2035 Master Plan moves forward in a manner consistent with the Final EIR.

1.3 SCOPE OF THIS DRAFT EIR

This Draft EIR includes an evaluation of the following 14 environmental issue areas as well as other CEQA-mandated issues (e.g., cumulative impacts, growth-inducing impacts, significant unavoidable impacts, alternatives):

- Aesthetics;
- Agriculture and Forestry Resources;
- Air Quality;
- Archaeological, Historical, and Tribal Cultural Resources;
- Biological Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hydrology and Water Quality;
- Noise;
- Population and Housing;
- Public Services and Recreation;
- Transportation; and
- Utilities and Service Systems.

Under the CEQA statutes and the State CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental effects when such effects are not considered potentially significant (PRC Section 21002.1[e]; State CEQA Guidelines Sections 15128, 15143). A determination of which impacts would be potentially significant was made for this project based on review of the information presented in the Initial Study (IS) prepared for the project (see Appendix A of this Draft EIR), comments received as part of the public scoping process, as well as additional research and analysis of relevant project data during preparation of this Draft EIR. Based on the findings of the IS, it was determined that impacts related to hazards and hazardous materials, land use and planning, and mineral resources did not require further evaluation as part of the Draft EIR.

1.4 RESPONSIBLE AND TRUSTEE AGENCIES

Under CEQA, responsible agencies are state and local public agencies other than the lead agency that have the authority to carry out or approve a project or that are required to approve a portion of the project for which a lead agency is preparing or has prepared an EIR. Trustee agencies are state agencies with legal jurisdiction over natural resources affected by a project that are held in trust for the people of the state of California.

The following agencies may have responsibility for or jurisdiction over implementation of elements of the project. The following list also identifies potential permits and other approval actions that may be required before implementation of certain project elements. The list is not intended to imply that specific permits or actions would occur; rather, it lists agencies that *may* have responsibilities over project components and the potential associated reasons. Chapter 3 of this EIR provides detailed analysis that explores further the potential for the need for responsible agency action.

This EIR and any environmental analysis relying on this EIR are expected to be used to satisfy CEQA requirements of the listed responsible and trustee agencies. Further, this analysis is anticipated to provide useful information for any federal agency that may issue a permit in support of 2035 Master Plan development.

FEDERAL AGENCIES

- U.S. Army Corps of Engineers: Section 404 Permit.
- U.S. Fish and Wildlife Service: Compliance with federal Endangered Species Act for potential take of listed species (if needed).

STATE AGENCIES

- California Department of Fish and Wildlife: Section 1600 Streambed Alteration Agreement and compliance with California Endangered Species Act for potential take of listed species (if needed).

- California Department of Transportation: Encroachment Permit.
- California Department of Water Resources, Division of Safety of Dams: Permitting related to expanded storage reservoirs
- California Public Utilities Commission (CPUC): Permitting for grade separated crossings of UPRR tracks.
- State Fire Marshal: Future facility fire safety review and approval.

REGIONAL AND LOCAL AGENCIES

- City of San Luis Obispo: Encroachment Permits for work within City's streets and rights-of-way.
- County of San Luis Obispo Public Works Department: Encroachment Permits, e.g., Stenner Creek Road.
- Regional Water Quality Control Board: Section 401 Certification and Storm Water Discharge Permits.
- San Luis Obispo County Air Pollution Control District (APCD): Air Quality Construction and Operational. Permits.
- San Luis Obispo Regional Transit Authority (RTA): Approval of any future regional bus service improvements.

1.5 EIR PROCESS

The Notice of Preparation (NOP) was distributed on October 3, 2016, to responsible agencies, interested parties, and organizations, as well as private organizations and individuals that may have an interest in the project. The purpose of the NOP and the scoping meeting was to provide notification that an EIR for the 2035 Master Plan was being prepared and to solicit input on the scope and content of the environmental document. As a result of the review of existing information and the scoping process, it was determined that each of the issue areas listed above should be evaluated fully in this Draft EIR. The NOP and responses to the NOP are included in Appendix A of this Draft EIR.

It should be noted that in November 2017, a Draft EIR was released for public review for an update to Cal Poly's 2001 Master Plan. After reviewing the comments on the Draft EIR, the CSU and Cal Poly decided to amend the Master Plan and that a new and fully revised Draft EIR should be recirculated for public comment. The decision to recirculate the EIR was primarily based upon the need to revise the Master Plan to reflect emerging priorities and to expand the discussion of Master Plan impacts relating to public services and recreation, utilities, transportation and circulation, and water supply.

This Draft EIR is being circulated for public review and comment for a period of 45 days. During this period, comments from the general public as well as organizations and agencies on environmental issues may be submitted to the lead agency.

Upon completion of the public review and comment period, a Final EIR will be prepared that will include comments on the Draft EIR received during the public-review period, responses to those comments, and any revisions to the Draft EIR made in response to public comments. The Draft EIR and Final EIR will comprise the EIR for the project.

Before adopting the 2035 Master Plan, the lead agency is required to certify that the EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the lead agency.

1.5.1 Relationship with Other Campus Planning Efforts

The 2035 Master Plan represents one of many planning efforts by Cal Poly but, as noted above, serves as an overall umbrella of campus planning and development activities. The 2035 Master Plan is a guiding document for the development of land and physical facilities in the Master Plan Area, including the organization, placement, sizing, and type of development to aid Cal Poly in implementing other campus planning efforts. Of the other campus planning efforts conducted by Cal Poly, three types of planning efforts (strategic plans, the capital improvement program, and sustainability planning) are closely related to the 2035 Master Plan, and the 2035 Master Plan is intended to be consistent and in coordination with these planning efforts. The three types of planning efforts are described below.

STRATEGIC PLAN

Cal Poly's Strategic Plan, of which the 2035 Master Plan is a part, establishes the direction for university decisions, funding priorities, and actions based on anticipated changes in higher education trends for Cal Poly, as part of the CSU system. The Strategic Plan is comprised of Vision 2022, the Academic Plan, and the Master Plan. Vision 2022, adopted in 2014, sets the overarching framework by which Cal Poly will provide the tools and ability for students to succeed academically. The Academic Plan, adopted in 2016, focuses on improving the academic rigor and quality of Cal Poly, while enhancing the interrelationships and efficiency of its various colleges and programs. The Master Plan, as evaluated within this document, focuses on the physical changes necessary to achieve Vision 2022, consistent with the Academic Plan.

CAPITAL IMPROVEMENT PROGRAM

Capital planning is a continuous and iterative process that evaluates the capital funding needs identified by academic plans (such as the Strategic Plan) and land use plans (2035 Master Plan) and assesses alternatives to meet such needs in the context of anticipated capital resources. Capital planning anticipates investments necessary to provide new facilities and infrastructure and to maintain the quality of campus assets. Specific types of improvements include:

- teaching, research, student service, and administrative facilities;
- student housing and other student life activity centers and programs;
- utility infrastructure, including water, sewer, building heating and cooling, telecommunications, and other systems;
- energy-conservation projects; and
- roadways, bike paths and public spaces.

Cal Poly is currently preparing an update to its Utility Master Plan, based on the development proposed as part of the 2035 Master Plan, that will act as a detailed guide outlining the technical and other specifications for necessary utility infrastructure improvements/projects within the Master Plan Area.

SUSTAINABILITY ACTIONS AND PLANS

Consistent with the Cal Poly's focus on sustainability, including implementation of the CSU Sustainability Policy, Cal Poly has implemented and is continuing to implement a number of energy conservation and sustainability programs throughout campus. The CSU Sustainability Policy established the following goals:

- Reduce GHG emissions to 1990 levels by 2020.
- Reduce GHG emissions 80 percent below 1990 levels by 2040.
- Procure 33 percent of energy supply from renewable sources by 2020.
- Increase on-site energy generation from 44 to 80 megawatts by 2020.
- Reduce per-capita landfill waste by 50 percent by 2016 and 80 percent by 2020.
- Reduce water use 10 percent by 2016 and 20 percent by 2020.
- Promote use of alternative fuels and transportation programs.
- Procure goods that are recycled, recyclable, or reusable.
- Procure 20 percent local/organic/free trade food by 2020.
- Integrate sustainability across the curriculum.

Campus conservation programs focus on behavior-based programs that encourage faculty/staff/students to reduce energy and water consumption and waste generation, such as the Zero Waste Ambassadors Program. Campus energy efficiency programs include both the implementation of energy conservation programs, attaining a greater percentage of renewable energy on-campus, and the development of tools for expanding energy efficiency. Cal Poly has also undertaken various other planning efforts, including the 2016 Climate Action Plan, that set the vision for campus actions, strategies and efforts to enable the campus to achieve the CSU Sustainability Policy goals. Refer to Section 3.6, "Energy," Section 3.8, "Greenhouse Gas Emissions," and Section 3.14, "Utilities and Service Systems," for further information regarding Cal Poly sustainability planning efforts.

1.6 DRAFT EIR ORGANIZATION

This Draft EIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Chapter 3, "Environmental Impacts and Mitigation Measures" and Section 3.6, "Energy"):

Executive Summary: This chapter introduces the 2035 Master Plan; provides a summary of the environmental review process, effects found not to be significant, and key environmental issues; and lists significant impacts and mitigation measures to reduce significant impacts to less-than-significant levels, where feasible.

Chapter 1, "Introduction": This chapter provides a description of the lead and responsible agencies, the legal authority and purpose for the document, and the public review process.

Chapter 2, "Project Description": This chapter describes the location, background, and goals and objectives for the 2035 Master Plan and describes the project elements in detail.

Chapter 3, "Environmental Impacts and Mitigation Measures": This chapter evaluates the expected environmental impacts generated by the 2035 Master Plan, arranged into sections by subject area (e.g., Hydrology and Water Quality, Air Quality). Within each subsection of Chapter 3, the regulatory background, existing conditions, analysis methodology, and thresholds of significance are described. The anticipated changes to the existing conditions after development of the project are then evaluated for each subject area. For any significant or potentially significant impact that would result from project implementation, mitigation measures are presented and the level of impact significance after mitigation is identified. Environmental impacts are numbered sequentially within each section (e.g., Impact 3.2-1, Impact 3.2-2, etc.). Any required mitigation measures are numbered to correspond to the impact numbering; therefore, the mitigation measure for Impact 3.2-2 would be Mitigation Measure 3.2-2.

Chapter 4, "Cumulative Impacts": This chapter provides information required by CEQA regarding cumulative impacts that would result from implementation of the 2035 Master Plan together with other past, present, and probable future projects.

Chapter 5, "Alternatives": This chapter evaluates alternatives to the 2035 Master Plan, including alternatives considered but eliminated from further consideration, the No Project Alternative, and three alternative development options. The environmentally superior alternative is identified.

Chapter 6, "Other CEQA Sections": This chapter evaluates growth-inducing impacts and irreversible and irretrievable commitment of resources and discloses any significant and unavoidable adverse impacts.

Chapter 7, "Report Preparers": This chapter identifies the preparers of the document.

Chapter 8, "References": This chapter identifies the organizations and persons consulted during preparation of this Draft EIR and the documents and individuals used as sources for the analysis.

2 PROJECT DESCRIPTION

2.1 INTRODUCTION

California Polytechnic State University, San Luis Obispo (Cal Poly or University) is one of 23 campuses in the California State University (CSU) system. Cal Poly is composed of six colleges: Agriculture, Food, and Environmental Sciences; Architecture and Environmental Design; Engineering; Liberal Arts; Science and Mathematics; and the Orfalea College of Business. In keeping with its state charter and California Education Code 66202.5 and in response to projections of continued increases in demand for higher education enrollment to meet California's future workforce needs, the CSU Board of Trustees (Trustees) has directed each campus of the CSU to take the necessary steps to accommodate additional systemwide enrollment increases (CSU 2012a, 2019). To comply with this directive, CSU campuses are required to periodically review and revise their master plans, in part to ensure that proposed capital improvement programs remain consistent with those plans.

This chapter presents a detailed description of the Cal Poly 2035 Master Plan (2035 Master Plan). It describes the project's location, setting, goals and objectives, and elements, as well as the permits and approvals that may be necessary during plan implementation.

2.2 PROJECT BACKGROUND

Originally established on March 8, 1901, by then-California Governor Henry Gage as the California Polytechnic School, Cal Poly began as 281 acres of ranchland and has expanded to approximately 10,128 acres of land, 6,428 acres of which are located in San Luis Obispo County. The Trustees require every CSU campus to have a Master Plan depicting existing and anticipated facilities "necessary to accommodate a specified enrollment at an estimated planning horizon, in accordance with approved educational policies and objectives" (CSU 2012b). Master Plans are based on annual full-time-equivalent-student (FTES) college-year enrollment targets prepared by each campus in consultation with the CSU Chancellor's Office (CSU 2012a).

The first formal Master Plan for Cal Poly was prepared in 1949 based on a projected enrollment of 4,080 students. In 1958, the California Department of Education dictated that all nonmetropolitan state college campuses should plan for an enrollment of 12,000 FTES, which led to the next Master Plan, approved by the Trustees in May 1963. In 1970, the fourth revision to the Master Plan increased the enrollment capacity to 15,000 FTES. In the late 1990s, University leadership commissioned a comprehensive Master Plan update which was approved by the Trustees in 2001 (2001 Master Plan). The 2001 Master Plan raised the enrollment capacity to 17,500 FTES (20,900 headcount), where it remains today. With the opening of the Baker Center for Science and Mathematics in 2013, Cal Poly completed most of the projects contemplated in the 2001 Master Plan.

As projected enrollment within the CSU system continues to increase, Cal Poly is now proposing another comprehensive update to the Master Plan to accommodate the anticipated enrollment increase and to provide a plan that meets housing, academic/program needs, sustainability, and other goals in support of Cal Poly's academic mission to foster teaching, scholarship, and service in a "Learn by Doing" environment in which students, staff, and faculty are partners in discovery. In addition to the Guiding Principles, the planning process involved the development of more detailed "Master Plan Principles." Development of the 2035 Master Plan Principles came from the work of six advisory committees appointed by the president and assigned to focus on different topics. The committees included representatives of administration, staff, faculty, students, and community interests, as well as outside experts. The Master Plan professional team considered these recommendations throughout the plan development.

The 2035 Master Plan provides for needed academic facilities, recreational and athletic facilities, on-campus housing, and other support facilities on the 855-acre main campus and would accommodate increased student, faculty and staff demands for facilities and services through the year 2035. The current Master Plan update process began in 2014 and is the result of more than 200 meetings with stakeholders, including faculty, staff, the City of San Luis Obispo, and local communities, that addressed academic programming needs, physical and environmental constraints and opportunities to support a gradual increase in future student enrollment to 25,000 headcount (22,500 FTES) by the year 2035.

2.3 PROJECT LOCATION

Located in San Luis Obispo County, the Cal Poly campus abuts the City of San Luis Obispo to the south and west, and open space, ranchland, and public land, the majority of which is owned by Cal Poly, to the north and east. Cal Poly's landholdings occupy 10,128 acres in San Luis Obispo and Santa Cruz Counties, primarily consisting of rangeland, farmland, and natural habitats. The 2035 Master Plan area, as evaluated in this EIR, consists of 1,339 acres (referred to herein as the "Master Plan Area" or "campus"; see Figure 2-1) and includes the 855-acre main campus, which is composed of four subareas (described in further detail in Section 2.3.1, below). The remaining 484 acres, referred to herein as the Outer Master Plan Area, are located within the northeastern and northwestern portions of the Master Plan Area and are largely undeveloped. They include rangeland and steep terrain, with some areas designated for outdoor teaching and learning.

As shown in Figure 2-2, vehicular access to campus is limited to three major entrances: Grand Avenue with a direct connection to U.S. Highway 101 (US 101) at the southeast corner of campus, Highland Drive directly off State Route (SR) 1 (Santa Rosa Street) on the west side of campus, and California Boulevard off Campus Way in the southwest corner of campus. The campus also has minor entrances at Stenner Creek Road off of SR 1 from the northwest and near the Albert B. Smith Alumni and Conference Center from the south. The Union Pacific Railroad (UPRR) right-of-way bifurcates the campus from Foothill Boulevard to Highland Drive and beyond to the north, limiting other entrances from the west.

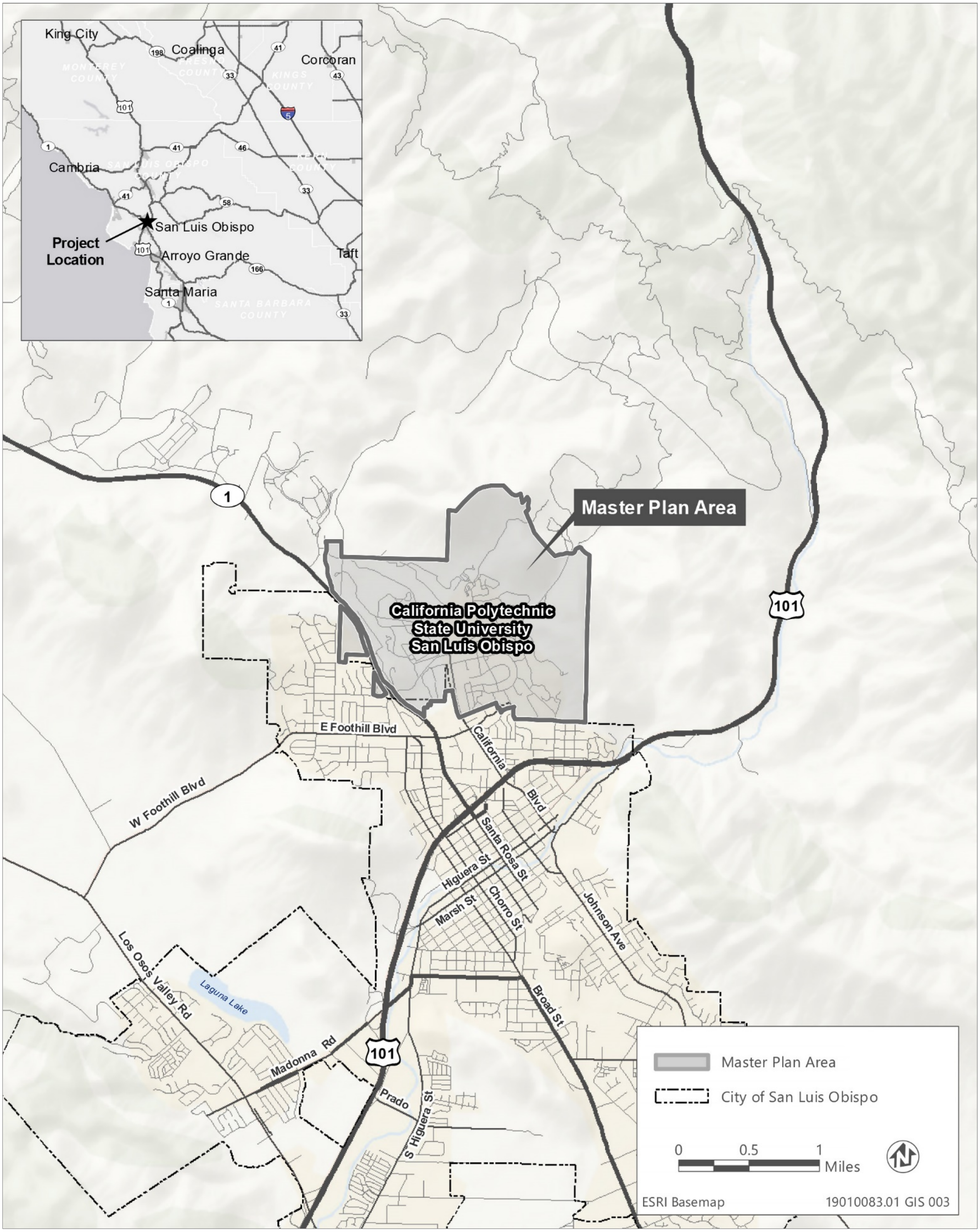
The Alta Vista and Monterey Heights single-family residential neighborhoods in the city of San Luis Obispo border the southern edge of campus, as shown in Figure 2-2. The Foothill and Ferrini Heights neighborhoods, which are largely single-family residential neighborhoods, are located to the west of campus, north of Foothill Boulevard. SR 1 (Santa Rosa Street) borders the western side of campus and is lined with commercial development at its intersection with Foothill Boulevard. Several multifamily housing complexes that accommodate primarily Cal Poly and students attending Cuesta Community College (located approximately 3 miles northwest of the Master Plan Area), with some specifically designed for that purpose (e.g., Mustang Village), are located near the southwest corner of campus along Foothill Boulevard.

2.3.1 Subareas of Campus

As noted above, the main campus comprises four distinct geographic subareas totaling 855 acres within the 1,339-acre Master Plan Area. Descriptions of each subarea follow:

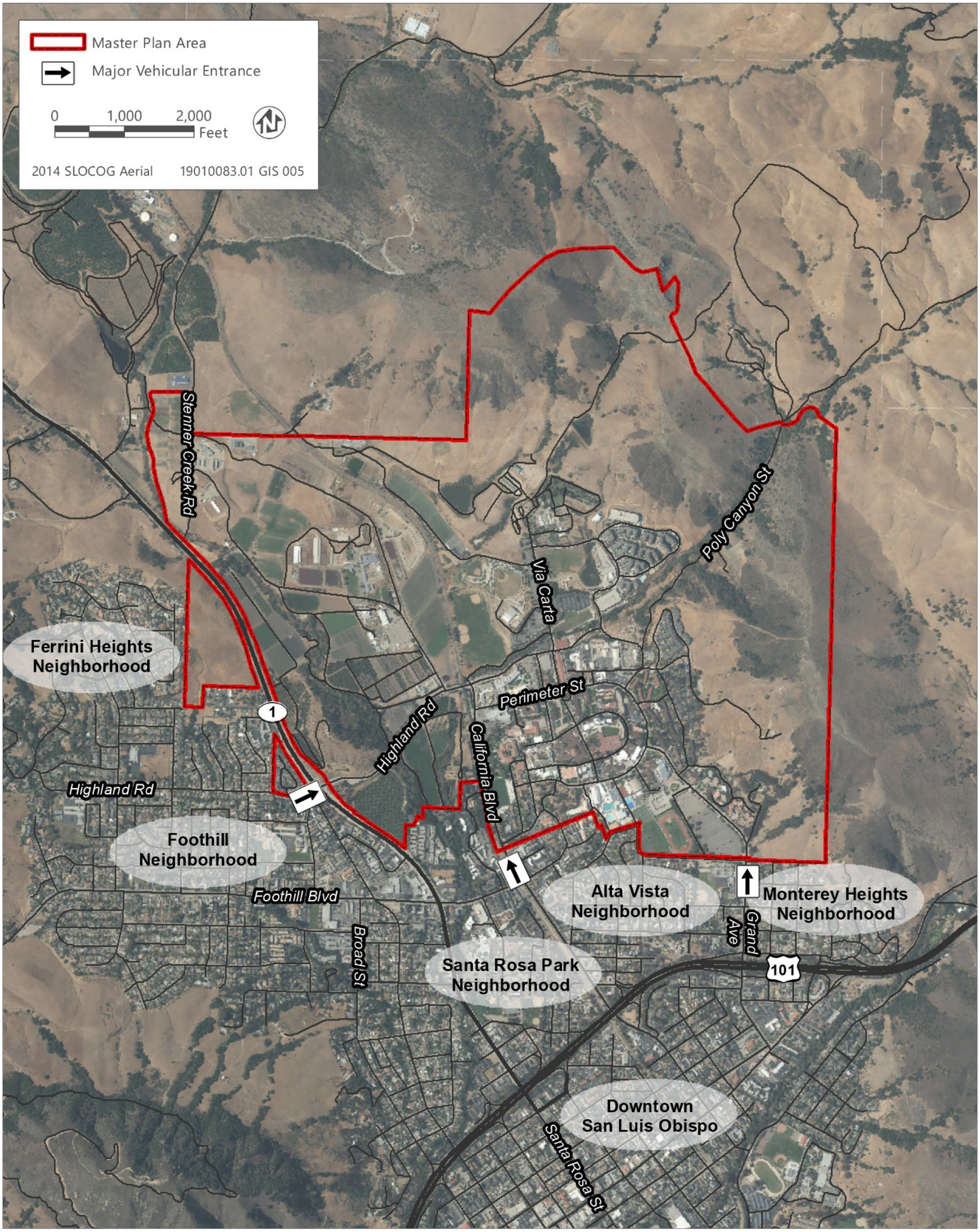
- *Academic Core:* The Academic Core, the most densely developed area of campus, is focused on academic land uses, with related service and support functions. The Academic Core is the center of campus activity and generally includes activities that engage students, faculty, and staff multiple times per day, such as classes and labs, advising services, study areas, food outlets, and administrative offices. The areas surrounding the Academic Core on three sides (West Campus, North Campus, and East Campus) include campus functions that are typically accessed daily or less frequently and require more extensive land area than is available in the Academic Core. It is roughly defined by Brizzolara Creek to the north, the southern edge of campus to the south, Grand Avenue and Perimeter Road to the east, and the UPRR tracks to the west.
- *East Campus:* The East Campus currently contains a concentration of student housing facilities, primarily along Grand Avenue at the base of the eastern hills. The newest housing development constructed on campus at the Grand Avenue entrance (a 1,475-bed facility) opened in September 2018 and enables all first-year students to live on campus in traditional dormitory-style housing. The East Campus also provides other student housing, operational facilities, food services, and athletic facilities and has strong pedestrian connections to the Academic Core.
- *North Campus*: The North Campus is located north of the Academic Core and Brizzolara Creek, which bisects the main campus, and consists of student housing, recreation and athletic fields, agricultural facilities (e.g., horse stables and associated structures), parking facilities, and open space (e.g., Leaning Pine Arboretum and the Drum and Shepard reservoirs).
- *West Campus:* The West Campus generally encompasses the entire campus area between the UPRR tracks and SR 1, with a portion extending west of SR 1 to the Ferrini Heights neighborhood (Figure 2-3). West Campus is predominantly agricultural, with some of Cal Poly's richest agricultural soils along Stenner Creek and lower Brizzolara Creek. The West Campus also includes supporting land uses, such as contains campus operational facilities, orchards and agricultural fields and facilities, and open space.

In combination, these four subareas are often referred to as the "main campus" of Cal Poly.



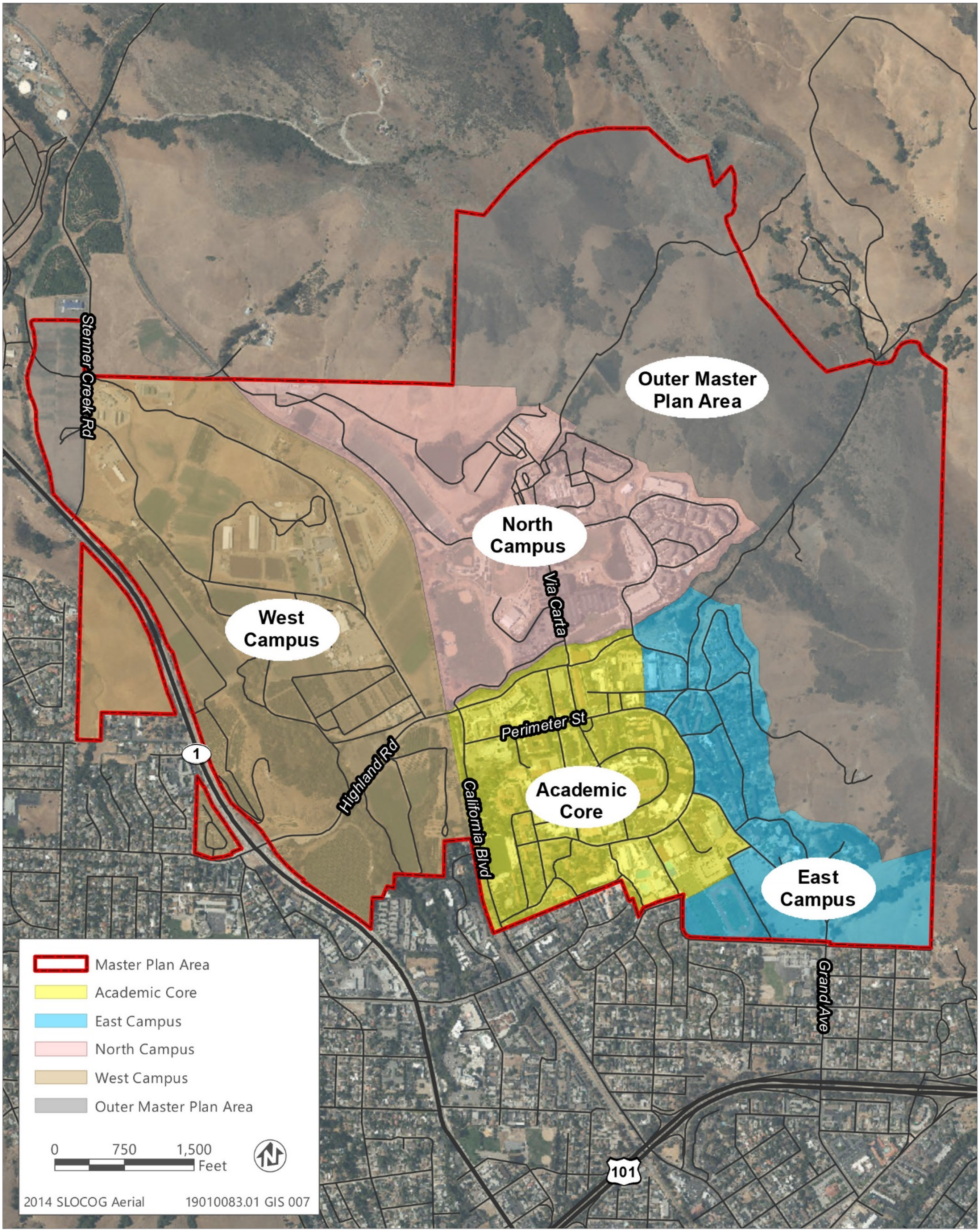
Source: Data received from Cal Poly in 2019; adapted by Ascent Environmental in 2019

Figure 2-1 Project Location and Regional Vicinity



Source: Data received from Cal Poly in 2019; adapted by Ascent Environmental in 2019

Figure 2-2 Adjacent Neighborhoods & Major Vehicular Entrances



Source: Data received from Cal Poly in 2019; adapted by Ascent Environmental in 2019

Figure 2-3 Campus Planning Areas

2.3.2 Existing Campus Conditions

ON-CAMPUS FACILITIES

Existing campus facilities include approximately 150 major buildings. Within the Academic Core, there are approximately 80 buildings that include academic, administration, recreation, student housing, and support services and student housing. Major facilities include the Robert E. Kennedy Library, Julian A. McPhee University Union (UU), ASI Recreation Center, Alex G. Spanos Stadium, Robert A. Mott Athletics Center, and Cohan Performing Arts Center/Theater Complex. Most buildings within the Academic Core are easily accessed by pedestrians and are within a short distance (i.e., 0.5 mile) of student housing. Table 2-1 identifies existing buildings and uses. Figures 2-4 and 2-5 illustrate the locations of the buildings listed in Table 2-1.

Table 2-1 Existing Buildings on Campus

Building No.	Building Name	Building No.	Building Name
01	Administration	77	Rodeo Facilities
02	Cotchett Education	81	Hillcrest
03	Business	82	Cal Poly Corporation Warehouse
05	Architecture and Environmental Design	83	Technology Park
06	Christopher Cohan Center	105	Trinity Hall
07	Advanced Technology Laboratories	106	Santa Lucia Hall
11	Agricultural Sciences	107	Muir Hall
13	Engineering	108	Sequoia Hall
15	Cal Poly Corporation Administration	109	Fremont Hall
17	Crop Science/Farm Store	110	Tenaya Hall
17J	Crop Science Lab	112	Vista Grande Complex
18	Dairy Science	113	Sierra Madre Hall
18A	Leprino Foods Dairy Innovation Institute	114	Yosemite Hall
19	Dining Complex	115	Chase Hall
21	Engineering West	116	Jespersen Hall
25	Faculty Offices East	117	Heron Hall
27	Health and Wellbeing Center	121	Cheda Ranch
28	Albert B. Smith Alumni and Conference Center	122	Parker Ranch
31	University Housing	123	Peterson Ranch
32	Oppenheimer Family Equine Center	124	Student Services
33	Clyde P. Fisher Science Hall	129	Avila Ranch
34	Walter F. Dexter Building	130	Grand Avenue Parking Structure
35	Robert E. Kennedy Library	131	Yakʔitʸutʸu Residential Community Parking Structure
40	Engineering South	133	Orfalea Family and ASI Children's Center
41A	Grant M. Brown Engineering	136	Irrigation and Training Research Center
41B	Baldwin and Mary Reinhold Aerospace Engineering Laboratories	150	Poultry Science Instructional Center
42	Robert A. Mott Athletics Center	153	Bella Montaña
42A	Anderson Aquatic Center	154	Animal Nutrition Center

Building No.	Building Name	Building No.	Building Name
43	Recreation Center	155	J and G Lau Family Meat Processing Center
44	Alex and Faye Spanos Theatre	156	Fermentation Science
45	H. P. Davidson Music Center	160	Baggett Stadium
46	Old Natatorium	160A	Dignity Health Baseball Clubhouse
47	Faculty Offices North	161	Bob Janssen Field
48X	Leaning Pine Arboretum	164	Oppenheimer Equestrian Center
50J	Mount Bishop Warehouse	170	Cerro Vista Apartments
50K	Communications Services Storage	171	Poly Canyon Village Apartments
50L	Rose Float Lab	172	Yakʔit^{y}ut^{y}u Residential Community
51	University House	180	Warren J. Baker Center for Science and Mathematics
53	Science North	181	Agricultural Science Research and Teaching Complex
55	Beef Cattle Evaluation Center (BCEC)	186	Construction Innovations Center
55E	Beef Cattle Evaluation Center (BCEC) Expansion	187	Simpson Strong-Tie Material Demonstration Lab
56	Swine Unit	192	Engineering IV
57	Veterinary Hospital	197	Bonderson Engineering Project Center
60	Crandall Gymnasium	271	Village Drive Parking Structure
65	Julian A. McPhee University Union	371	Canyon Circle Parking Structure
75	Mustang Substation	371B	University Housing Depot
76	Old Power House		

OPEN SPACE AND LANDSCAPING

Cal Poly is defined by its natural setting punctuated by dramatic topography and views of the Nine Sisters (including Morro Rock), rolling hills, rock outcroppings, and stands of trees and vegetation. It retains visual connection to the surrounding landscape by strategically siting building massing in a manner that does not block or obstruct surrounding vistas. Within the main campus, open spaces and abundant trees and landscaping, including the iconic Dexter Lawn, reinforce the campus's connection with its surroundings, including that of the Outer Master Plan Area.

CIRCULATION AND PARKING

The campus is bounded by SR 1 (Santa Rosa Street) and California Boulevard to the west, Slack Street to the south, and Stenner Creek Road to the north. As noted above, there are three major entrances to campus (Grand Avenue, California Boulevard and Highland Drive.) Grand Avenue is a north-south residential arterial that provides access between the campus and US 101 and is the primary campus entrance based on vehicular volume. In the southeast quadrant of the campus, Grand Avenue connects with North Perimeter Road, the only two-lane road through campus open to most vehicular traffic. On the west side of campus, Campus Way intersects with California Boulevard, the secondary campus entrance by vehicular volume. Highland Drive, the third campus entrance, intersects SR 1 (Santa Rosa Street) on the west side of campus.

Other on-campus roads connecting to various facilities include University Drive, Village Drive, Via Carta, and Mount Bishop Road. Most facilities within the main campus are easily accessed by foot or by bicycle, with portions of the campus, such as Mustang Way, designed strictly for pedestrian and bicycle traffic. Approximately 8,000 parking spaces are currently provided on campus, most of which are located off Grand Avenue in the southeast portion of campus and off Via Carta in the northern portion of campus (Figure 2-2).

2.3.3 Off-Site Property

Located on California's Central Coast near the Pacific Ocean, Cal Poly benefits from its semi-rural location and variety of topography and habitats. While the campus enjoys its close proximity to the urbanized City of San Luis Obispo, agriculture is a fundamental part of Cal Poly's heritage and principal land use, as well as an area of academic study, partnership, and revenue generation.

Although they are not part of the Master Plan Area, Cal Poly maintains land holdings in productive rangeland and rich farmland surrounded by natural habitats. In addition to the Master Plan Area, Cal Poly has major land holdings in the form of six ranches within the San Luis Obispo Creek watershed (Peterson, Serrano and Cheda Ranches, also known as the San Luis Ranches) and Chorro Creek watershed (Chorro Creek, Walters, and Escuela Ranches, also known as the Western Ranches), as shown in Figure 2-6. Off-site property accounts for 8,789 acres of the total 10,128 acres of land that make up Cal Poly. Of the 8,789 acres, 6,428 acres are located in San Luis Obispo County and include the campus and the San Luis and Western Ranches, as shown below (see Figure 2-6):

- San Luis Ranches (Peterson, Serrano, and Cheda): 1,614 acres located north of and adjacent to campus; and
- Western Ranches (Chorro Creek, Walters, and Escuela): 3,043 acres located west of, and not contiguous with, campus.

Cal Poly also owns several additional areas within San Luis Obispo County, including the Bartleson Ranch, a 450-acre property near Arroyo Grande that was donated to Cal Poly in 2015. In addition, Cal Poly leases several properties within the City of San Luis Obispo, including the Chorro Street Lofts at 996 Chorro Street, the Cal Poly Hot House Annex at 872 Higuera Street, and the 5,000-sf Chorro State Offices located near South Higuera Street. Cal Poly has one major land holding outside of San Luis Obispo, the 3,200-acre Swanton Pacific Ranch in Santa Cruz County.

Cal Poly's combined land holdings make it the second largest land-holding university in California.

2.4 CAMPUS POPULATION

2.4.1 Policies Governing Enrollment Growth

The California budget is the primary factor that determines enrollment levels at CSU campuses. The Trustees require each campus to have a master plan, showing existing and anticipated facilities necessary to accommodate a specified enrollment at an estimated target date or planning horizon, in accordance with approved educational policies and objectives. Each year, the CSU negotiates with the State of California for funding to support planned enrollment growth as part of the annual budget process. The annual state budget identifies anticipated enrollment growth systemwide for the CSU each year; according to the 2019-2020 California State Budget, the state expects the CSU to accommodate growth in enrollment of 10,000 FTES during that period (California Department of Finance 2019). Following negotiation, the CSU allocates enrollment growth funding for California residents according to an enrollment target for each of the 23 CSU campuses. Campuses are expected to manage their enrollments within a small margin of error around the target because they receive state/CSU funding only for the targeted number. In the past, when the state has experienced a fiscal crisis, the enrollment funding for the CSU was reduced, and campuses had to reduce their enrollment until additional funding became available in subsequent years. During the past 30 years, enrollment reductions have occurred four times.

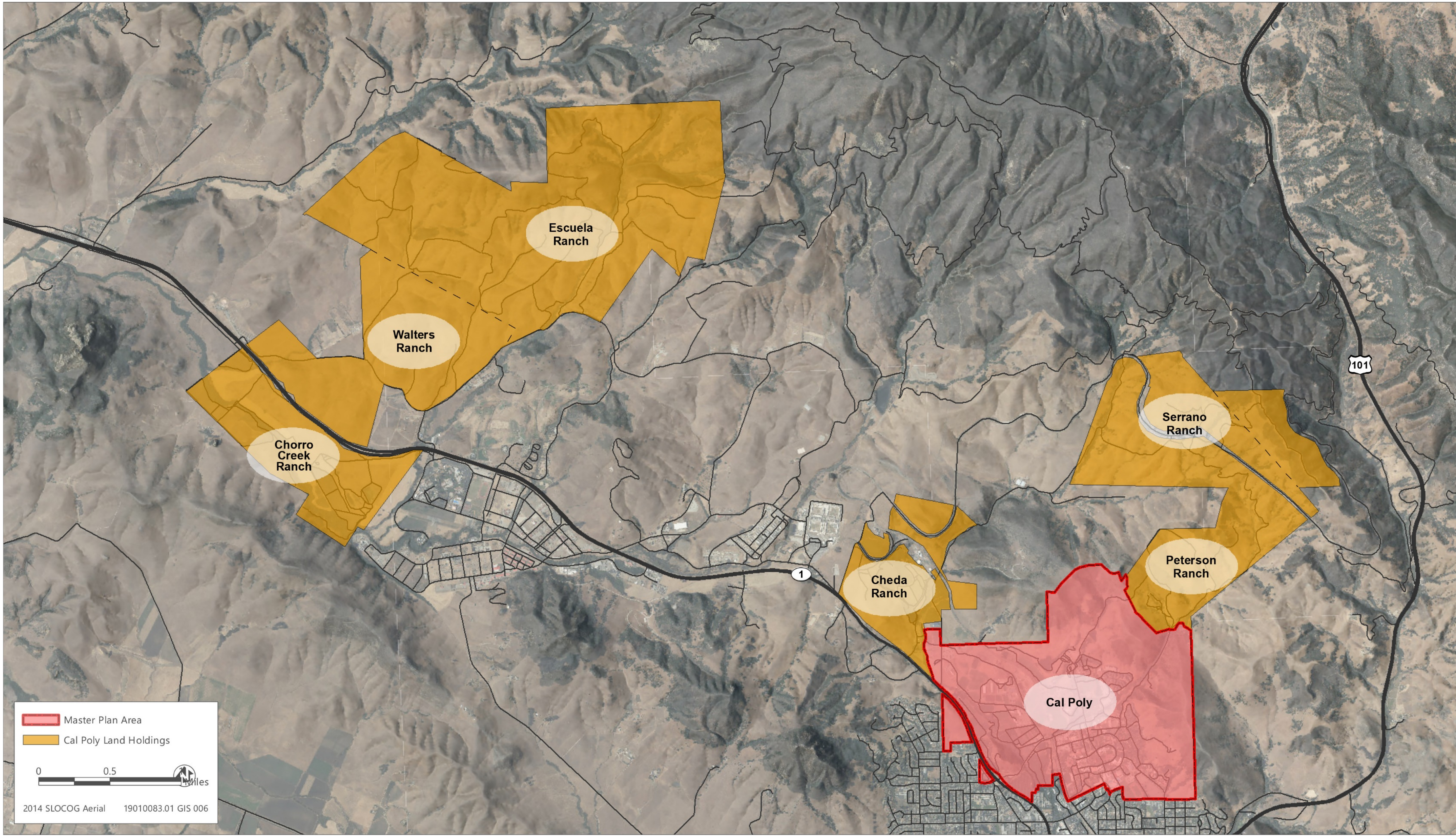
Individual campuses like Cal Poly establish their long-term enrollment goals through the campus master planning process. This process sets a future campus capacity that the campus can work toward. However, because of variations in state funding and CSU allocations, the annual growth rate can vary from year to year.

Source: Image prepared and provided by Cal Poly in 2019

Figure 2-4 Master Plan Facilities Map – Main Campus

Source: Image prepared and provided by Cal Poly in 2019

Figure 2-5 Master Plan Facilities Map – Academic Core

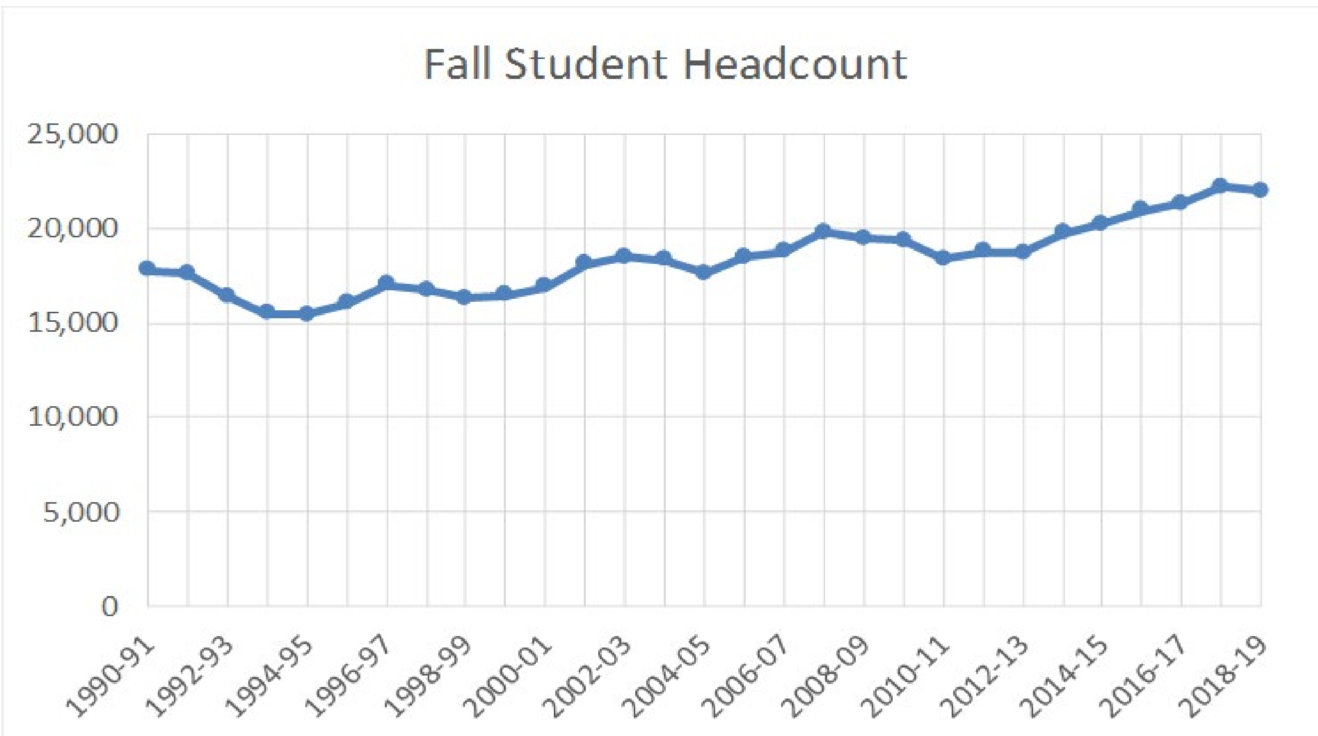


Source: Data received from Cal Poly in 2019; adapted by Ascent Environmental in 2019

Figure 2-6 Regional Land Holdings

INCREASED STUDENT ENROLLMENT

Maximum student enrollment is anticipated to increase to a total headcount of 25,000 students by 2035 based on CSU enrollment directives and the increased demand for a Cal Poly education, which continues to exceed the number of students the University can currently enroll. The 25,000-student headcount is based on a review of historical data on admissions and enrollment and assumes that enrollment would increase at a slightly lower rate over the next two decades than it has during the past two decades (Cal Poly 2019a). The 2001 Master Plan estimated that it would take 20 years for Cal Poly to reach its enrollment projection of 20,900 fall students. Instead, Cal Poly's enrollment grew to this level in 15 years, at an average growth rate of approximately 280 additional students per year. The 2035 Master Plan projects a slower growth rate of approximately 200 new students per year on average, in part because of changing demographics. It is challenging to project a precise growth rate for a given year due to annual fluctuations in state/CSU funding for higher education, demand for certain degrees, economic prosperity and the reputation of the University. Instead enrollment growth is managed over a longer period which allows adjustments to address changing economic, demographic and other related trends. As a long-term guide for development of the campus, the 2035 Master Plan is intended to address a future enrollment capacity rather than specific enrollment fluctuations on a year-to-year basis. Figure 2-7 below shows that the University has experienced frequent enrollment reductions as well as increases over the past three decades.



Source: Cal Poly 2019a

Figure 2-7 Fall Student Headcount

FULL-TIME EQUIVALENT STUDENTS AND RELATIONSHIP TO OVERALL HEADCOUNT

The FTES a calculation is based on the assumptions that a full-time undergraduate student is expected to enroll in 15 units each term (i.e., quarter) and a full-time graduate student is expected to enroll in 12 units each term (i.e., quarter). FTES balances out the amount of instruction involved and level of academic instruction required because not all students take exactly these loads each term. "Academic Year FTES" (AY FTES) refers to the average FTES for the fall, winter, and spring terms. As average unit load changes, the ratio between student headcount and FTES would also change, as shown in Table 2-2.

Table 2-2 Fall Student Headcount and Full-Time Equivalent Students

	2001 Master Plan (Approved)	Actual 2015–2016	Actual 2016–2017	Actual 2017–2018	Actual 2018–2019	Master Plan Projected 2035–2036	Net Change 2015–2016 to 2035–2036	Net Change 2018–2019 to 2035–2036
Fall Student Headcount	**20,900**	20,944	21,306	22,188	*21,812*	***25,000***	***4,056***	***3,188***
Academic Year (AY) Full-Time Equivalent Students (FTES) and Instructional Facility Capacity								
AY FTES	**18,731**	19,486	19,989	20,802	*20,413*	***23,560***		
AY FTES to Fall HC Ratio		0.9304	0.9382	0.9375	*0.9359*	*0.9424*		
Master Plan Enrollment Capacity	**17,500**					***22,500***	***5,000***	
Net AY FTES		18,483	18,938	19,707	*19,339*	***22,320***		
On-Site and Off-Site Other Instruction		5.15%	5.26%	5.26%	*5.26%*	*5.26%*		

Source: Cal Poly 2019a

2.4.2 Determining Master Plan Capacity and Projections

Prior to development of a master plan, the CSU Board of Trustees approves a future allowable capacity for campus facilities at all CSU campuses, including Cal Poly. Before Cal Poly's 2001 Master Plan, the capacity was 15,000 net AY FTES. The 2001 Master Plan increased the capacity to 17,500 net AY FTES, and the 2035 Master Plan seeks an increase to 22,320 net AY FTES. Net AY FTES refers to the demand for instruction that requires physical facilities on campus. Thus, it excludes approximately five percent of the FTES that may receive academic instruction via online classes; unscheduled ("to be arranged") classes, such as senior project, thesis, and independent study; and off-campus activities, such as travel study programs and internships. At Cal Poly, the proportion of scheduled in-person instruction on campus is just under 95 percent and has not changed significantly in recent years. Thus, this proportion was not changed for the 2035 Master Plan.

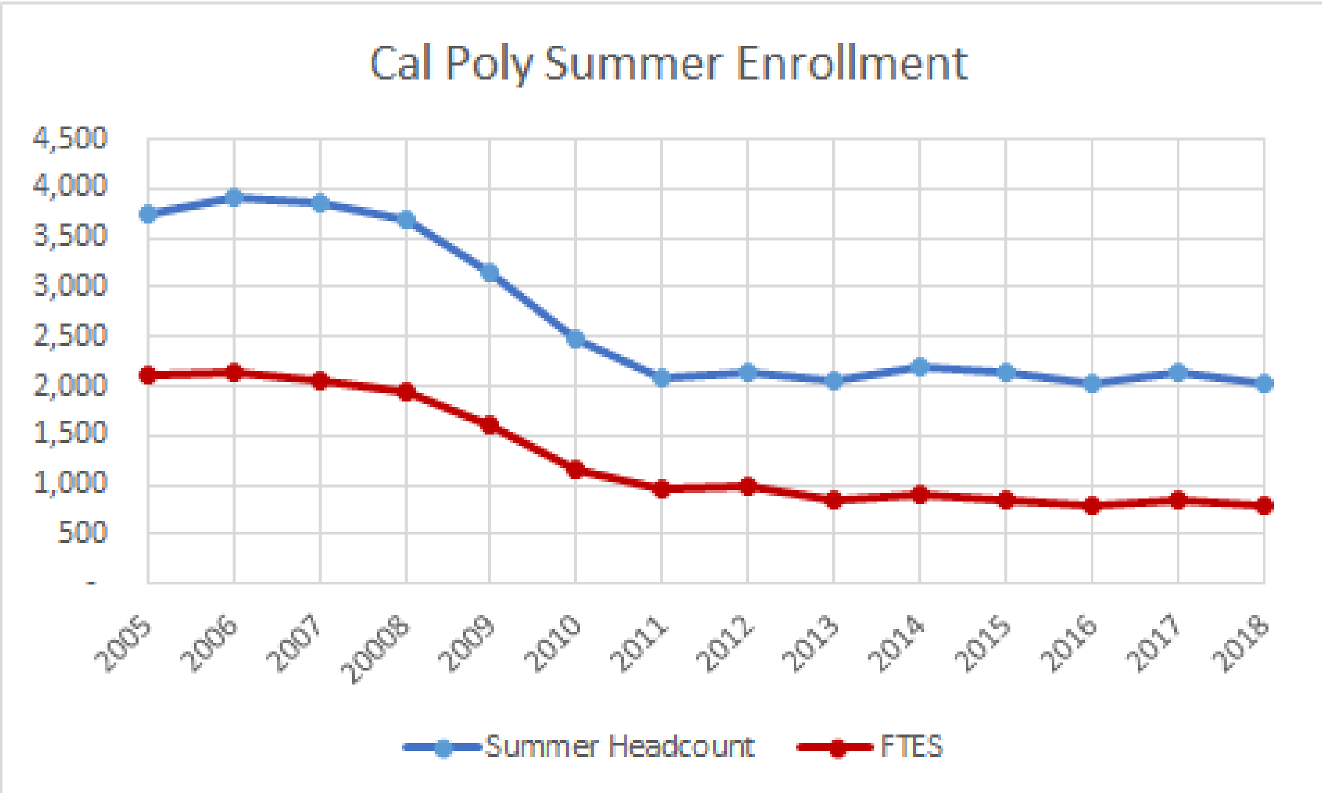
Future projections are based on assumptions about trends, and future plans are based on changes in policy and practice. Thus, they should always be considered estimates rather than predictions. To achieve a reasonably conservative analysis, the calculations in this section are based on larger numbers. For example, housing numbers are based on a larger freshman class, faculty numbers are based on an increased student unit load, and the net AY FTES assumes no decrease in scheduled instruction on campus.

STUDENT, FACULTY, AND STAFF HEADCOUNT

Student, faculty, and staff "headcount" is the preferred metric for purposes of environmental analysis for a project of this nature because it represents an appropriately conservative scenario for evaluating environmental impacts. Most Cal Poly students are enrolled as full-time students, so their demand for facilities and services is evaluated based on the number of individuals and does not change if some students take an additional class. This pattern is different from an urban commuter campus, where part-time and full-time students have different attendance patterns. Headcount is also a better-understood metric than an abstraction like FTES. Using headcount is consistent with other kinds of population and demographic analyses and is consistent throughout the environmental analysis for students, faculty, and staff. The 2035 Master Plan and environmental analysis uses fall headcount data because enrollment is generally highest during the fall term, decreases slightly during the winter and spring quarters, and decreases substantially during the summer.

SUMMER ENROLLMENT

Between 1980 and 2010, Cal Poly had an active summer enrollment program with as many as 25–33 percent of all students attending. The enrollment level declined after 2005 and then dropped dramatically in 2010 when the CSU discontinued summer funding during a fiscal crisis (Figure 2-8). Since then, the summer headcount has stabilized at just over 2,000 students, or about 10 percent of the fall headcount.



Source: Cal Poly 2019a

Figure 2-8 Cal Poly Summer Enrollment

2.4.3 Projected Student Enrollment, Faculty, and Staffing

The 2035 Master Plan is designed to serve a projected fall academic quarter headcount of 25,000 students, along with sufficient faculty and staff to provide instruction and support services that would accommodate the demand of this increased headcount. The 2035 Master Plan enrollment represents a net increase of 4,056 students from 2015 conditions (an approximately 19 percent increase over 20 years, or just under one percent per year) and 3,188 students from 2018 conditions (an approximately 15 percent increase over 17 years, or just under one percent per year). Table 2-3 shows the net increase in students, faculty, and staff planned for in the 2035 Master Plan and assessed in the environmental analysis.

Cal Poly determines faculty and staff needs by evaluating the historical relationship between students and faculty headcount, as well as the relationship between students and staffing. However, the University expects to make some changes in the future, including increasing the percentage of tenured and tenure-track faculty to 75 percent, decreasing the student-to-faculty ratio, and providing time for scholarship (particularly for new faculty). These changes would enhance student success and result in a proportionate increase in faculty, rather than simply carrying past ratios forward into the future. In addition, the University acknowledges that some student services need to be expanded to support student success, so the staffing ratio would also be increased. It is important to note that the number of faculty depends on the total amount of instruction (FTES taught), whereas the number of staff depends on student headcount. For reference, Table 2-4 shows the hypothetical annual growth for student enrollment, faculty, and staff if they were to increase uniformly, although, as noted earlier, growth may fluctuate year-to-year (due to the availability of funding, facilities and other factors) but is anticipated to trend towards the overall anticipated numbers identified in the table. It should also be noted that faculty numbers exclude administrators and students who teach but are already counted in their primary role (i.e., as students and administrators first).

Table 2-3 Student Enrollment and Faculty and Staff Headcount

	Fall 2015	Fall 2018	2035 Master Plan	Net Change from 2015	Net Change from 2018
Student Enrollment[1]					
Fall Headcount	20,944	21,812	25,000	4,056	3,188
Faculty and Staff Fall Headcount	**2015**	**2018**	**2035**	**2015-2035**	**2018-2035**
Instructional Faculty	1,166	1,219	1,522	356	302
Ratio of Faculty to Students	*0.0557*	*0.0559*	*0.0609*		
Staff and Management	1,982	2,047	2,413	431	366
Ratio of Staff to Students	*0.0946*	*0.0938*	*0.0965*		
Total Regular Employees	**3,148**	**3,266**	**3,935**	**787**	**669**

1 Includes undergraduate and graduate enrollment.

Source: Cal Poly 2019a

Table 2-4 Student Enrollment and Faculty and Staff Growth Projections

Enrollment Year	Student Population Master Plan Projected – Fall[1]	Faculty/Staff Population Total - Fall	Faculty/Staff Population Faculty	Faculty/Staff Population Staff
2015	20,944[2]	3,148	1,166	1,982
2016	21,306[2]	3,187	1,184	2,004
2017	22,188[2]	3,227	1,202	2,025
2018	21,812[2]	3,266	1,219	2,047
2019	21,242[2]	3,305	1,237	2,068
2020	21,925	3,345	1,255	2,090
2021	22,130	3,384	1,273	2,111
2022	22,335	3,423	1,291	2,133
2023	22,540	3,463	1,308	2,154
2024	22,745	3,502	1,326	2,176
2025	22,950	3,542	1,344	2,198
2026	23,155	3,581	1,362	2,219
2027	23,360	3,620	1,380	2,241
2028	23,565	3,660	1,397	2,262
2029	23,770	3,699	1,415	2,284
2030	23,975	3,738	1,433	2,305
2031	24,180	3,778	1,451	2,327
2032	24,385	3,817	1,469	2,348
2033	24,590	3,856	1,486	2,370
2034	24,795	3,896	1,504	2,391
Master Plan Projections 2035	***25,000***	***3,935***	***1,522***	***2,413***

1 Includes both undergraduate and graduate students.

2 Actual student population numbers.

Source: Cal Poly 2019a

SUMMER ENROLLMENT AND ACTIVITIES

Overall, the summer population is less than 25 percent of the academic year population, and that ratio is not expected to change substantially with implementation of the 2035 Master Plan. Historically, housing occupancy has been much lower—below 10 percent that of the academic year—even when the use of residence halls for conferences and summer programs is added to students living on campus during the summer. Also, the summer population on campus varies significantly from day-to-day and week-to-week as summer programs vary in size and length over about two and a half months. Some academic courses are offered in concentrated formats as short courses, and faculty conducting research may not be on campus daily.

New student orientation is the largest summer activity, involving virtually all new freshmen and many of their parents and supporters. The office of New Student and Transition Programs schedules about 10 sessions during July and early August, each of which lasts 2 days, and the largest handles about 1,000 overnight participants. Overall, this program served about 5,000 participants in summer 2015 and increased to 7,257 new students and guests in summer 2018. Future participation is expected to be commensurate with the size of the new freshman class.

The current and future regular population at Cal Poly differs significantly between the academic year and summer, as shown in the Table 2-5.

Table 2-5 Student, Faculty, and Staff Populations During the Academic Year and Summer

Population	2015	2018	Master Plan Assumption	Master Plan 2035	Net Change from 2015	Net Change from 2018
Fall Population						
Fall Student Headcount	20,944	21,812		*25,000*	*4,056*	*3,188*
Fall Employee Headcount					--	
Instructional Faculty	1,166	1,219		*1,522*	*356*	*303*
Administrators and Staff	1,982	2,047		*2,413*	*431*	*366*
Fall Total Population	**24,092**	**25,078**		***28,935***	***4,843***	***3,857***
Summer Population						
Summer Student Headcount	2,143	2,181	10% of Fall Students	*2,500*	*357*	*319*
Summer Employee Headcount						
Instructional Faculty	241	244	20% of Faculty	*304*	*63*	*60*
Faculty Conducting Funded Research	156	167	30% of T/TT Faculty	*342*	*186*	*175*
Administrators and Staff	1,982	2,047		*2,413*	*431*	*366*
Average Weekday Summer Program Participants	1,100	1,184	Proportionate Growth	*1,522*	*422*	*338*
Summer Total Population (Weekday Average)	**5,622**	**5,823**		***7,082***	***1,460***	***1,259***
Summer Population as Percentage of Fall	***23.3%***	***23.2%***		***24.5%***		
Housing Occupancy						
Fall Student Housing Occupancy	7,370	7,762		*15,000*	*7,569*	*7,238*
Summer Housing Occupancy						
Student Housing Occupancy	99	298	20% of Summer UG	*475*	*376*	*177*

Population	2015	2018	Master Plan Assumption	Master Plan 2035	Net Change from 2015	Net Change from 2018
Summer Program Housing Occupancy (Weekday Average)	415	428	Proportionate Growth	*609*	*194*	*181*
Summer Total Housing Occupancy (Weekday Average)	**514**	**726**		***1,084***	***570***	***358***
Summer Housing Occupancy as Percentage of Fall	**7.0%**	**9.4%**		***7.2%***		

Source: Cal Poly 2019a

As more residence halls are built on campus, more overnight accommodations will become available. However, growth in CEP summer programs is constrained by three factors, according to CEP staff: policy as a public university, access to facilities, and the academic calendar. Policy and law limit activities to those that are sponsored by nonprofit organizations and related to education. The size and number of summer athletic camps are constrained by access to the Sports Complex and other recreation and athletic facilities and are limited to July and early August so as not to conflict with the academic year. Precollege and professional programs offered in collaboration with several of the colleges are sometimes constrained by the size of venues and availability of appropriate indoor space, especially during July and early August, when new student orientation is also underway.

PROJECTED HOUSING DEMAND

Studies have found that students who live on campus, especially during the first two years, are more successful academically. Campus Administrative Policies (CAP) is the central repository for high-level University policies, guidelines, regulations, and laws that govern the operation of Cal Poly. Chapter 6 of the CAP, pertaining to student affairs, includes Policy 660.1, which states, "At such time University Housing has as part of its housing portfolio the number of bed spaces needed to accommodate all freshman and sophomore students, all admitted students who enter the University as freshman would be required to live on campus for two years (six academic quarters)."

The 2035 Master Plan includes a goal to house all new incoming freshmen and second-year undergraduate students and approximately 30 percent of upper-division undergraduates in on-campus housing facilities. Table 2-6 below shows how many beds Cal Poly would need to provide to meet this goal. Taking into consideration that the 2035 Master Plan would accommodate 23,750 undergraduate students on-campus, Cal Poly has established a goal of approximately 15,000 on-campus student beds for 2035 Master Plan implementation.

Table 2-6 Enrollment and Housing Goals for Undergraduates

	Fall 2015	Fall 2018	Fall 2035 (Projected)
Student Enrollment			
Total Undergraduates	20,049	21,037	23,750
New Freshmen	4,943	3,428	5,700
Second-Year Undergraduates	4,329	4,738	5,463
Upper-Division Undergraduates	10,777	12,011	12,588
Housing Goals			
All Freshman		100%	5,700
All Sophomores		100%	5,463
Upper-Division Undergraduate Students		30%	3,849
Total			**15,012**
Total as a Share of All Undergraduate Students			***63%***

Source: CSU 2018

2.5 PROJECT OBJECTIVES

The underlying purpose of the 2035 Master Plan is to support and advance the University's educational mission by guiding the physical development of the campus to accommodate gradual student enrollment growth while preserving and enhancing the quality of campus life. To do so, the 2035 Master Plan lays out the land use, circulation, and physical development plans of the campus to educate a future student enrollment of 22,500 FTES (or 25,000 headcount). The following objectives of the 2035 Master Plan have been established in support of its underlying purpose:

- Support and advance the University's educational mission by guiding the physical development of the campus to accommodate gradual student enrollment growth up to a future enrollment of 22,500 FTES by year 2035 while preserving and enhancing the quality of campus life.
- Enhance academic quality and student success through Cal Poly's "Learn by Doing" teaching methodology through the provision of physical facilities that allow students to take a hands-on approach and conduct project-based learning.
- Expand campus programs, services, facilities, and housing to support and enhance the diversity of students, faculty, and staff.
- Site campus facilities and housing to strengthen the campus's compact Academic Core and promote cross-disciplinary synergies between complementary academic, student/faculty support, and housing programs.
- House all first- and second-year students plus 30 percent of upper-division students in residential communities on campus.
- Provide housing opportunities on campus primarily for University faculty and staff to promote recruitment and retention and enhance faculty and staff engagement with the campus. In addition, provide housing opportunities and complementary services that may be offered to nontraditional students such as graduate students, veterans, students with families; potentially alumni housing or a retirement community; and for members of the San Luis Obispo community.
- Provide and enhance campus facilities to create a more vibrant evening and weekend environment.
- Attain a modal shift from vehicles to more pedestrian, bicycle, and transit use.
- Advance campus-wide environmental sustainability and make progress toward goals of carbon neutrality and climate resilience.
- Consider the interface between Cal Poly and the surrounding communities with respect to shared economic health, housing, multimodal transportation, open space and agricultural resources, diversity, and public services.
- Preserve the core of the Main Campus for instructional and student service uses and move support functions/facilities to the perimeter.

2.6 ELEMENTS OF THE MASTER PLAN

The 2035 Master Plan is a long-range planning document that guides the development and use of campus lands to accommodate growth in student enrollment and in fulfillment of Cal Poly's academic mission. As shown below, the University anticipates enrollment growth, and the 2035 Master Plan provides for the anticipated increase in demand for academic facilities, additional housing on campus, recreation and athletics facilities, and other support facilities and services on campus through 2035. This would include approximately 7,200 new student beds; an additional 1.29 million gross square feet (gsf) of academic, administrative, and support space; 380 residential units for faculty/staff with supporting uses (retail and recreational space); and a 200-unit University-Based Retirement Community. In addition, 455,000 gsf of existing aging or obsolete academic, administrative, and support space would be replaced with new facilities.

2.6.1 Land Use

The 2035 Master Plan Land Use Map (Figure 2-9), shows the planned land uses within the Master Plan Area by category. It indicates areas where future facilities would be developed, as well as areas where uses would change. Land use categories include academic functions, student housing and residential neighborhoods, outdoor teaching and learning facilities, and student support areas. Recreation and athletic facilities and areas, parking, and major open space areas are also indicated. The map illustrates the location, adjacency, and scale of future facilities and improvements that are planned to be developed through the 2035 planning horizon.

The majority of development under the 2035 Master Plan would occur within the main campus (i.e., four subareas defined above), however, some passive recreational improvements (i.e., trails) and utility-related work may occur within the Outer Master Plan Area. Development under the 2035 Master Plan would occur within the four geographic subareas (totaling 855 acres) within the 1,339-acre Master Plan Area (see Figure 2-3), as follows.

ACADEMIC CORE

The Academic Core is especially important to the successful fulfillment of the 2035 Master Plan. Students in all colleges take classes that are taught in the Academic Core, especially in their first 2 years at Cal Poly. This is the area where formal as well as unscheduled academic interaction regularly occurs. For the Academic Core to become the thriving center of campus envisioned in the 2035 Master Plan, careful consideration of building siting would be required. The existing buildings, streets, and open spaces would only gradually, and over a long period, be replaced or reconfigured, as shown in Figure 2-10. New buildings would be sited to consider the future impact on the campus, not just the current conditions. Buildings on Via Carta are located on especially important land with significant visibility and pedestrian activity from the campus core. These buildings would be icons of the Cal Poly experience for generations.

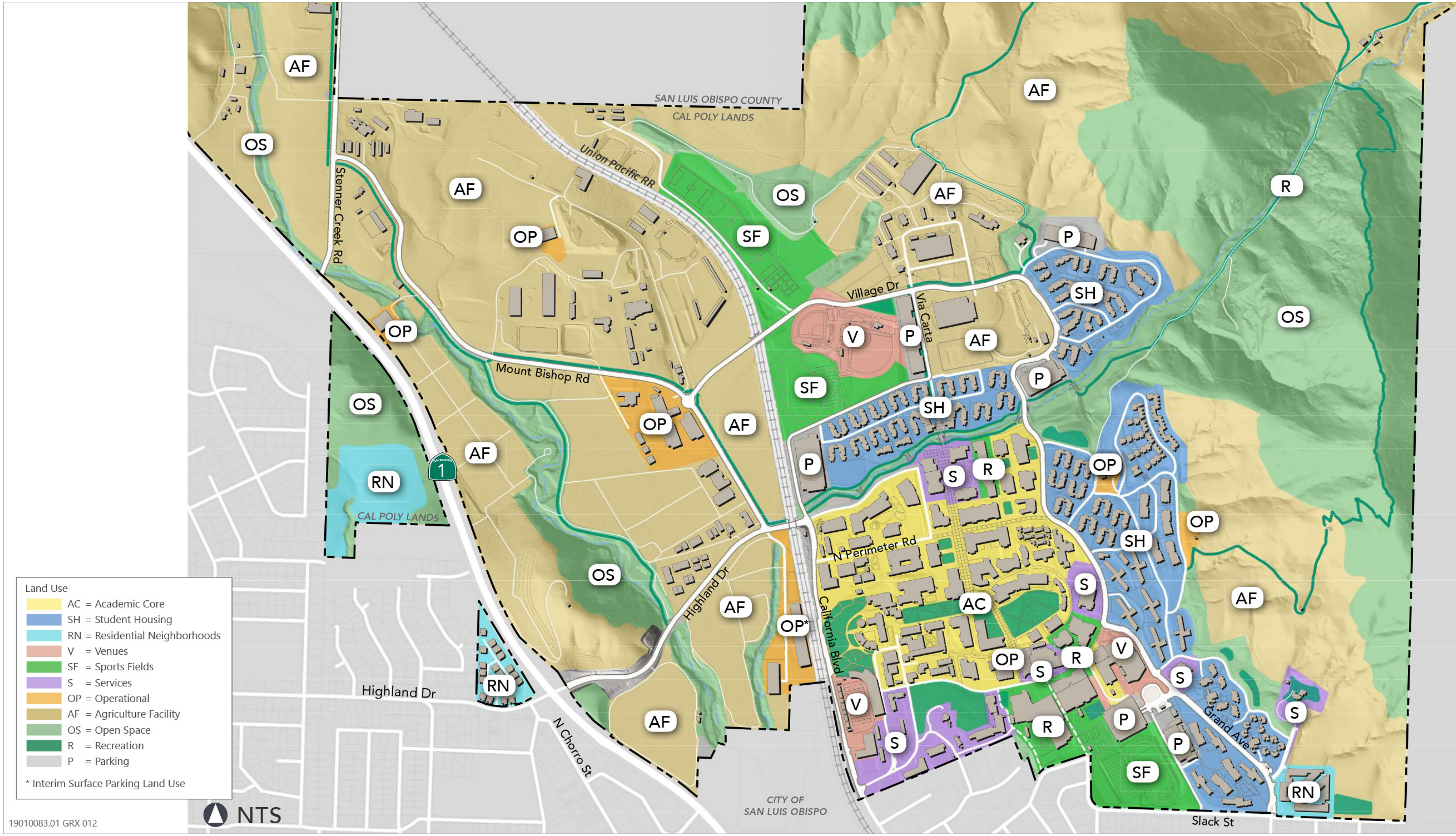
Based on the CSU system's formulas for calculating demand for facilities and services, the 2035 Master Plan anticipates the need for the development of approximately 1.29 million gsf of new and 0.455 million gsf of replacement academic, administrative, and support buildings within the Academic Core. Two activity hubs would frame the Academic Core: the existing Julian A. McPhee UU, which would be renovated under the 2035 Master Plan, and the area referred to as "Creekside Village," located at the northern edge of the Academic Core subarea at Via Carta and Brizzolara Creek. Creekside Village would include a mix of uses, including teaching and office spaces, retail and food services, recreation, a transit hub, and lounge and study spaces.

Via Carta, which is already the primary north-south pedestrian and bicycle route for the Academic Core, would become the central spine of campus, providing access to a variety of interactive gathering places and open spaces of numerous types and sizes, and would provide a framework for incorporating new buildings in an integrated, unifying and welcoming manner. The varied topography of the Academic Core would be capitalized upon to create interesting places and to preserve and enhance views of the surrounding hills, campus lands, and buildings. Utilizing the existing topography would allow grade-level access at multiple levels for many of the proposed buildings.

A major focus of the Academic Core land use plan is to create a true heart of campus. This area is anticipated to be a confluence of two spaces: Dexter Lawn and Centennial Meadow. This area is anticipated to be a gathering and meeting place, and convergence of campus life.

The Academic Core provides opportunities for multidisciplinary, programmed, impromptu interactions and the exchange of ideas and knowledge. Older buildings would be replaced with state-of-the-art facilities, such as the new Warren J. Baker Center for Science and Mathematics, which would provide much-needed academic space in a more efficient footprint.

The Academic Core would be essentially vehicle-free. Emergency, service, and special needs vehicular access would be accommodated within the pedestrian streets and plazas in a manner similar to that of Mustang Way and the northern portion of Via Carta. Bicycle routes would be defined with separate lanes within the Academic Core, and pedestrian routes would be clearly demarcated to limit pedestrian and bicycle conflicts. Intuitive wayfinding would be enhanced by better definition of an informal grid throughout the Academic Core, with secondary walkways integrated into smaller scale open spaces and seating areas.



Source: Image prepared and provided by Cal Poly in 2019

Figure 2-9 2035 Master Plan Land Use Map

Tier 1: Replace — Low intensity, older buildings that are in need of replacement at higher density, when feasible.
Tier 2: Renovate — Buildings may be in need of substantial investment. Replace if appropriate.
Tier 3: Retain — Buildings are current and do not need significant improvements in the near future.

01 --- Administration
02 --- Cotchett Education
03 --- Business
04 --- Research Development Center
05 --- Architecture and Environmental Design
06 --- Christopher Cohan Center
07 --- Advanced Technology Laboratories
08 --- BioResource and Agricultural Engineering
8A --- BioResource and Agricultural Engineering Shop
09 --- Farm Shop
10 --- Alan A. Erhart Agriculture
11 --- Agricultural Sciences
13 --- Engineering
14 --- Frank E. Pilling Building
15 --- Cal Poly Corporation Administration
19 --- Dining Complex
20 --- Engineering East
21 --- Engineering West
22 --- English
24 --- Food Processing
25 --- Faculty Offices East
26 --- Graphic Arts
26A - Printing Press
27 --- Health and Wellbeing Center
28 --- Albert B. Smith Alumni and Conference Center
33 --- Clyde P. Fisher Science Hall
34 --- Walter F. Dexter Building
35 --- Robert E. Kennedy Library
36 --- University Police
38 --- Mathematics and Science
40 --- Engineering South
41A - Grant M. Brown Engineering
42 --- Robert A. Mott Athletics Center
43 --- Recreation Center
43A - Kinesiology
44 --- Alex and Faye Spanos Theatre
45 --- H.P. Davidson Music Center
46 --- Old Natatorium
47 --- Faculty Offices North
52 --- Science
53 --- Science North
60 --- Crandall Gymnasium
61 --- Alex G. Spanos Stadium
65 --- Julian A. McPhee University Union
70 --- Facilities
71 --- Transportation Services
115 - Chase Hall
116 - Jespersen Hall
117 - Heron Hall
117T CAD Research Center
124 - Student Services
130 - Grand Avenue Parking Structure
133 - Orfalea Family and ASI Children's Center
180 - Warren J. Baker Center for Science and Mathematics
186 - Construction Innovations Center
187 - Simpson Strong-Tie Material Demonstration Lab
192 - Engineering IV
197 - Bonderson Engineering Project Center

Source: Image prepared and provided by Cal Poly San Luis Obispo in 2019

Figure 2-10 Academic Core Subarea Buildings to be Replaced, Renovated, and Retained

EAST CAMPUS

Developing additional student housing as part of the 2035 Master Plan in the East Campus and North Campus areas would enable Cal Poly to house all first- and second-year students, as well as approximately 30 percent of upper-division students on campus. Currently, Cal Poly houses approximately 40 percent of enrolled students on campus and plans to increase that to 62.9 percent. This would require the development of approximately half of the proposed 7,200 new student beds, in both dormitory and apartment styles in the East Campus (with the remaining beds proposed to be developed in the North Campus). These housing facilities are proposed to be located east of Grand Avenue, largely between the Cerro Vista Apartments and the Clyde P. Fischer Science Hall.

The 2035 Master Plan also proposes to include a "Residential Neighborhood" (the RN land use designation) in the East Campus. This residential neighborhood, when built, would be located at the northeast corner of the intersection of Slack Street and Grand Avenue. This project would be designated for Cal Poly faculty, staff, or other persons employed in the area. Nontraditional students, including but not limited to graduate students, married students, students with families, veteran students, or other students needing specific accommodations, may be also be considered as potential tenants. Housing at this site would include approximately 380 studio, one-bedroom, two-bedroom, and three-bedroom units in a mix of five-story buildings; 589 parking spaces; approximately 7,000 square feet of retail space; and approximately 12,000 square feet of amenity space. A recently constructed sports practice facility is located in the southwestern portion of the East Campus, bounded by Slack Street to the south would remain, and passive recreation (e.g., open space trails) would continue in this area as well.

NORTH CAMPUS

The North Campus is the focus of much of the physical expansion envisioned in the 2035 Master Plan. Combined with additional housing in the East Campus, developing new student housing in the North Campus would enable Cal Poly to house all first- and second-year students, as well as approximately 30 percent of upper-division undergraduate students. This would require the addition of approximately half of the proposed 7,200 new student beds, in both dormitory and apartment styles, to be developed in the North Campus. These new residences would be located immediately north of Brizzolara Creek, adjacent to the Academic Core, between the UPRR tracks and Grand Avenue. Cal Poly anticipates that up to 2,600 of these new student beds would be completed during the initial implementation of the 2035 Master Plan, the development of which would include multiple structures, up to five stories height, with support facilities (e.g., administrative offices, recreational lounge, student study areas, community meeting rooms, a laundry, counseling offices, and outdoor recreational space).

In addition to student housing, new recreational facilities with both passive and active programmable spaces are proposed for the North Campus. The track and football practice field would be located near the UPRR tracks, along a proposed extension of California Boulevard. Two parking structures are proposed, one east of and adjacent to the UPRR right-of-way, immediately north of Brizzolara Creek, and one at Via Carta to the east of Baggett Stadium. These structures would replace existing surface parking lots that would be displaced by the construction of new academic, housing and other facilities and provide parking for both events and existing and proposed land uses in the area.

WEST CAMPUS

As noted above, the West Campus includes prime agricultural lands, most of which would be preserved under the 2035 Master Plan. Under the 2035 Master Plan, a new Farm Shop (the campus agricultural equipment repair shop) would be developed near SR 1 and Stenner Creek, closer to the fields where most farm equipment is used. The existing Facilities Operations Complex would be relocated west of and adjacent to the UPRR and Spanos Stadium in order to allow for greater centralization of Cal Poly's academic programs, proximate to student housing. The first phase of the Facilities Operations Complex will provide a 934-space interim parking lot to accommodate surface parking displaced by student housing development in the North Campus (as described above). The existing Farm Shop and Facilities Building south of Brizzolara Creek would be relocated west of Mount Bishop Road in order to free up key space within the Academic Core to provide a similar benefit.

Also, within the West Campus, a Cal Poly–based retirement community would be located on the University-owned property west of SR 1 and east of the Ferrini Heights neighborhood. The southern portion of this property supports a California Department of Forestry and Fire Protection (CAL FIRE) facility that would remain in place under the Master Plan. CAL FIRE leases the land from the University. The facility is scheduled to be upgraded by the California Department of General Services in the next several years. The proposed CAL FIRE project is not a Cal Poly project and is not part of the 2035 Master Plan. The remainder of this property would bremain as open space.

2.6.2 Academic, Administrative, and Support Space Requirements

Existing campus academic facilities provide 2.875 million square feet of space for University academic programs. The 2035 Master Plan projects future demand for 4.165 million gsf of academic, administrative, and support facilities based on the proposed increase in headcount. Proposed new academic facilities include, among other things, a potential near-term Classroom and Offices Building, a new multidisciplinary academic facility, an engineering projects building, expansion of the Academic Center Kennedy Library Addition, the H.P. Davidson Music Center Renovation/Addition, and the Beef Cattle Evaluation Center Expansion (Figure 2-11). Academic and administrative facilities would largely be built within the Academic Core with support facilities, as well as agricultural teaching facilities (e.g., the Beef Cattle Evaluation Center Expansion), constructed within the West Campus.

In addition, approximately 455,000 gsf of the existing academic, administrative, and support facilities would be renovated and/or remodeled to provide the needed functionality for the evolving academic programs and teaching methodologies at Cal Poly. Existing and projected academic, administrative, and support space demands, based on 22,500 FTES (25,000 headcount), are summarized in Table 2-7.

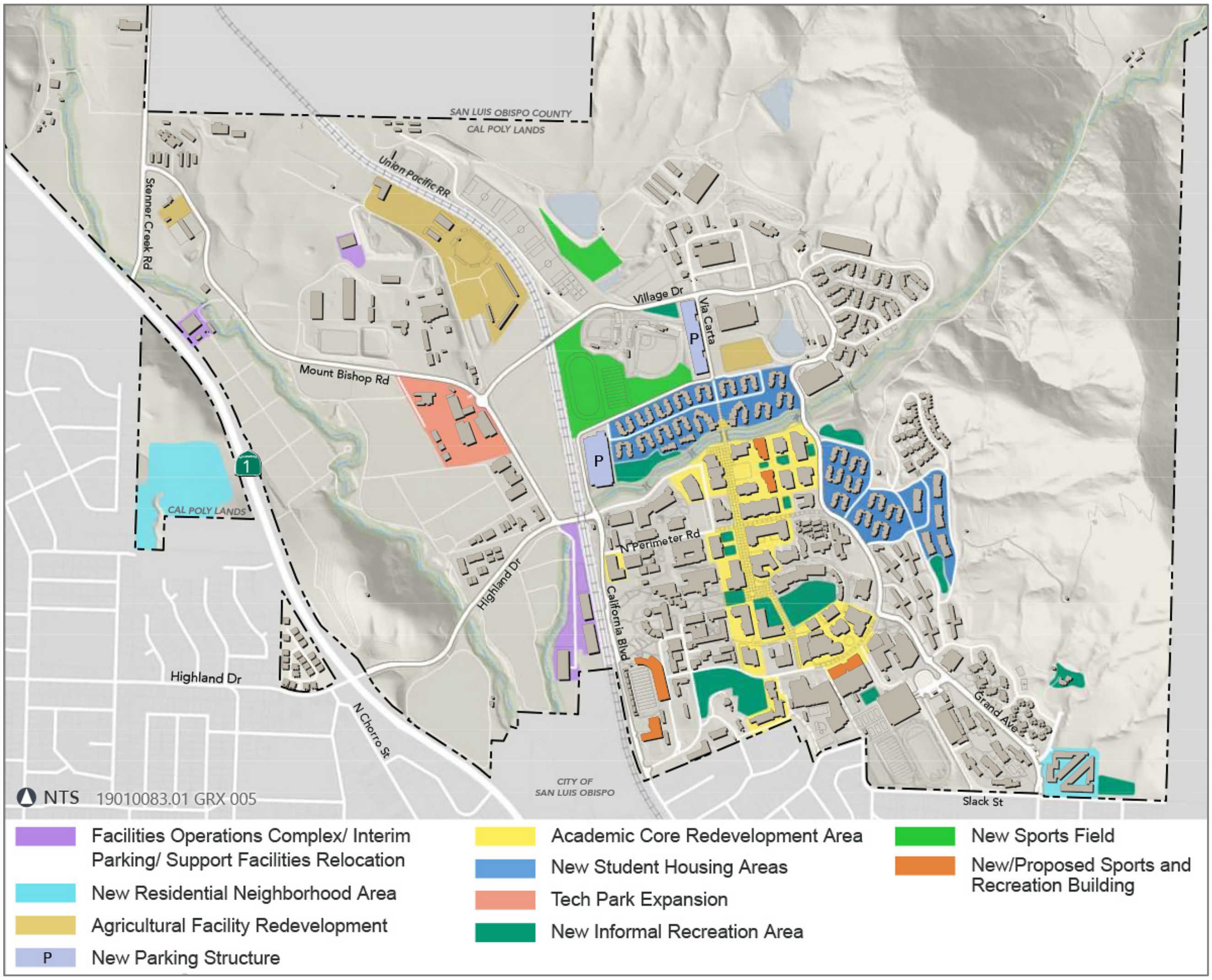
Table 2-7 Academic, Administrative, and Support Space Requirements

	Space Required
Future Capacity Required (based on 22,500 FTES)	4,165,000 gsf
Current Built Capacity (based on 2015 Inventory)	2,875,000 gsf
Total Construction	**1,745,000 gsf**
Replacement	(455,000) gsf
Net New Needed	***1,290,000 gsf***

The 2035 Master Plan proposes an increase in institutional support activities and services including indoor and outdoor classrooms and laboratories, faculty offices, and facilities for study, research and scholarship, including the Kennedy Library. With the proposed increase in student enrollment, institutional support services would need to be expanded. Thus, to address the current deficit and meet future demands, the net new gsf in the 2035 Master Plan includes 475,000 gsf of support space in the Academic Core. This would accommodate institutional support, as well as other services, including campus food services, lounge and study space, technology and power, and an expanded Health Center and the relocation of the Facilities Services operations to the West Campus area. The projected growth for academic, administrative, and support space is presented in Table 2-8.

Table 2-8 Academic, Administrative, and Support Space Growth Projections

Enrollment Year	Total gsf	Total Cumulative gsf
2020-2021	*215,000*	*215,000*
2022–2023	*215,000*	*430,000*
2024–2026	*215,000*	*645,000*
2027–2029	*215,000*	*860,000*
2030–2032	*215,000*	*1,075,000*
Master Plan Projections 2035	***215,000***	***1,290,000***



Source: Data received from Cal Poly in 2019; adapted by Ascent Environmental in 2019

Figure 2-11 Development Plan

2.6.3 Housing

STUDENT HOUSING

A major goal of the 2035 Master Plan is to construct enough student housing to house all freshman and sophomore students on campus, as well as approximately 30 percent of upper-division students. This may include specialty student housing. To do so, the 2035 Master Plan provides for a total of approximately 15,000 student beds on campus. These expanded residential facilities would house all freshmen and sophomore students on campus and would accommodate approximately 63 percent of the University's undergraduate students (Table 2-6). Table 2-9 below shows the projected growth rate of student beds that would be provided on campus under the 2035 Master Plan.

Table 2-9 Student Housing Phasing and Growth Projections

Year[1]	Cal Poly Total Enrollment	Cal Poly Students Living in Campus-Provided Housing	Permanent Beds as Designed	Cal Poly Students Living Off Campus	Percent of Cal Poly Students Living on Campus
2000	16,877	2,816	2,783	14,061	17%
2001	18,079	2,934	2,783	15,145	16%
2002	18,453	2,775	2,782	15,678	15%
2003	18,303	3,551	3,579	14,752	19%
2004	17,582	3,668	3,579	13,914	21%
2005	18,475	3,618	3,579	14,857	20%
2006	18,722	3,629	3,579	15,093	19%
2007	19,777	3,868	3,579	15,909	20%
2008	19,471	5,355	5,110	14,116	28%
2009	19,325	6,470	6,219	12,855	33%
2010	18,360	6,387	6,220	11,973	35%
2011	18,762	6,947	6,232	11,815	37%
2012	18,679	6,642	6,902	12,037	36%
2013	19,703	7,234	6,232	12,469	37%
2014	20,186	7,137	6,239	13,049	35%
2015	20,944	7,370	6,239	13,574	35%
2016	21,306	7,107	6,323	14,199	33%
2017	22,188	7,794	6,323	14,394	35%
2018	21,812	7,762	7,758	14,050	36%
2019	21,242	7,812	7,756	13,430	37%
2020	21,925	7,812	7,756	14,113	36%
2021	22,130	7,812	7,756	14,318	35%
2022	22,335	9,812[2]	9,756[2]	12,523	44%
2023	22,540	9,812	9,756	12,728	44%
2024	22,745	10,412[3]	10,356[3]	12,333	46%
2025	22,950	10,412	10,356	12,538	45%
2026	23,155	10,412	10,356	12,743	45%
2027	23,360	11,912[4]	11,856[4]	11,448	51%

Year[1]	Cal Poly Total Enrollment	Cal Poly Students Living in Campus-Provided Housing	Permanent Beds as Designed	Cal Poly Students Living Off Campus	Percent of Cal Poly Students Living on Campus
2028	23,565	11,912	11,856	11,653	51%
2029	23,770	11,912	11,856	11,858	50%
2030	23,975	11,912	11,856	12,063	50%
2031	24,180	13,412[5]	13,356[5]	10,768	55%
2032	24,385	13,412	13,356	10,973	55%
2033	24,590	13,412	13,356	11,178	55%
2034	24,795	13,412	13,356	11,383	54%
Master Plan Projections 2035	25,000	15,012[6]	14,956[6]	9,988	60%

1 Information presented for 2000-2019 represents actual student beds on-campus based on the Cal Poly Registration Monitor, Office of Institutional Research. Information presented for 2020-2035 was projected as part of the 2035 Master Plan and based on an average annual increase of 205 students in total enrollment per year.

2 Projected additional of on-campus housing with up to 2,000 new student beds.

3 Projected additional of on-campus housing with up to 600 new student beds.

4 Projected additional of on-campus housing with up to 1,500 new student beds.

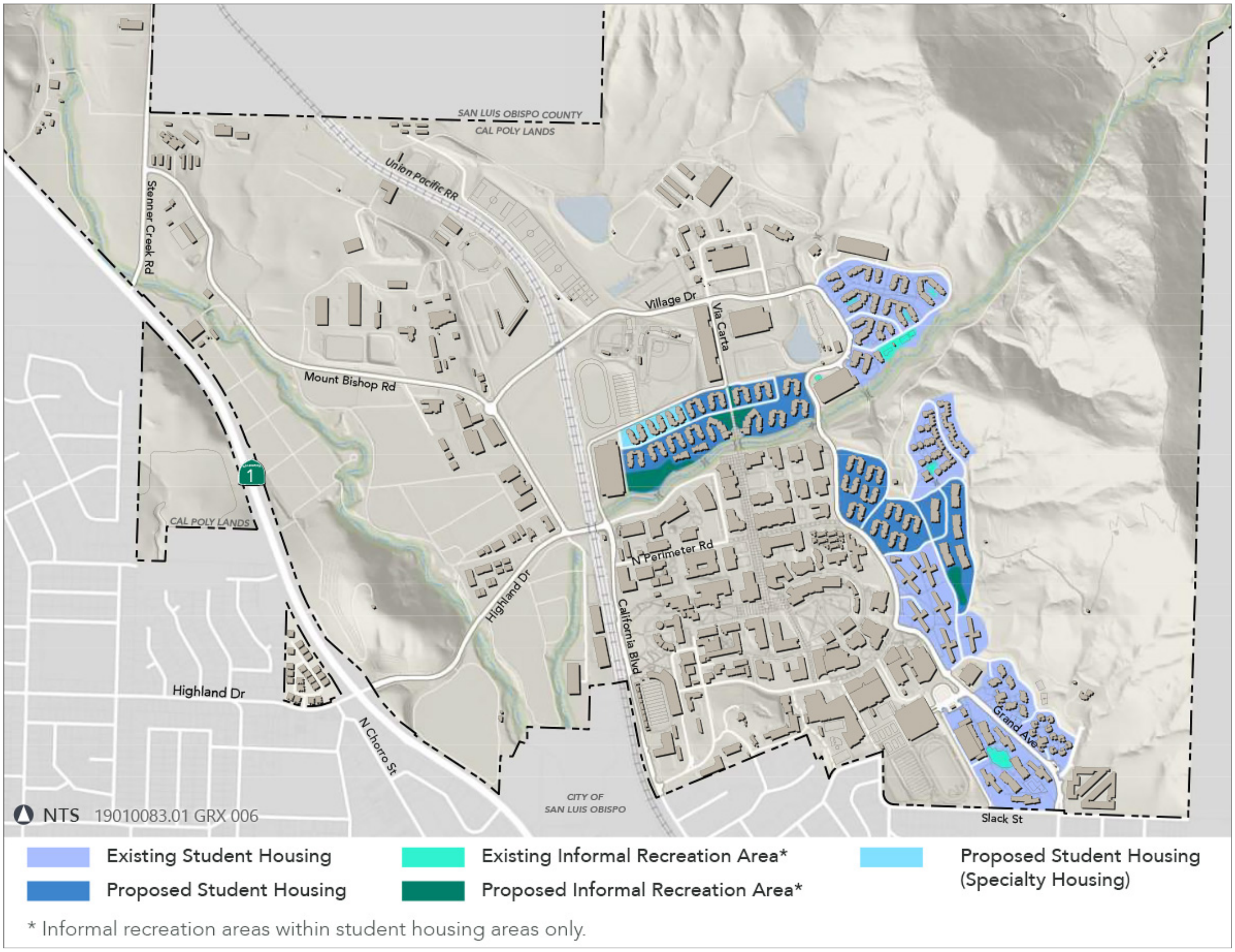
5 Projected additional of on-campus housing with up to 1,500 new student beds.

6 Projected additional of on-campus housing with up to 1,600 new student beds.

Source: Cal Poly 2004a, 2004b, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019a, 2019b.

As shown in Table 2-9, Cal Poly has gradually increased the level of on-campus housing available to students, resulting in approximately 20 percent more of Cal Poly's total enrollment living on campus than in 2000. Further, Table 2-9 demonstrates the year-to-year fluctuations that can occur in terms of student enrollment, which Cal Poly manages annually to ensure that on-campus housing is utilized to the extent feasible and that new beds are provided in response to anticipated and realized increases in enrollment. This includes the option of adding beds to existing student housing facilities, resulting in the temporary conversion of single bed rooms to double bed rooms, or double bed rooms to triple bed rooms where feasible. This provides the campus with added flexibility to accommodate enrollment increases while new student housing facilities are in the planning, financing, development and construction phases. As shown above, the projected year-over-year growth under the 2035 Master Plan would be outpaced by the planned development of on-campus housing such that, beginning in 2022, no less than 1,250 additional students are projected to live on campus with more than 4,000 additional students anticipated to be living on campus by 2035.

The new student housing would include both student dormitories and apartments, although initial development of student housing under the 2035 Master Plan would largely focus on dormitory-style housing. The dormitories, intended to primarily serve freshmen students, would be located predominantly within the East Campus near existing student housing, and the apartments in the North Campus would be located across Brizzolara Creek within easy walking and biking distance of the Academic Core (Figure 2-12). The new housing would include dining facilities, activity centers, and other amenities, making the campus more attractive to students at all hours, which would also reduce the need for student residents to have cars because more amenities and entertainment would be available on campus and within walking and biking distance. Apartment style housing for specialty groups would also be located in the North Campus.



Source: Image prepared and provided by Cal Poly in 2019

Figure 2-12 Student Housing

FACULTY/STAFF AND RETIREMENT HOUSING

The 2035 Master Plan designates two areas for public-private partnership (P3) residential developments within the main campus. These two projects, considered near-term projects (refer to Section 2.5.3), could be developed within the first 10 years of the 2035 Master Plan timeframe. These two near-term housing projects will undergo project specific CEQA compliance review when Cal Poly is ready to move forward with project planning and construction. This review would occur subsequent to the Trustees' review and consideration of the 2035 Master Plan and 2035 Master Plan EIR.

Faculty/Staff Housing

Under the 2035 Master Plan, a residential neighborhood intended primarily for workforce housing (with an emphasis on University faculty and staff, although non-University-related residents would be allowed pending availability) would be constructed within the East Campus, northeast of the intersection of Slack Street and Grand Avenue (see Figures 2-4 and 2-5, Building #176). The development would consist of 380 rental units, approximately 7,000 square feet of retail space, 12,000 square feet of amenity space (i.e., pool/spa, club, and deck), and 525 parking spaces. On-site structures would range in height from three to five stories. Based on the current conceptual design, 59 studio, 168 one-bedroom, 147 two-bedroom, and six three-bedroom units would be provided to support an on-site residential population of approximately 800 faculty/staff and their families.

The proposed development would locate the lower (three-story) buildings adjacent to Slack Street, with the larger buildings trending away from Slack Street and toward campus. The primary access point would be along Grand Avenue, approximately 300 feet north of the intersection with Slack Street, with secondary access from Slack Street, approximately 400 feet east of Grand Avenue.

University-Based Retirement Community

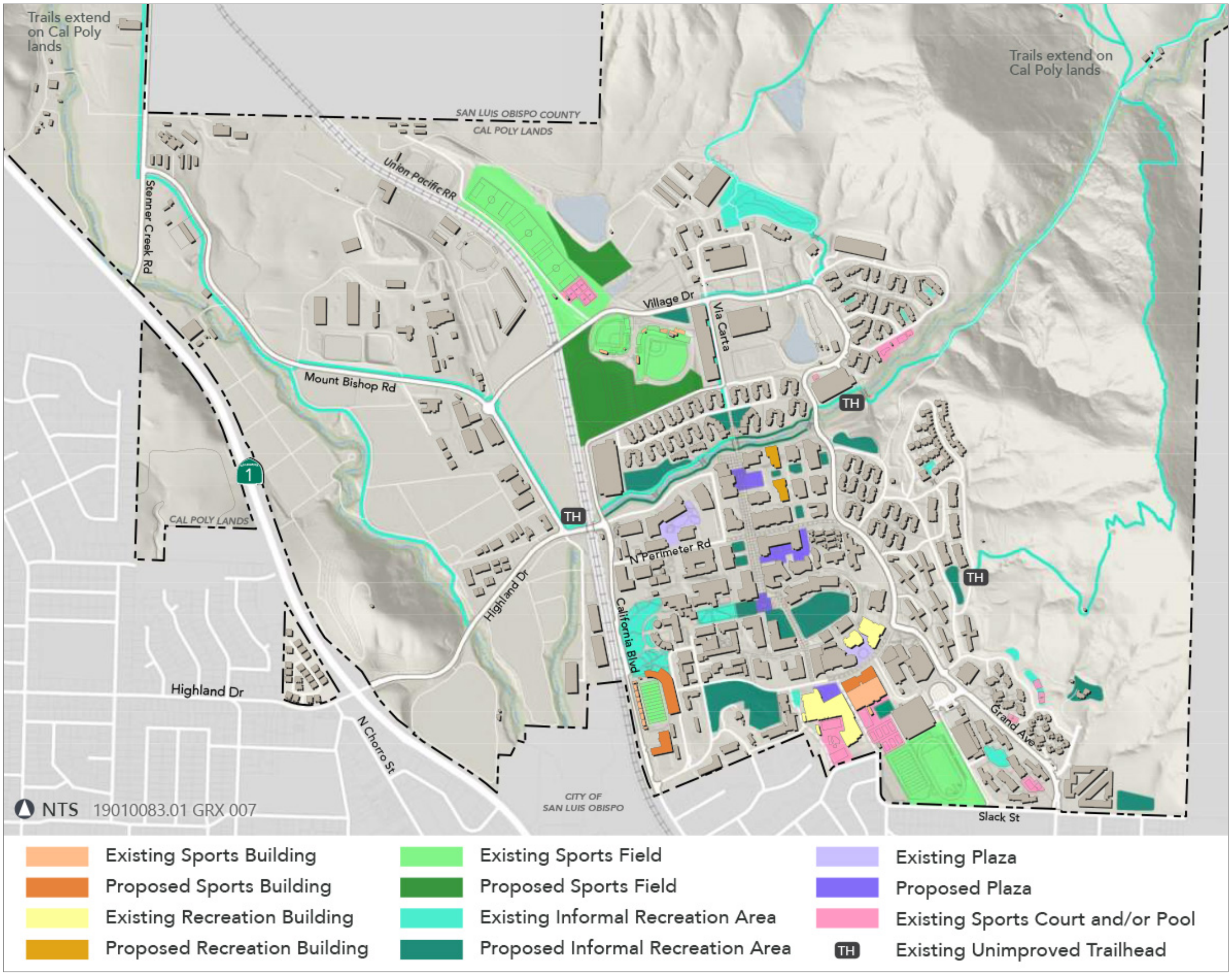
The Master Plan includes a University-Based Retirement Community of approximately 200 units. The development would consist of senior living units (approximately 120 independent living units, 50 assisted living units, and 30 memory care units). Using standard density numbers for independent living units of 1.2 persons per unit and one person per unit for assisted living and memory care units, the community would have a population of approximately 225 residents and approximately 60 employees. The development would provide priority occupancy to retired Cal Poly faculty, staff, and alumni. If faculty, staff, and alumni demand is low, remaining units would be made available to the broader retirement community among the general public. Associated amenities may include restaurants, health centers, entertainment centers, theaters, craft studios, community gardens, and libraries. The details of design and operation of this development (e.g., access, site alteration, architectural style) have not yet been determined.

This project would be located west of SR 1 on an approximately 25-acre parcel owned by Cal Poly. The University-Based Retirement Community project would be located on approximately 12-acres of this site, and is proposed to have a development density of 16 units per acre, or approximately 200 units. This site is designated as "Residential Neighborhood" in the 2035 Master Plan and "Residential Community" in the 2001 Master Plan. The remaining portion of the larger 25-acre property is leased to CAL FIRE for a fire response facility and will remain in that use. The northern half of the site and a north-south-trending linear portion of the site adjacent to SR 1 are designated as "Open Space."

2.6.4 Recreation and Athletic Facilities

The Master Plan provides for the renovation of existing recreation and athletic facilities and for construction of new facilities on campus (Figure 2-13). The following outlines proposed new construction and renovation of recreation and athletic facilities in the Master Plan:

- Spanos Stadium: This existing 12,000-seat facility within the Academic Core subarea would be renovated, and the field size would be enlarged. The number of seats would be increased by 4,000 for a total capacity of 16,000. This would allow for greater capacity at home football games, home soccer games, and graduation ceremonies. Spanos Stadium is expected to continue to host five home football games, 10 home soccer matches, the spring commencement, and the Cal Poly Rodeo each year.
- Creekside Village: This proposed facility, which would be located south of Brizzolara Creek in the Academic Core subarea, would include a recreation center for students, faculty, and staff. It would resemble the existing Recreation Center and could be a satellite facility. The Creekside Village area would also include several informal, passive, outdoor, and indoor recreation areas.
- Sports Fields: Active recreation sports fields are proposed in the North Campus subarea and include facilities such as a running track, soccer fields, softball fields, and volleyball courts.
- Informal Recreation: Passive/informal recreation areas, consisting of local and regional trail connectors, lounge areas, bocce ball courts and other smaller-scale activities, are proposed throughout the Master Plan Area (e.g., along Brizzolara Creek, Creekside Village, and in the area behind the Slack and Grand residential neighborhood). Additionally, Cal Poly has agreed in concept with the County of San Luis Obispo to make improvements to Mount Bishop Road from Highland Drive north to Stenner Creek Road and to dedicate right-of-way along this road for use as part of the Chorro Valley Trail.



Source: Image prepared and provided by Cal Poly in 2019

Figure 2-13 Athletic and Recreation Facilities

The Master Plan would increase recreational opportunities on campus as shown in Table 2-10. With respect to solely outdoor recreation opportunities, the 2035 Master Plan would provide an additional 18.6 acres of active outdoor recreation (e.g., sports fields and courts), up from the 63.9 acres currently provided on-campus, for a total of 82.5 acres. The 2035 Master Plan would also provide approximately an additional 2,810 linear feet of trails within the Master Plan Area that would connect to the existing 70,040 linear feet of trails that currently exist within the Master Plan Area and adjacent ranches.

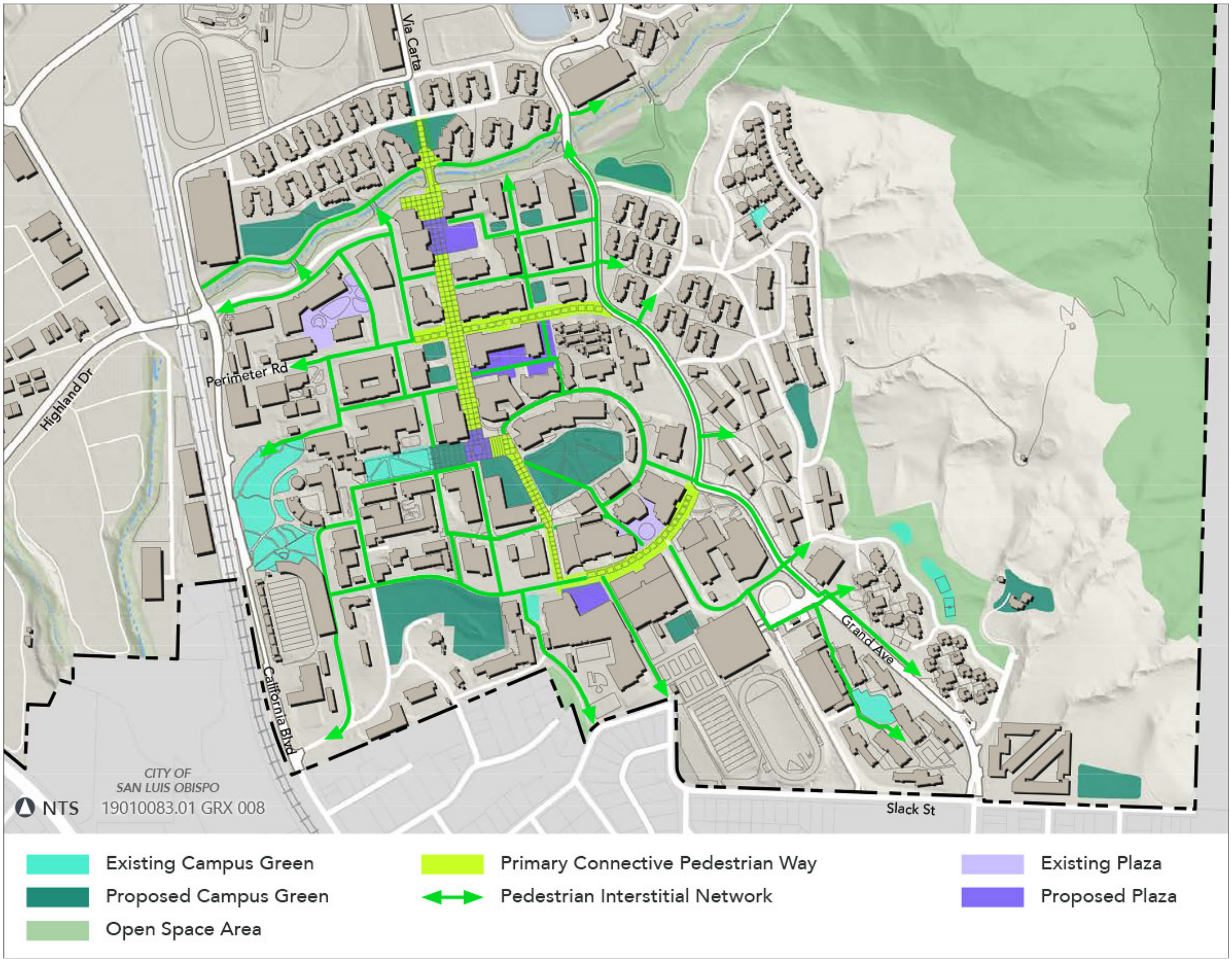
Table 2-10 Proposed On-Campus Recreational Opportunities

Recreational Areas	Approximate Acres	Approximate Linear Feet
Outdoor Areas		
Sports Fields	15.9	
Informal Recreation: Areas	16.5	
Informal Recreation: Trails		2,810
Subtotal	*32.4*	*2,810*
Facilities		
Sport Courts and Pools	-	
Plazas	3.2	
Subtotal	*3.2*	
Recreation Total	35.6	2,810
Additional Recreation		
Athletic Buildings	2.1	
Recreation Buildings	0.7	
Additional Recreation Total	2.8	

2.6.5 Open Space and Landscaping

The Master Plan would further enhance open space, including landscaped areas, throughout the Master Plan Area. The existing major and iconic open space areas within the main campus would be improved Figure 2-14). For example, Dexter Lawn would be expanded to the east, and Centennial Meadow by the Warren J. Baker Center for Science and Mathematics would be expanded to create a more meadow like open space with Central Coast landscaping and numerous seating areas. Landscaping would utilize an attractive plant palette with drought-tolerant species. With these components, the 2035 Master Plan emphasizes the integrative role of open space by creating connections between landscape and structures and a comfortable human-scale setting for educational activities and campus life. Additional open space components included in the 2035 Master Plan are discussed in detail below:

- **Dexter Lawn expansion and heart of campus:** The formal, traditional collegiate green expanse of Dexter Lawn would be extended to the east within the Academic Core subarea. It is intended to be a cohesive extension of the existing lawn, culminating at the central intersection at the realigned intersection of North Poly View Drive and Via Carta. The character and design of the heart of campus would accommodate a variety of passive and active functions and would be the subject of future study.
- **Centennial Meadow:** This open space located within the Academic Core subarea would be informal with numerous and varied seating areas to attract use of the area. Shade and landscaping using native and low-water-use species would be encouraged. This space would require clearly defined pedestrian access ways to connect the UU activity area to the Academic Core. Smaller transitional structures and other connective articulation between the UU and Centennial Meadow would encourage use and provide exterior expansion and integration of the UU complex.



Source: Image prepared and provided by Cal Poly in 2019

Figure 2-14 Green Space and Landscape Framework

- Smaller open spaces: Each new building project within the main campus would include adjacent open spaces that provide quality seating and study areas. These spaces would relate to the associated building and would be inviting to those walking or biking past. Spaces would be varied in scale, character, level of privacy, and solar orientation. Where possible, power and technology would be integrated into outdoor spaces.
- View preservation: Preservation of views to the Cal Poly outer lands and surrounding hills is an important consideration from open spaces, circulation ways, and building windows. Specific alignment and orientation of roads, major pedestrian pathways, and building siting and massing would consider view framing and view preservation.

2.6.6 Circulation Infrastructure Improvements

The 2035 Master Plan calls for circulation infrastructure and related policies and programs that together are intended to provide for the safe and efficient movement of pedestrians, bicycles, and vehicles around campus, while also encouraging a more complete shift to an active transportation approach—one that emphasizes walking, biking, and public transportation over personal vehicles.

The 2035 Master Plan continues Cal Poly's efforts to move away from auto dependency to a more pedestrian-oriented and multimodal environment. The overarching circulation principle is to further develop and implement this modal shift. The City of San Luis Obispo (City) and other regional transportation agencies similarly support multimodal and active transportation approaches. To be most effective, the on- and off-campus circulation networks should be closely coordinated.

The 2035 Master Plan includes the following guiding principles related to the campus' circulation network:

- Shift modal hierarchy to (1) walking, (2) biking, (3) transit, and (4) vehicles.
- Reduce vehicle trips and parking demand.
- Create a pedestrian core.
- Provide expanded and improved bicycle circulation system, including bicycle parking closer to major campus facilities and activity centers.
- Consider a campus shuttle.
- Provide adequate access for maintenance, delivery, emergency, and special needs.
- Ensure safety of all transportation modes.

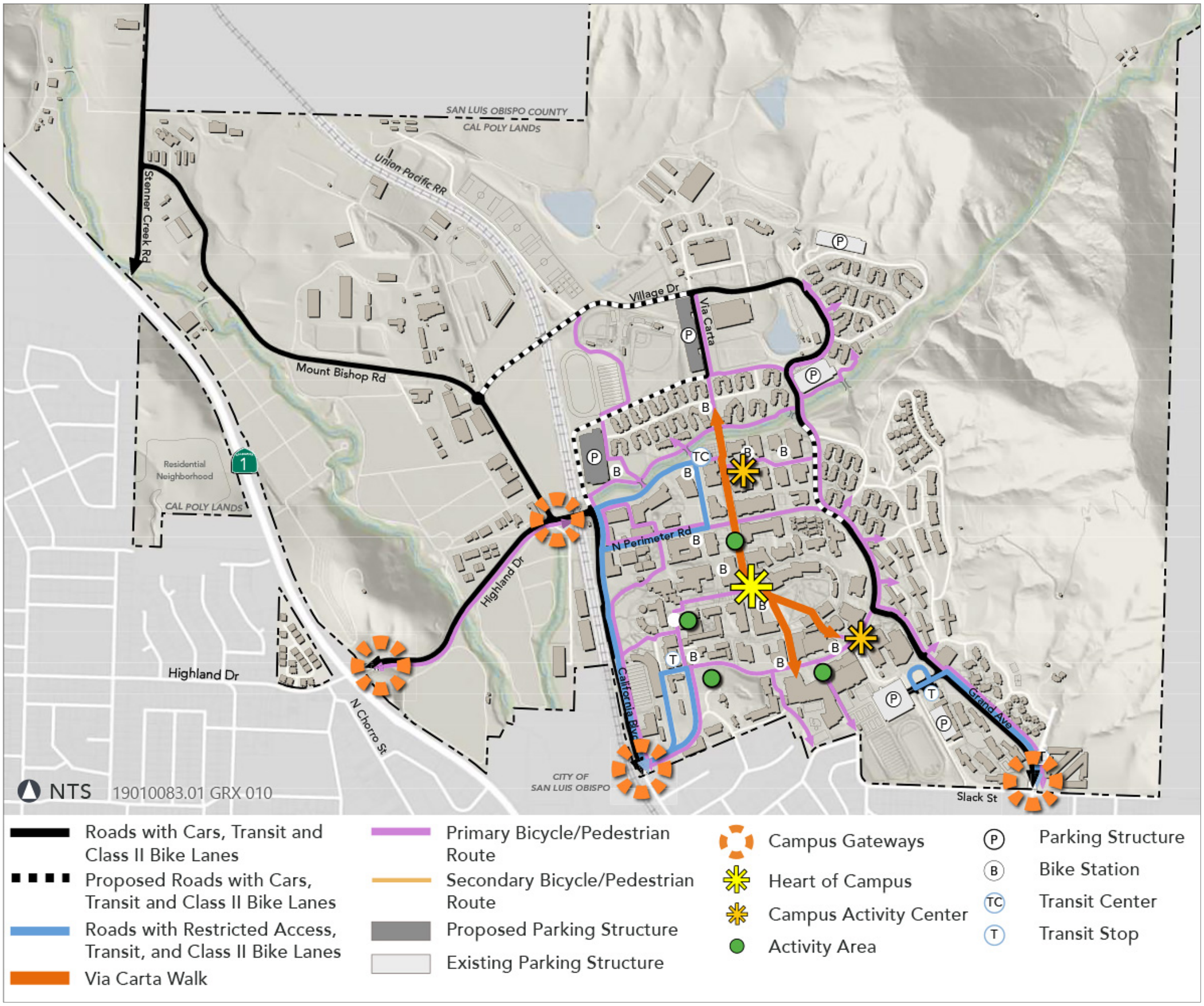
Roadways: The 2035 Master Plan includes the development of two new roads that would support the planned campus uses north of Brizzolara Creek. The new northernmost road would connect Village Drive to Mount Bishop Road and utilize, in part, Sports Complex Road; this includes grade-separated UPRR crossings for vehicles and for pedestrians. The second new road would extend from the California Boulevard/Highland Drive intersection north of Brizzolara Creek and east to Via Carta, which includes a bridge across Brizzolara Creek and a new grade-separated pedestrian crossing of the UPRR tracks, north of California Boulevard, to access new residential uses in this vicinity. These new routes would accommodate vehicles, pedestrians, and bicycles (Figures 2-15 and 2-16).

The 2035 Master Plan also includes the redesign of North Perimeter Road, University Drive, South Perimeter Road, and the eastern end of Highland Drive to restrict through traffic, to create a stronger and safer pedestrian presence, and to encourage bicycle use (Figures 2-15 and 2-16). North Perimeter Road, in particular, currently divides the Academic Core and creates significant intermodal conflicts. Access for emergency, maintenance, and disabled access vehicles would continue to be provided with these improvements.

Major new facilities and improvements, including the new roads, vehicular and pedestrian grade-separated railroad crossings, and parking structures in the North Campus and West Campus subareas, would be constructed in conjunction with the major new developments they would serve.

Most existing roads would remain in place for many years until new facilities become available. However, design changes and new management approaches to vehicular access that would reduce modal conflicts and encourage active transportation could be implemented sooner. For example, new bicycle paths and the enhancement of pedestrian amenities, could be implemented incrementally as funding allows.

Pedestrian and Bicycle Paths*:* The 2035 Master Plan provides for an enhanced pedestrian and bicycle circulation system with new and improved pedestrian and bicycle paths throughout the campus. Additional parking for bicycles located near major activity centers would also be installed on campus. The planned system would increase safety by creating a pedestrian-only Academic Core area and eliminating conflicts between pedestrians, bicycles, and cars (Figures 2-15 and 2-16).

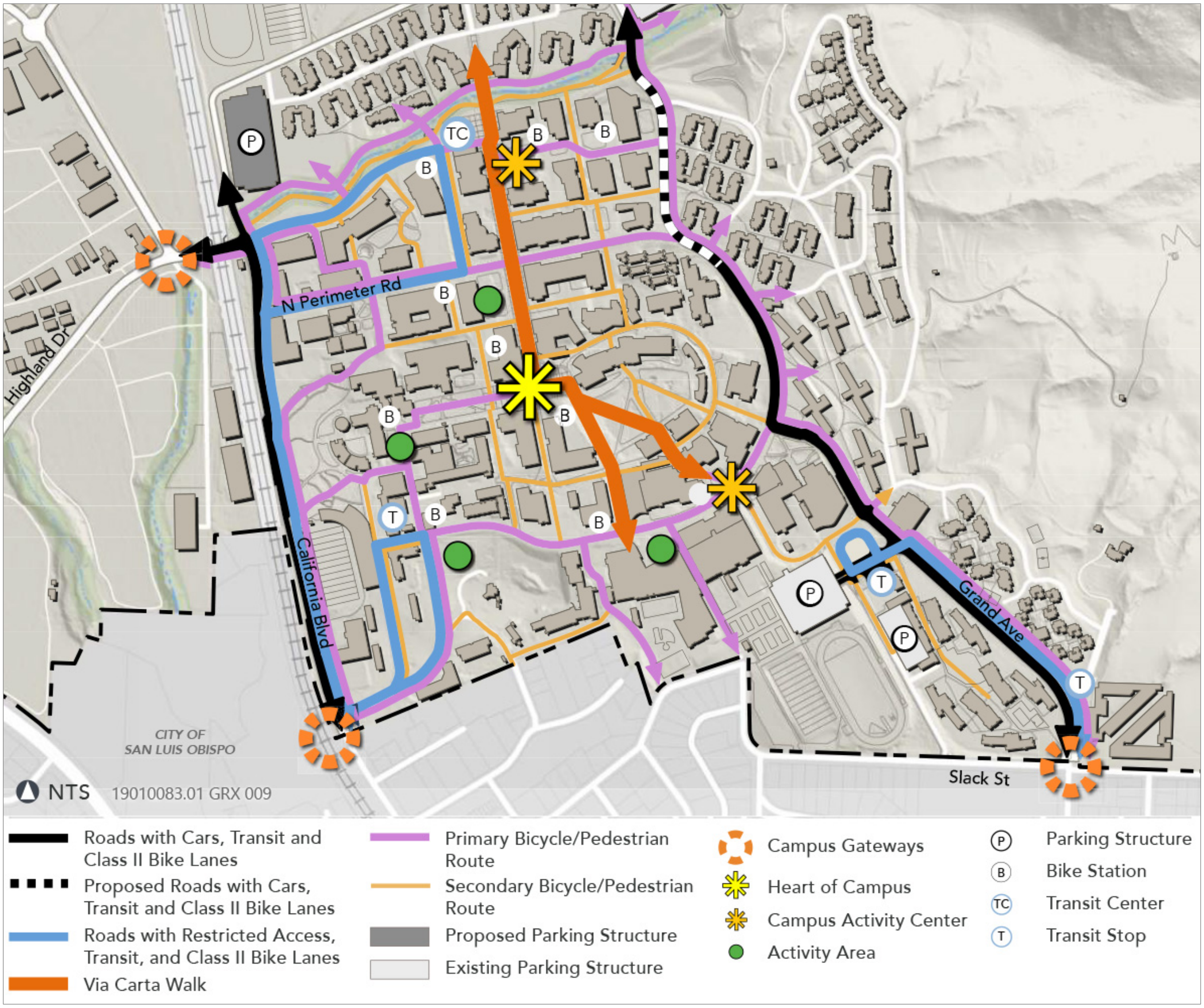


Source: Image prepared and provided by Cal Poly in 2019

Figure 2-15 Main Campus Circulation

Transit and Transit Center: The 2035 Master Plan calls for a multimodal transit center in the vicinity of the proposed Creekside Village near the terminus of Highland Drive at University Road that opens onto Creekside Village. The center would be the hub for multimodal transit for Cal Poly. The SLO Transit bus route would stop at the Transit Center. It would also accommodate shuttles, ride-hailing, and personal vehicle drop-off. The Transit Center would provide storage for bicycles and a bicycle service and repair facility. Covered and interior waiting areas would allow transit users to wait for their transportation comfortably. Adjacency to Creekside Village would encourage use of transit options since food, services, study areas, and entertainment would also be available in the adjacent development.

A new transit stop is envisioned near the southeast corner of campus, at the Performing Arts Center, to serve the new residential neighborhood and student housing. An additional stop is planned near the southwest corner of campus. While the 2035 Master Plan indicates that proposed transit routes would bring riders to strategic locations at the edge of the campus, thereby eventually eliminating the need for buses to regularly enter the campus core, any changes to the current routes, as well as the precise locations and designs of the transit center and future stops, would be determined in cooperation with the City and the San Luis Obispo Regional Transit Authority.



Source: Image prepared and provided by Cal Poly in 2019

Figure 2-16 Academic Core Circulation

Parking

Currently, the campus provides 8,019 parking spaces. The 2035 Master Plan proposes to increase the number of spaces to 8,193 (a net increase of 174). A new parking structure would be developed in the North Campus area, adjacent to the extension of California Boulevard and Brizzolara Creek. This location would serve to intercept most car traffic outside the Academic Core. A new structure is also envisioned on Via Carta to serve the sports facilities, Equestrian Center, and the adjacent Agricultural Pavilion. This structure would be located proximate to the new student residential areas so that some of this parking could be incorporated into those projects. The new parking structures are intended to replace parking that was displaced by Master Plan projects sited in the areas currently used for large surface parking lots. The amount and location of parking for student residential projects (which would primarily serve upper division students residing on campus) would be evaluated as part of the marketing, feasibility and master plan consistency analyses associated with those projects and incorporated into their programming, design, and financing.

Prior to development of the proposed structured parking, interim surface parking lots on-campus are anticipated to be constructed to avoid a temporary net loss of on-campus parking that would be displaced by proposed development. For example, an interim surface parking lot would be constructed as the first development phase at the site of the planned relocation of the Facilities Operations Complex (see Figures 2-4 and 2-5, Building #151) during construction of proposed new student housing (see Figures 2-4 and 2-5, Buildings #177, #178, and #179) on the present sites of surface parking lots H-12 and H-16 (totaling 934 spaces). As with the proposed new parking structures, this site is well outside the Academic Core, while still within convenient walking distance.

It is the University's intent to discourage residents from bringing cars to campus, so that the overall demand for parking would be reduced. Currently, first-year campus residents are not allowed to purchase parking permits and students found in violation are cited. It is the University's intention, during the term of the Master Plan, to prohibit second-year campus residents from purchasing parking permits after adequate housing has been built to accommodate all second-year students on campus. In addition, the storage of cars for on-campus residents does not necessarily require locations on the most valuable and limited land nearest to the Academic Core.

2.6.7 Utilities and Infrastructure

Most of Cal Poly's developed land is located within the main campus in the San Luis Obispo Creek watershed. It includes about 150 major buildings with more than 6 million gsf of space. Planning for the infrastructure required to support the existing and proposed campus facilities requires critical systems analysis, strategic operation, and continuous maintenance. The 2035 Master Plan emphasizes sustainability as a major goal in the design and operation of infrastructure to serve the expanded campus. Cal Poly is currently preparing a Utility Master Plan that will identify and detail specific modifications to the campus' existing infrastructure in order to ensure reliable and sustainable utility service throughout campus. The 2035 Master Plan includes consideration of the infrastructure projects that are further detailed in the Utility Master Plan.

As outlined in the 2035 Master Plan and as will be further detailed in the Utility Master Plan, utility infrastructure improvements would provide modernization and enhancements to the existing campus utility systems to serve new facilities, including drainage, water, sewer and a new water reclamation facility (WRF) proposed to be located in the West Campus area, adjacent to the compost facility. (See Figures 2-4 and 2-5, Building #128). The 2035 Master Plan would require new infrastructure to deliver domestic water, collect wastewater, and manage storm drainage, particularly to service new development in the North Campus. This EIR generally assumes that up to 1 linear mile of new utility line construction/replacement would occur as part of 2035 Master Plan implementation. While ensuring quality operational performance of these systems, the utility improvements would also conserve water, conserve energy, reduce carbon emissions, and reduce utility costs. A discussion of proposed utility improvements is summarized below, and further information is provided in Section 3.14, "Utilities and Service Systems," regarding the projected demands and infrastructure associated with implementation of the 2035 Master Plan.

WATER SUPPLY

Cal Poly's water for on-campus uses is derived from two primary sources: Whale Rock Reservoir and local groundwater. Water from Whale Rock Reservoir is delivered to campus by the City municipal water supply infrastructure; local groundwater is provided via seven agricultural wells owned and operated by the University. Groundwater pumped from agricultural wells located on University land is limited by relatively shallow, low-capacity aquifers, especially during drought years. These groundwater wells generate on average 120 acre feet per year of water used for agricultural and other non-potable uses. The 2035 Master Plan does not propose any increase in groundwater draws.

Cal Poly owns surface water rights, by State Water Resources Control Board permit, to Old Creek, which supplies Whale Rock Reservoir near Cayucos. Along with the City and the California Men's Colony, Cal Poly was one of the original developers of the Whale Rock Reservoir and, therefore, retains rights to approximately 34 percent of the reservoir capacity which equates to 959 acre-feet per year, based upon the recently updated "safe annual yield" determination for the reservoir. Cal Poly pays fees to the City for delivery and treatment of water from Whale Rock Reservoir. The City operates Whale Rock Reservoir and determines the most economical way to deliver both treated water and raw (untreated) water. Water from Whale Rock Reservoir is generally used for domestic, potable purposes. However, Cal Poly currently utilizes a portion of its Whale Rock water allocation for non-potable agricultural irrigation. With development under the Master Plan, Cal Poly intends to utilize its full 959-acre feet per year allocation for treated, potable water uses. Agricultural water needs would then be met through the construction of the WRF (described below) which would produce approximately 380 AFY of recycled water for agricultural and other nonpotable uses. In addition, the campus is undertaking and will expand under the 2035 Master Plan various water conservation/recycling measures that will reduce potable water demand and allow for sustainable reuse of wastewater for nonpotable/agricultural use.

WASTEWATER

The Cal Poly sanitary sewer system was built as part of the original campus infrastructure and has been in service for over 100 years. Partly because of the rolling terrain of the campus and surrounding community, there are numerous sewer lift stations, many of which are located in the outlying agricultural areas. Domestic wastewater from the campus is discharged to a single metered point of connection to the City's collection main and is ultimately treated at the City's Water Resource Recovery Facility (WRRF), located at the south end of the city. Ongoing conservation efforts, such as installation of ultra-low-flow plumbing fixtures, have resulted in significant reductions in wastewater volumes despite campus growth. Refer to Section 3.14, "Utilities and Service Systems," for further clarification.

As part of the 2035 Master Plan, a WRF is proposed to be constructed in the northern portion of campus, south of the Student Experimental Farm and west of the compost operation (see Figures 2-4 and 2-5, Building #128). This facility would treat campus-generated effluent to levels required by CCR Title 22 for reuse as landscape and agricultural irrigation, effectively offsetting overall water demand and providing a source of agricultural and non-potable water. The WRF would be incrementally phased to meet supply needs, ultimately producing approximately 380 AFY of water. The WRF would occupy a 0.5-acre area and include the treatment plant, a classroom and lab, and an operations and maintenance room. The WRF would also include expansion of one of the existing campus reservoirs to increase system capacity by 100 acre-feet and two small "tailwater" reservoirs to help manage WRF operation and peak storm flows. The WRF would also include construction of pump stations to pump raw waste and recycled water. The WRF would produce sludge that would either be transferred to a local facility/landfill or reused (e.g., in land application). Refer to Section 2.6.10, below, for further information regarding the WRF.

STORM DRAINAGE

The region's rainy season occurs in the winter months, from October through March. Storm drainage can be a challenge, particularly during heavy rains. Most of the Academic Core, West Campus, and North Campus subareas drain to Brizzolara Creek, which bisects the campus and ultimately drains to Stenner Creek. The University, in accordance with the Clean Water Act and State Water Resources Control Board and Regional Water Quality Control Board requirements, has developed an aggressive Storm Water Management Program. This program includes a contract to clean and vacuum all catch basins, drainage inlets, and area drains annually every October. Further and in compliance with applicable regulations, all new development under the 2035 Master Plan would be designed and constructed such that runoff volume velocity, and water quality would not exceed existing levels and thus existing stormwater facilities would be adversely affected. Refer to Section 3.9, "Hydrology and Water Quality," for further information.

SOLID WASTE

Cal Poly contracts with San Luis Garbage for collection and disposal of solid waste, recycling, and composting of food waste. Currently, the majority of solid waste, requiring disposal and associated with Cal Poly, is handled at the Cold Canyon Landfill. As part of the ongoing effort to make Cal Poly a more sustainable campus, a Zero Waste Pilot Program is being implemented at numerous locations around campus. Cal Poly operates an integrated waste management program that includes source reduction; recycling; composting of food waste, green waste, and manure; resale of scrap metal and surplus equipment; and zero-waste event catering. Recycling containers are provided to faculty, staff, and students by Facilities Management and Development, and collection is performed by custodial and landscape services and the campus recycling coordinator. Through continued and expanded implementation of Cal Poly's Zero Waste Policy, the need for solid waste disposal capacity would continue to decrease under the Master Plan. Refer to Section 3.14, "Utilities and Service Systems," for further information.

ENERGY

The 2035 Master Plan anticipates future energy demand would continue to be met through the same means as present (i.e., electricity and natural gas), with increasing emphasis on using renewable and other carbon-free energy sources (while reducing dependence on fossil fuels) and on designing and retrofitting existing facilities for more energy-efficient operations. In addition to purchasing electrical energy from Pacific Gas and Electric Company, Cal Poly anticipates implementing projects such as solar photovoltaic systems on the top of parking garages and other campus facilities. The existing Mustang substation (refer Building 75 on Figure 2-4) may also be expanded or a smaller, remote substation may be constructed within the Academic Core or North Campus subarea of the Master Plan Area. Refer to Sections 3.6, "Energy" and 3.14, "Utilities and Service Systems" for further clarification.

2.6.8 Design Character

The campus is located in a spectacularly beautiful natural setting, with important scenic and aesthetic resources, and with topography and views that include the Nine Sisters volcanic peaks, rolling hills, and groves of mature trees, unique rock formations and vegetation. Consideration of these visual and scenic resources is critical when designing, siting, and developing new facilities, land uses, and landscaping. The 2035 Master Plan has considered the topography of the campus in land use, building siting, and open space designations. Incorporating and emphasizing topographic design elements in planning would result in outdoor spaces of varying sizes and character; would provide on-grade access to various floors of buildings; and would provide additional access opportunities to, within, and from the Academic Core. As noted in Chapter 2 of the 2035 Master Plan, future development under the 2035 Master Plan would be subject to the following design considerations/requirements:

- Building Siting and Orientation: Building siting and design would consider views, circulation and building entrance orientation, adjacent and nearby open space, any planned expansion, topography, existing site features, and existing and planned adjacent buildings and land uses.
- Scale and Massing: Buildings in the Academic Core would be at least three, and as many as six, stories to accommodate required future growth in this part of the campus and to allow for significant open space. Topography would help determine the appropriate height for new buildings. Stepped-back facades would modulate the perceived scale and contribute to view corridors and framed vistas.
- Architectural Style and Materials: The new buildings in the Academic Core would be of high-quality and contemporary design. The Warren J. Baker Center for Science and Math is a successful example of scale and materials that are compatible with the existing campus while providing a higher level of architectural design quality than some existing buildings.
- View Preservation: Maintaining distance views across the main campus and surrounding hills from open spaces, circulation ways, and building windows is an important consideration. Specific alignment and orientation of roads, major pedestrian pathways, and building siting and massing would consider view framing and view preservation.

2.6.9 Smart Growth and Sustainability

The 2035 Master Plan incorporates "smart growth" measures as part of its implementation program (refer to Table 4.1 of the 2035 Master Plan), including the compact development form around the Academic Core and mixed uses that reduce the reliance on vehicles and improve the efficiency of infrastructure and energy use. Importantly, the 2035 Master Plan calls for increased housing on campus that would reduce commuting and its associated environmental impacts and emphasizes a pronounced shift away from cars toward alternative modes of transportation, including walking, biking, and public transit. In addition, the 2035 Master Plan emphasizes use of renewable energy sources, including solar and wind energy, water reclamation, and waste composting, which is especially important for Cal Poly's hands-on, Learn by Doing programs.

Cal Poly is committed to leadership in sustainability through its facilities and operations, and it views sustainability as an essential element of its academic mission. Therefore, the 2035 Master Plan strives to protect important environmental resources by keeping most prime agricultural land in production, creating protective buffers around creeks, and preserving open space and scenic resources that are important to Cal Poly's visual character. It also requires that new facilities and campus infrastructure be environmentally sound and energy efficient and that they showcase advancements in sustainable technology. This includes designing new facilities to meet Leadership in Energy and Environmental Design standards; continually monitoring, maintaining, and updating energy systems to ensure that Cal Poly operates in the most efficient manner possible; and upgrading or replacing outdated technology and systems, as needed. Refer to Sections 3.6, "Energy;" 3.8, "GHG Emissions;" 3.13, "Transportation;" and 3.14, "Utilities and Service Systems" for further information regarding campus sustainability efforts.

The University has undertaken many sustainability-oriented endeavors, catalogued every 2 years since 2006 in the Biennial Progress Report for Sustainability for Cal Poly Facilities Management and Development. Indicators used to measure improvements in sustainability include:

- energy use – British thermal units per square foot of building and percentage of electricity from renewable resources;
- transportation – percentage of students living on campus, number of bike rack spaces, parking permits sold per capita, public transit ridership, fossil fuel usage avoided by EV charging, and percentage of fleet vehicles using alternative fuel;
- water resources - total water by source, total water by use, fecal coliform in Stenner Creek, nitrates in groundwater monitoring wells, and pollutants in wastewater;
- land use and development – percentage of campus square footage in energy efficient buildings;
- greenhouse gases (GHG) – percentage below 1990 baseline and percentage of electricity from non-GHG emitting sources;
- procurement – percentage of recycled content paper;
- solid waste and recycling – percentage of solid waste diverted from landfills and per capita landfill disposal; and
- curriculum – number of sustainability courses, majors, and minors.

These indicators are monitored by the University to ensure that Cal Poly meets or exceeds the CSU Sustainability Policy goals to:

- reduce GHG emissions to 1990 levels by 2020 and by 80 percent below 1990 levels by 2040;
- pursue energy procurement and production to reduce energy capacity requirements from fossil fuels, and promote energy independence using available economically feasible technology for on-site and/or renewable generation;
- source energy to 33 percent renewables by 2020;
- reduce per capita waste disposed at landfills by 80 percent by 2020 and move to zero waste;

- reduce water use by 20 percent by 2020;
- purchase at least 20 percent of food from sustainable sources (local, organic, free trade); and
- integrate sustainability across the curriculum.

2.6.10 Proposed Facilities Development Program

As noted in Chapter 3, "Implementation," of the 2035 Master Plan, the phased implementation of its development program would require consideration and forethought of the following factors:

- Where an activity must be relocated, new sites should be identified, and replacement facilities developed before the move. Thus, funding for the replacement project would need to be secured prior to initiating construction of the new facility.
- Because the source, magnitude, and program requirements of funding for projects are difficult to predict, project funds may come from state or CSU funding (but to a lesser extent than previous decades), student-supported fees, public private partnerships, donors and sponsors.
- Construction of a new building may require infrastructure upgrades or changes that can increase the project cost considerably over the cost of the building itself.
- When a new project is completed and space is vacated, the existing space can be either reassigned or demolished and the site made available for other uses at that time or in the future. If the space is retained for a short or longer term, it would require some level of secondary improvements to properly house an incoming University program. This most often results in a separate project requiring its own funding and is seldom part of the new construction budget.

As a result of these challenges, multiple steps may be required before a new building can proceed. This would require detailed planning and coordination that may change and require modifications as factors change over time, such as a funding opportunity appearing unexpectedly or being postponed. Other phasing considerations would include the availability of surge space, the need to provide support facilities for the increased number of residents of student housing, including dining options, active recreation, indoor and outdoor passive recreation, study space, and retail services. A student housing project may require infrastructure upgrades, such as road realignment, utility extensions, parking relocation, and pedestrian pathways. It may also require study space, dining, and recreation facilities as mentioned above. These result in quality-of-life phasing needs in addition to physical infrastructure and program replacement phasing requirements.

Buildings proposed under the 2035 Master Plan are listed in Table 2-11 and shown in Figures 2-4 and 2-5 above.

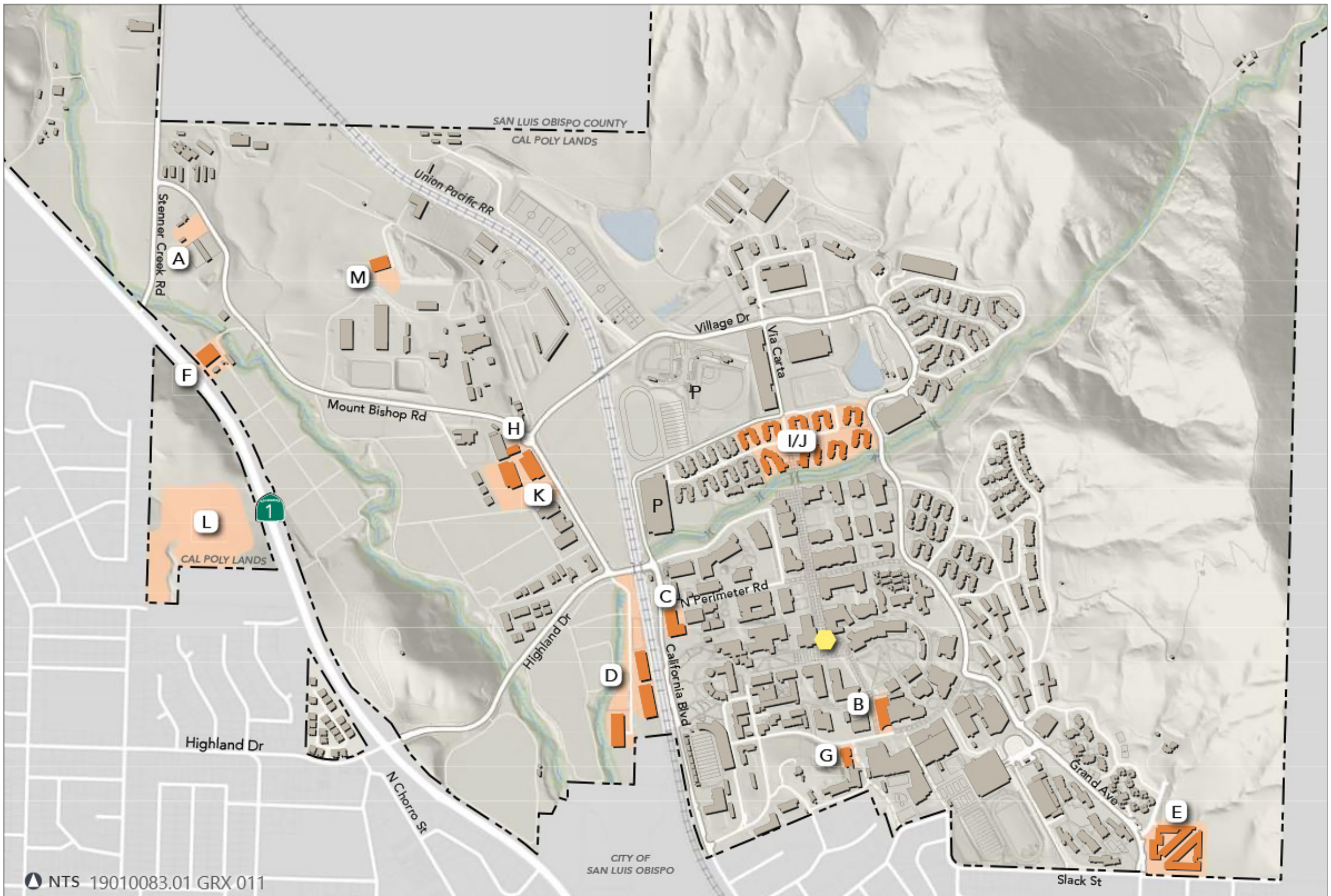
Table 2-11 Proposed Buildings and Facilities on Campus

Building No.	Building Name	Building No.	Building Name
19A	Dining Commons Addition	143D	Northeast Academic Complex
27A	Health and Wellbeing Center Addition	143E	Northeast Academic Complex
35A	Academic Center Library Addition	143F	Northeast Academic Complex
42B	Robert A. Mott Athletics Center Expansion	143G	Northeast Academic Complex
42Q	Practice Football Field	144A	Math and Science
42W	Track Field	144B	Math and Science
45A	Davidson Music Center Renovation/Addition	144C	Math and Science
49	Farm Shop	151	Facilities Operations Complex/Interim Replacement Surface Parking
61	Alex G. Spanos Stadium Expansion	152	University-Based Retirement Community
62	Spanos Athletic Facility	159	Environmental Horticulture Science

Building No.	Building Name	Building No.	Building Name
77A	Rodeo Support Facilities	173	Student Housing
82D	IT Services Consolidation	174	Student Housing
84	Technology Park Expansion	175	Student Housing
128	Water Reclamation Facility	176	Faculty and Staff Workforce Housing
132	Northwest Campus Parking Structure	177	Student Housing
133F	Orfalea Family and ASI Children's Center Expansion	178	Student Housing
136B	Irrigation and Training Research Center Practice Fields	179	Student Housing
138	Via Carta Parking Structure	182A	Student Support Services
142A	Creekside Village	182B	Student Support Services
142B	Creekside Village	184A	South Via Carta Academic Complex
142C	Creekside Village	184B	South Via Carta Academic Complex
142D	Transit Center	184C	South Via Carta Academic Complex
143A	Northeast Academic Complex	191	Engineering Projects Building
143B	Northeast Academic Complex	193	Northwest Polytechnic Center
143C	Northeast Academic Complex		

POTENTIAL NEAR-TERM PROJECTS

The 2035 Master Plan provides for implementation of planned facilities and improvements, phased through the 2035 planning horizon. The facilities envisioned to be developed earliest within the 2035 Master Plan timeframe (i.e., approximately within the first 10 years) are illustrated in Figure 2-17, with additional details provided for each in Table 2-12.



Potential Near-Term Project: **Building**

Potential Near-Term Project: **Area**

Academic Facility (Multidisciplinary - specific site in Academic Core to be determined)

Note: All site locations and building outlines are approximate.

A - Beef Cattle Evaluation Center (BCEC) Expansion
B - Dining Commons Addition
C - Engineering Projects Building
D - Facilities Operations Complex/ Interim Parking
E - Faculty and Staff Workforce Housing
F - Farm Shop
G - Health and Wellbeing Center Addition
H - IT Services Consolidation
I - Student Housing for Freshmen Students
J - Student Housing for Upper Division Students
K - Technology Park Expansion
L - University-Based Retirement Community
M - Water Reclamation Facility

Source: Image prepared and provided by Cal Poly in 2019

Figure 2-17 Potential Near-Term Projects

Table 2-12 Potential Near-Term Projects

Near-Term Projects	Size	Campus Location*
Classroom and Offices Building This facility would consist of a 72,000-gsf facility with instructional, student service, administrative space, faculty offices and other academic space across disciplines for the University's six colleges. It could be one building or part of other mixed-use facilities, depending upon space needs, and could be developed in phases. See Figures 2-4 and 2-5, Building #195A.	72,000 gsf	Academic Core
Engineering Projects Building This project would construct a new 71,000-gsf facility at the site of the existing C7 parking lot to provide space for the design and fabrication of ongoing engineering projects (see Figures 2-4 and 2-5, Building #191). Incorporated into this project would be the replacement of the existing aeronautical hangers. This building is integral to the Learn by Doing pedagogy, allowing students to take their designs to fabrication and complete the full engineering cycle to fully realize their ideas.	71,000 gsf	Academic Core
Health and Wellbeing Center This project would construct a new 65,000-gsf replacement health center facility and renovate or demolish the existing Health Center (see Figures 2-4 and 2-5, Building #27). The existing building was constructed in 1960, with an addition in 1974, to service 10,000 students. The proposed building would adequately meet the needs of the current student body and future students.	65,000 gsf	Academic Core
Building 19 – Student Center Addition This phased project would add approximately 44,000 gsf to the current Building 19 Dining Commons. It would include office, meeting, study, and other student support spaces. It would allow the current loading dock to remain in place and operational.	44,000 gsf	Academic Core
Faculty and Staff Workforce Housing (also referred to as Slack and Grand) This project would construct a residential neighborhood intended primarily for workforce housing such as University faculty and staff. The project would consist of 380 residential units, approximately 7,000 square feet of retail space, approximately 12,000 square feet of amenity space (i.e., pool/spa, club, and deck), and approximately 525 parking spaces. The project would be composed of a mix of three-, four-, and five-story buildings. The units would consist of approximately 59 studio, 168 one-bedroom, 147 two-bedroom, and six three-bedroom units. The project would be located in the East Campus, on the lower elevation of the 22-acre site northeast of the intersection of Slack Street and Grand Avenue (see Figures 2-4 and 2-5, Building #176).	380 units	East Campus
Student Housing This project would construct a student housing complex providing up to 2,000 beds in dormitory-style housing (see Figures 2-4 and 2-5, Building #177). The complex would include support facilities, such as administrative offices, recreational lounge, student study areas, community meeting rooms, a laundry, counseling offices, and outdoor recreational space. Additionally, prior to development of the Facilities Operations Complex, listed below as a potential near-term project, that site would be used as temporary surface parking lot to accommodate existing parking that would be displaced as a result of development of this proposed student housing complex.	660,000 gsf	North Campus
Student Housing This project would construct a student housing complex providing 600 beds in dormitory-style housing (see Figures 2-4 and 2-5, Building #178). The complex would include support facilities, including on-site recreational and study space, laundry facilities, and community meeting rooms.	180,000 gsf	North Campus
Beef Cattle Evaluation Center (BCEC) Expansion The BCEC facility would be expanded by approximately 10,000 square feet of building area to provide needed space for continuing agricultural programs (see Figure 2-5, Building #55).	10,000 gsf	West Campus
Interim Replacement Surface Parking/Facilities Operations Complex This project would construct a 108,000-gsf replacement facility for Facilities Operations off Highland Drive (see Figures 2-4 and 2-5, Building #151). The existing facilities complex (Building #70) was constructed in or before 1961 near what was then the western edge of campus but is now a prime location for central academic and support functions. This project would relocate Facilities Operations to the western side of the campus, outside of the Academic Core, and would primarily house administrative offices, services, and storage. This project	108,000 gsf	West Campus

Near-Term Projects	Size	Campus Location*
could include, as the first phase of development, the construction of an interim surface parking lot to replace the 934 spaces in existing surface parking lots H-12 and H-16, which would be displaced by construction of proposed student housing in that location (see Figures 2-4 and 2-5, Buildings #177, #178, and #179), until such time permanent structured replacement parking is constructed. This project would also include improvements to Perimeter Road/Highland Drive as needed.		
Technology Park Expansion This project would construct an expansion to the existing Technology Park that was constructed in 2011 and has successfully attracted private businesses to locate in proximity to the University and provide mutual benefits of employment and student learning opportunities (see Figures 2-4 and 2-5, Building #84). This expansion would construct multiple buildings totaling 125,000 gsf to provide customized research and office space for start-up companies. This facility would be designed with smaller spaces to be flexible and adaptable to changes in use over time.	125,000 gsf	West Campus
Farm Shop This project would demolish the Farm Shop (#9) and construct a 51,200-gsf replacement facility (#82E) in the western portion of the campus to allow for more efficient operations. The space vacated would provide the only contiguous site for campus academic core expansion.	51,200 gsf	West Campus
IT Services Consolidation This project would construct a 15,000-gsf facility (Building #82D) off Mount Bishop Road near the existing Corporation Warehouse (Building #82). Currently, campus Information Technology Services department offices are located throughout the campus in Old Natatorium (Building #46), Cotchett Education Building (Building #2), and Frank E. Pilling Building (Building #14). This project would consolidate the IT Services department by providing offices to house 120 administrative staff, programmers, and support personnel.	15,000 gsf	West Campus
University-Based Retirement Community This project would construct a retirement living community intended for alumni, former faculty and staff, and those who wish to maintain an affiliation with the University beyond their working years. This project would consist of approximately 200 units and include independent living, assisted living, and memory care units and would be located on the southern 12 acres of the 25-acre portion of West Campus lying to the west of SR 1 (see Figure 2-4, #152).	200 Units	West Campus
Water Reclamation Facility This project would construct a water reclamation facility (WRF), approximately 14,100 gsf in size, to treat Cal Poly wastewater to levels required by Title 22 standards for the irrigation of Cal Poly agricultural and recreational fields. The WRF would be incrementally phased to meet supply needs, ultimately producing approximately 380 acre-feet per year of water. The WRF would cover an approximately one-half-acre area and include the treatment plant, a classroom and lab, and an operations and maintenance room. The WRF would include expansion of one of the existing campus reservoirs to increase system capacity by 100-acre feet and two small "tailwater" reservoirs to help manage WRF operation and peak storm flows. The WRF would also include construction of pump stations to facilitate pumping of raw waste and recycled water. If the existing reservoir system cannot be expanded, two new reservoirs would be constructed. The WRF would produce sludge, which would be transferred to a local facility/landfill or reused for agricultural purposes. The WRF would be located south of the Student Experimental Farm and west of the compost operation (see Figure 2-4, #128).	380 AFY	West Campus

2.7 INTENDED USES OF THE EIR

This EIR will be used by the CSU Board of Trustees to evaluate the potential environmental impacts associated with adoption of the proposed Master Plan project. This EIR provides program-level analysis of the Master Plan and may be used during consideration and evaluation of project-level analysis of specific projects identified in this EIR. As other individual projects are proposed for implementation, additional CEQA compliance review, including site- and condition-specific analysis, permits and/or approvals, may be needed, depending on the circumstances of each particular Master Plan project. This EIR could also be relied upon by responsible agencies, if any, with permitting or approval authority over any project-specific action to be implemented in connection with the proposed project.

2.8 ANTICIPATED PUBLIC APPROVALS

The CSU Board of Trustees is the lead agency for this EIR and has sole authority to consider and approve the Master Plan project, certify the EIR, and adopt the Mitigation Monitoring and Reporting, Program, Findings of Fact, and Statement of Overriding Considerations. Table 2-13 list agencies who may be required to issue permits or approve certain aspects of a particular Master Plan project. This EIR, and any environmental analysis relying on this EIR, is expected to be used to satisfy CEQA requirements of the listed responsible and/or trustee agencies. Further, this analysis is anticipated to provide useful information for any federal agency that may issue a permit in support of 2035 Master Plan development.

Table 2-13 Anticipated Permits and Approvals for Master Plan Implementation

Agency	Permit/Approval
Lead Agency	
California State University, Board of Trustees	▸ Approval and adoption of the Master Plan ▸ Approval of conceptual plans, development agreements, and schematic plans for public-private partnerships ▸ Approval of schematic plans for future facilities and improvements ▸ Approval of conceptual plans, development agreements, and schematic plans for the residential/senior housing neighborhood ▸ EIR Certification
Other Agencies	
U.S. Army Corps of Engineers	▸ Section 404 Permit
U.S. Fish and Wildlife Service	▸ Compliance with federal Endangered Species Act for potential take of listed species (if needed)
Regional Water Quality Control Board	▸ Section 401 Certification ▸ Stormwater discharge permits
California Department of Transportation	▸ Encroachment permit
California Department of Fish and Wildlife	▸ Section 1600 Streambed Alteration Agreement ▸ Compliance with California Endangered Species Act for potential take of listed species (if needed)
California Public Utilities Commission	▸ Permitting for grade-separated crossings of Union Pacific Railroad tracks
State Fire Marshal	▸ Future facility fire safety review and approval
San Luis Obispo County Air Pollution Control District	▸ Air quality construction and operational permits
San Luis Obispo County Public Works Department	▸ Encroachment permits (e.g., Stenner Creek Road)
San Luis Obispo Regional Transit Authority	▸ Approval of any future regional bus service improvements
City of San Luis Obispo	▸ Encroachment permits for work within city streets and rights-of-way

3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This Draft EIR evaluates and discloses the environmental impacts associated with the 2035 Master Plan, in accordance with CEQA Section 21000 et seq. and the State CEQA Guidelines (CCR, Title 14, Chapter 3, Section 15000 et seq.). Sections 3.1 through 3.14 of this Draft EIR present a discussion of regulatory background, existing conditions, environmental impacts associated with construction and operation of the project, mitigation measures to reduce the level of impact, and residual level of significance (i.e., after application of mitigation, including impacts that would remain significant and unavoidable after application of all feasible mitigation measures). Issues evaluated in these sections consist of the environmental topics identified for review in the NOP and IS prepared for the project (see Appendix A of this Draft EIR). Chapter 4, "Cumulative Impacts," presents an analysis of the project's impacts considered together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines. Chapter 5, "Alternatives," presents a reasonable range of alternatives and evaluates the environmental effects of those alternatives relative to the proposed project, as required by Section 15126.6 of the State CEQA Guidelines. Chapter 6, "Other CEQA Sections," includes an analysis of the project's growth inducing impacts, as required by Section 21100(b)(5) of CEQA.

INTRODUCTION TO THE ANALYSIS

As required by the State CEQA Guidelines (CCR Section 15126.2), this Draft EIR identifies and focuses on the significant direct and indirect environmental effects of the project. Short-term effects are generally those associated with construction, and long-term effects are generally those associated with operation of the project. This chapter addresses the environmental setting, environmental impacts and mitigation measures associated with the project in relation to the following resource topics:

- Section 3.1, "Aesthetics";
- Section 3.2, "Agriculture and Forestry Resources";
- Section 3.3, "Air Quality";
- Section 3.4, "Archaeological, Historical, and Tribal Cultural Resources";
- Section 3.5, "Biological Resources";
- Section 3.6, "Energy";
- Section 3.7, "Geology and Soils";
- Section 3.8, "Greenhouse Gas Emissions";
- Section 3.9, "Hydrology and Water Quality";
- Section 3.10, "Noise";
- Section 3.11, "Population and Housing";
- Section 3.12, "Public Services and Recreation";
- Section 3.13, "Transportation"; and
- Section 3.14, "Utilities and Service Systems."

As noted in Chapter 1, "Introduction," the IS prepared for the 2035 Master Plan determined that impacts related to hazards and hazardous materials, land use and planning, and mineral resources did not require further evaluation as part of the Draft EIR. As part of the December 28, 2018 amendments to CEQA and the State CEQA Guidelines, Wildfire was added to Appendix G of the State CEQA Guidelines as an issue area potentially requiring analysis, however, impacts related to wildfire were already evaluated in the IS as part of its evaluation of potential hazards and hazardous materials impacts. Combined with the fact that the Master Plan Area is not located within a "Very High" fire hazard area (San Luis Obispo County n.d.), this issue does not require further evaluation as part of this Draft EIR.

Sections 3.1 through 3.14 of this Draft EIR each include the following components.

Regulatory Setting: This subsection presents information on the laws, regulations, plans, and policies that relate to the issue area being discussed. Regulations originating from the federal, state, and local levels are each discussed as appropriate.

Environmental Setting: This subsection presents the existing environmental conditions on the project site (i.e., Master Plan Area) and in the surrounding area as appropriate, in accordance with State CEQA Guidelines Section 15125. The discussions of the environmental setting focus on information relevant to the issue under evaluation. The extent of the environmental setting area evaluated (the project study area) differs among resources, depending on the locations where impacts would be expected. For example, air quality impacts are assessed for the air basin (macroscale) as well as the site vicinity (microscale), whereas aesthetic impacts are assessed for the project site vicinity only.

Environmental Impacts and Mitigation Measures: This subsection presents thresholds of significance and discusses potentially significant effects of the 2035 Master Plan on the existing environment, including the environment beyond the project boundaries, in accordance with State CEQA Guidelines Section 15126.2. The methodology for impact analysis is described in each section, including technical studies upon which the analyses rely. The thresholds of significance are defined and thresholds for which the project would have no impact are disclosed and dismissed from further evaluation. Project impacts and mitigation measures are numbered sequentially in each subsection (Impact 3.2-1, Impact 3.2-2, Impact 3.2-3, etc.). A summary impact statement precedes a more detailed discussion of the environmental impact. The discussion includes the analysis, rationale, and substantial evidence upon which conclusions are drawn. The determination of level of significance of the impact is defined in bold text. A "less-than-significant" impact is one that would not result in a substantial adverse change in the physical environment. A "potentially significant" impact or "significant" impact is one that would result in a substantial adverse change in the physical environment; both are treated the same under CEQA in terms of procedural requirements and the need to identify feasible mitigation. Mitigation measures are identified, as feasible, to avoid, minimize, rectify, reduce, or compensate for significant or potentially significant impacts, in accordance with the State CEQA Guidelines Section 15126.4. Unless otherwise noted, the mitigation measures presented are recommended in the EIR for consideration by the State to adopt as conditions of approval.

Where an existing law, regulation, or permit specifies mandatory and prescriptive actions about how to fulfill the regulatory requirement as part of the project definition, leaving little discretion in its implementation, and would avoid an impact or maintain it at a less-than-significant level, the environmental protection afforded by the regulation is considered before determining impact significance. Where existing laws or regulations specify a mandatory permit process for future projects, performance standards without prescriptive actions to accomplish them, or other requirements that allow substantial discretion in how the they are accomplished, or have a substantial compensatory component, the level of significance is determined before applying the influence of the regulatory requirements. In this circumstance, the impact would be potentially significant or significant, and the regulatory requirements would be included as a mitigation measure.

This subsection also describes whether mitigation measures would reduce project impacts to less- than-significant levels. Significant-and-unavoidable impacts are identified as appropriate in accordance with State CEQA Guidelines Section 15126.2(b). Significant-and-unavoidable impacts are also summarized in Chapter 6, "Other CEQA Sections."

References: The full references associated with the parenthetical references found throughout Sections 3.1 through 3.14 can be found in Chapter 8, "References," organized by section number.

California State University Autonomy

Cal Poly is an entity of the CSU system, which is a constitutionally created state agency and is therefore not subject to local government planning and land use plans, policies, or regulations. Although there is no formal mechanism for joint planning or the exchange of ideas, Cal Poly may consider, for coordination purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project (2035 Master Plan) would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

Cal Poly seeks to maintain an ongoing exchange of ideas and information and to pursue mutually acceptable solutions for issues that confront both the campus and its surrounding community. To foster this process, Cal Poly participates in, and communicates with, City of San Luis Obispo (City), County of San Luis Obispo (County) and community organizations and sponsors various meetings and briefings to keep local organizations, associations, and elected representatives apprised of ongoing planning effort and consider community input.

STANDARD TERMINOLOGY

This Draft EIR uses the following standard terminology:

"No impact" means no change from existing conditions (no mitigation is needed).

"Less-than-significant impact" means no substantial adverse change in the physical environment (no mitigation is needed).

"Potentially significant impact" means an impact that might cause a substantial adverse change in the environment (mitigation is recommended because potentially significant impacts are treated as significant).

"Significant impact" means an impact that would cause a substantial adverse change in the physical environment (mitigation is recommended).

"Significant and unavoidable impact" means an impact that would cause a substantial adverse change in the physical environment and that cannot be avoided, even with the implementation of all feasible mitigation.

"CSU" refers to the California State University system as a whole.

"Trustees" refers to the CSU Board of Trustees, the CEQA Lead Agency for the 2035 Master Plan Draft EIR.

"Cal Poly" or **"University"** refers to California Polytechnic State University, San Luis Obispo.

"2035 Master Plan" or **"project"** refers to the proposed California Polytechnic University, San Luis Obispo 2035 Master Plan, the plan intended to guide the land use patterns and accommodate growth through the year 2035. The proposed plan and anticipated environmental effects of development that would occur under the plan are evaluated in this EIR.

"Master Plan Area" or **"campus"** refers to 1,339 acres owned and operated by Cal Poly and includes the 855-acre main campus. It also includes some undeveloped areas of Cal Poly property to the east and northeast, which may include some recreational improvements under the 2035 Master Plan.

"Main campus" refers to the 855-acre main campus, which includes the four campus subareas (the Academic Core, East Campus, North Campus, and West Campus). Future development of new administrative, academic, housing, and utility-related structures would occur within the main campus under the 2035 Master Plan.

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3.1 AESTHETICS

This section describes the existing visual conditions, meaning the physical features that make up the visible landscape, on and surrounding the Master Plan Area, and assesses the changes to those conditions that would occur from implementation of the 2035 Master Plan. The effects of the project on the visual environment are generally defined in terms of the project's physical characteristics and potential visibility, the extent to which the project's presence would change the perceived visual character and quality of the environment, and the expected level of sensitivity that the viewing public may have where the project would alter existing views. This analysis evaluates project effects on scenic vistas, scenic resources within a state scenic highway view corridor, public views, and daytime and nighttime levels of light and glare.

No comments regarding aesthetics were received in response to the Notice of Preparation (NOP).

3.1.1 Regulatory Setting

FEDERAL

No federal plans, policies, regulations, or laws related to aesthetics or light and glare are applicable to the project.

STATE

California Scenic Highway Program

California's Scenic Highway Program was created by the California Legislature in 1963 and is managed by the California Department of Transportation (Caltrans). The goal of this program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. A highway may be designated "scenic" depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view (Caltrans 2008).

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

County of San Luis Obispo General Plan

The County of San Luis Obispo (County) General Plan Conservation and Open Space Element provides goals and policies to protect the county's visual resources, including open areas, scenic corridors, and the built environment. The general plan designates Sensitive Resource Areas where specific scenic protection policies apply (see Figure VR-1 of the Conservation and Open Space Element). The Master Plan Area is directly north of urban areas and is not identified as a Sensitive Resource Area; however much of the area surrounding the West Campus is rural and designated as a Sensitive Resource Area where scenic protection policies apply. No candidate scenic corridors, listed in Table VR-2 of the County General Plan, were identified within the Master Plan Area. The following policies apply to visual resources within the County:

- **Policy VR 1.1: Adopt Scenic Protection Standards.** Protect scenic views and landscapes, especially visual Sensitive Resource Areas (SRAs) from incompatible development and land uses.

- **Policy VR 2.1: Develop In A Manner Compatible with Historical and Visual Resources.** Through the review of proposed development, encourage designs that are compatible with the natural landscape and with recognized historical character, and discourage designs that are clearly out of place within rural areas.
- **Policy VR 2.2: Site Development and Landscaping Sensitively.** Through the review of proposed development, encourage designs that emphasize native vegetation and conform grading to existing natural forms. Encourage abundant native and/or drought-tolerant landscaping that screens buildings and parking lots and blends development with the natural landscape. Consider fire safety in the selection and placement of plant material, consistent with Biological Resources Policy BR 2.7 regarding fire suppression and sensitive plants and habitats.
- **Policy VR 6.1: Urban Design.** Ensure that new multi-family residential, mixed-use, and commercial or other non-residential development in the urban and village areas is consistent with local character, identity, and sense of place.
- **Policy VR 7.1: Nighttime Light Pollution.** Protect the clarity and visibility of the night sky within communities and rural areas, by ensuring that exterior lighting, including streetlight projects, is designed to minimize nighttime light pollution.

City of San Luis Obispo General Plan

The City of San Luis Obispo (City) General Plan Conservation and Open Space Element includes the following policies related to views and scenic resources:

- **Policy 9.1.1: Preserve natural and agricultural landscapes.** The City will implement the following policies and will encourage other agencies with jurisdiction to do likewise:
  - A. Natural and agricultural landscapes that the City has not designated for urban use shall be maintained in their current patterns of use.
  - B. Any development that is permitted in natural or agricultural landscapes shall be visually subordinate to and compatible with the landscape features. Development includes, but is not limited to buildings, signs (including billboard signs), roads, utility and telecommunication lines and structures. Such development shall:
    1. Avoid visually prominent locations such as ridgelines, and slopes exceeding 20 percent.
    2. Avoid unnecessary grading, vegetation removal, and site lighting.
    3. Incorporate building forms, architectural materials, and landscaping, that respect the setting, including the historical pattern of development in similar settings, and avoid stark contrasts with its setting.
    4. Preserve scenic or unique landforms, significant trees in terms of size, age, species or rarity, and rock outcroppings.
  - C. The City's non-emergency repair, maintenance, and small construction projects in highly visible locations, such as hillsides and downtown creeks, where scenic resources could be affected, shall be subject to at least "minor or incidental" architectural review.
- **Policy 9.1.2: Urban development.** The City will implement the following principle and will encourage other agencies with jurisdiction to do so: urban development should reflect its architectural context. This does not necessarily prescribe a specific style, but requires deliberate design choices that acknowledge human scale, natural site features, and neighboring urban development, and that are compatible with historical and architectural resources. Plans for sub-areas of the city may require certain architectural styles.
- **Policy 9.1.3: Utilities and signs.** In and near public streets, plazas, and parks, features that clutter, degrade, intrude on, or obstruct views should be avoided. Necessary features, such as utility and communication equipment, and traffic equipment City limits form a well- defined urban edge, with open space beyond and signs should be designed and placed so as to not impinge upon or degrade scenic views of the Morros or surrounding hillsides, or farmland, consistent with the primary objective of safety. New billboard signs shall not be allowed, and existing billboard signs shall be removed as soon as practicable, as provided in the Sign Regulations.

- **Policy 9.1.5: View protection in new development.** The City will include in all environmental review and carefully consider effects of new development, streets and road construction on views and visual quality by applying the Community Design Guidelines, height restrictions, hillside standards, Historical Preservation Program Guidelines and the California Environmental Quality Act and Guidelines.
- **Policy 9.1.6: Night-sky preservation.** City will adopt a "night sky" ordinance to preserve nighttime views, prevent light pollution, and to protect public safety by establishing street and public area lighting standards.
- **Policy 9.2.1: Views to and from public places, including scenic roadways.** The City will preserve and improve views of important scenic resources from public places, and encourage other agencies with jurisdiction to do so. Public places include parks, plazas, the grounds of civic buildings, streets and roads, and publicly accessible open space. In particular, the route segments shown in Figure 11 [of the General Plan Conservation and Open Space Element] are designated as scenic roadways.

  A. Development projects shall not wall off scenic roadways and block views.

  B. Utilities, traffic signals, and public and private signs and lights shall not intrude on or clutter views, consistent with safety needs.

  C. Where important vistas of distant landscape features occur along streets, street trees shall be clustered to facilitate viewing of the distant features.

  D. Development projects, including signs, in the viewshed of a scenic roadway shall be considered "sensitive" and require architectural review.
- **Policy 9.2.2: Views to and from private development.** Projects should incorporate as amenities views from and within private development sites. Private development designs should cause the least view blockage for neighboring property that allows project objectives to be met.
- **Policy 9.2.3: Outdoor lighting.** Outdoor lighting shall avoid: operating at unnecessary locations, levels, and times; spillage to areas not needing or wanting illumination; glare (intense line-of-site contrast); and frequencies (colors) that interfere with astronomical viewing.

City of San Luis Obispo Municipal Code

<u>Section 17.70.090: Hillside Development Standards</u>

The purpose of this section is to protect and preserve scenic hillside areas and natural features such as the volcanic Morros, ridge lines, plant communities, rock outcroppings and steep slope areas that function as landscape backdrops for the community; to avoid encroachment into sensitive habitats or unique resources as defined in the Conservation and Open Space Element; to protect the health, safety and welfare of community residents by directing development away from areas with hazards such as landslides, wildland fires, flooding and erosion; and to protect the city's scenic setting. This section includes requirements for general site planning, site access, retaining walls, downhill building walls, mechanical equipment, and fencing. Plans submitted for hillside development shall be reviewed for consistency with the city's community design guidelines, this section, and general development standards of the zoning regulations.

<u>Section 17.70.100: Lighting and Night Sky Preservation</u>

These outdoor lighting regulations are intended to encourage lighting practices and systems that will: permit reasonable uses of outdoor lighting for nighttime safety, utility, security, and enjoyment while preserving the ambience of night; curtail and reverse any degradation of the nighttime visual environment and the night sky; minimize glare and obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary; help protect the natural environment from the damaging effects of night lighting; and meet the minimum requirements of the California Code of Regulations for Outdoor Lighting and Signs (Title 24, Chapter 6).

Outdoor lighting shall be designed, installed, and maintained to prevent nighttime sky light pollution, preserve and enhance visibility of stars, and use energy efficiently by lighting only those areas or objects necessary for safety and security.

3.1.2 Environmental Setting

VISUAL CHARACTER OF THE PROJECT SURROUNDINGS

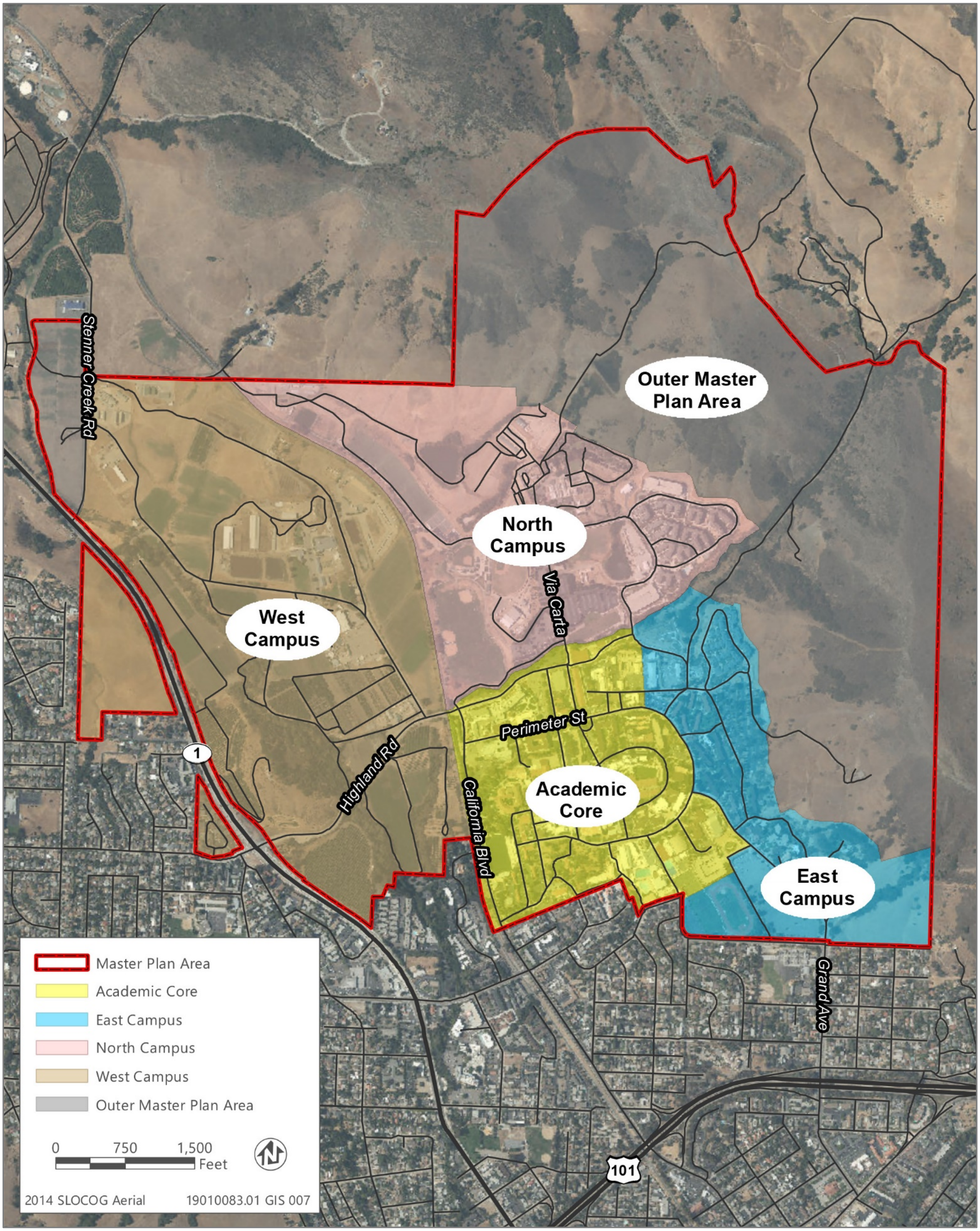
Cal Poly's land holdings include over 6,000 acres in San Luis Obispo County and approximately 3,700 acres in Santa Cruz County. These lands primarily consist of open rangeland, farmland, and open space. Most of the University's academic, administrative, and support facilities are located on the main campus. The 2035 Master Plan consists only of projects and activities within the Master Plan Area located at the northeastern edge of the City, at the base of the western foothills of the Santa Lucia Range and at the eastern end of the highly scenic Chorro Valley. The Chorro Valley, defined by the Santa Lucia Mountains and the Cuesta Ridge to the northeast and the Morros or Nine Sisters (a series of distinct mountain peaks rising up from the valley) to the southwest, runs northwest to Morro Bay and the Pacific Ocean. The Morros are recognized by the County as highly scenic visual resources that should be protected (County of San Luis Obispo 2010:7). The topography of the area is generally defined by low hills and ridges with intermittent volcanic and metavolcanics peaks (referred to as morros). The Master Plan Area is also adjacent to the City of San Luis Obispo, an urbanized area with largely residential and commercial uses surrounding a downtown core which is located approximately 1 mile south of the Master Plan area. Land uses within the City vary in visual character and height, although the majority of structures within the City are between one and three stories in height with some taller structures, especially within the downtown core.

Scenic Resources

The designation of scenic roads and highways is intended to promote and enhance the natural scenic beauty occurring along portions of county and state highways. The rural areas of the County have many scenic attributes that contribute to the pleasure of driving through them, including the volcanic Morros between San Luis Obispo and Morro Bay, agricultural features, ocean views, mountain landscapes, and unique geologic features (County of San Luis Obispo 2015:5-8). State Route (SR) 1, located directly west of the campus, is both a Designated State Scenic Highway and an All-American Road in the National Scenic Byway system (Caltrans 2017). Each of these designations indicate a high degree of scenic quality within the highway's view corridor. U.S. Highway 101 (US 101) is also identified by Caltrans as an Eligible State Scenic Highway – Not Officially Designated. Additionally, the County has designated US 101 as a scenic corridor and has adopted Highway Corridor Design Standards to address development along the highway (County of San Luis Obispo 2010:9.3, 9.14). The City has also identified portions of both SR 1 and US 101 in the northern portion of the City as scenic roadways. In addition, the City designates California Boulevard and Foothill Boulevard as scenic roadways (City of San Luis Obispo 2014:6-62).

VISUAL CHARACTER OF THE MASTER PLAN AREA

The main campus consists of hilly terrain and is largely developed and relatively compact, including academic, housing, and administrative buildings, and agricultural support facilities. The main campus is comprised of four visually distinct subareas: Academic Core, East Campus, North Campus, and West Campus (Figure 3.1-1). The visual character of each subarea is described in detail below.



Source: Data received from Cal Poly in 2019; adapted by Ascent Environmental in 2019

Figure 3.1-1 Campus Planning Areas

Academic Core Subarea

The Academic Core subarea encompasses an area roughly defined by Brizzolara Creek to the north, the southern edge of campus to the south, Grand Avenue and Perimeter Road to the east, and the Union Pacific Railroad (UPRR) tracks to the west. The subarea is surrounded on three sides by the East Campus, North Campus, and West Campus subareas. To the south, the Academic Core is bounded by the City boundary and residential neighborhoods. This subarea is the most densely developed area of campus and contains multiple large, multistory structures. As the hub of Cal Poly's academic and administrative functions, this subarea contains a wide mix of uses, including academic buildings, passive recreation, housing, and sports stadiums, in a visual framework defined by a variety of architectural styles, forms, and physical spaces.

The subarea also experiences the most activity in terms of vehicular and pedestrian movement. Vehicular access is provided via three major entrances: Grand Avenue with direct connections to US 101, Highland Drive directly off SR 1 (Santa Rosa Street), and California Boulevard off Foothill Boulevard at the southwest corner of campus. Via Carta Way provides bicycle and pedestrian access through the center of the Academic Core, in addition to North Poly View Drive and South Poly View Drive.

Although the Academic Core is the most densely developed campus subarea, visibility from the surrounding community is relatively limited. The campus can be easily seen from streets and neighborhoods in the immediate vicinity of campus; however, because of topography, intervening development, and mature tree canopy, the Academic Core is not readily seen from public viewpoints away from campus. Portions of the Academic Core can be seen from SR 1. However, because of viewing distance, it occupies just a small portion of the overall viewshed and is generally indistinguishable from the adjacent community.

East Campus Subarea

The East Campus subarea is located immediately adjacent to the Academic Core subarea and borders open space to the east and residential neighborhoods to the south. The existing visual character is largely defined by multistory dormitories, athletic fields, and parking areas. Mature landscaping can be seen throughout the area. Much of the East Campus visual setting is also influenced by the undeveloped Santa Lucia Mountains, which rise to the east, and by the established single-family residential neighborhoods, immediately to the south.

Existing student housing is concentrated on the east side of campus, primarily along Grand Avenue, at the base of the eastern hills. The newest housing development, yakʔitʸutʸu, at the Grand Avenue entrance to campus opened in fall 2018, allowing all first-year students to live on campus in traditional dormitory-style housing. Amenities, such as parking and recreation facilities, also exist within the East Campus.

Portions of the East Campus can be seen from various off-campus locations. The southernmost section is easily visible from the adjacent predominately residential neighborhoods. Student housing developments, such as Cerro Vista, extend partway up the hillside and can be seen from a portion of SR 1. Grand Avenue, which serves as a primary gateway to campus, is identified as a Scenic Roadway in the City of San Luis Obispo General Plan Land Use and Circulation Element (applicable only to the portion of Grand Avenue located within City limits). Important scenic resources along this section of Grand Avenue approaching campus include the Santa Lucia Mountains to the northeast as well as the Morros to the west. Throughout other portions of the San Luis Obispo community, the East Campus has limited visibility due to viewing distance, intervening topography, development, and mature tree canopy.

North Campus Subarea

The North Campus subarea encompasses land uses and facilities across Brizzolara Creek from the Academic Core subarea, and is defined by Brizzolara Creek to the south, the northern edge of the main campus and Peterson Ranch to the north and east, and the UPRR tracks to the west.

The North Campus currently supports a variety of agricultural, athletic, and residential functions. Agricultural uses include equine, environmental horticulture, and beef unit facilities, along with various barns, greenhouses, and study labs. Recreational or athletic uses include Baggett Field and Janssen Field, located near the UPRR tracks. Various parking lots are also located within the North Campus subarea. Poly Canyon Village, a mixed-use student housing development, is located at the eastern perimeter of this subarea. The North Campus is generally accessed by Village Drive, Via Carta, and unnamed, unpaved access roads. The visual character of the area is mixed. Sports and agricultural fields along the area's western section transition to the multistory residential developments seen to the east.

Because the topography rises gradually from the Academic Core to the north, portions of the North Campus are somewhat more visible from the surrounding community than other areas of campus. Traveling northbound on Johnson Avenue near Bishop Street in San Luis Obispo, a portion of the North Campus can be seen in the distance. Also, views from SR 1 include much of the North Campus, including agriculture and sports fields in the midground, with student housing visible at the base of the foothills to the northeast. Viewing distances from these public viewpoints to the North Campus range from approximately 0.6 mile to 1 mile. Although some existing development in the North Campus subarea is visible from public viewpoints, it is generally not easily discernable in the overall landscape and occupies a relatively small proportion of the total viewshed. Throughout other portions of the San Luis Obispo community, visibility of the North Campus subarea is limited due to viewing distance, intervening topography, development, and mature tree canopy.

West Campus Subarea

The West Campus subarea is the least-developed portion of the campus and is bordered on the west by SR 1 and Stenner Creek Road, to the north by the northern edge of the main campus, to the east by the UPRR tracks, and to the south by the city.

A combination of agricultural fields, support facilities, and working labs are seen throughout the subarea. Structures associated with the Dairy Science and Poultry Science Complexes, Beef Evaluation Unit, Corporation Warehouse, and Technology Park are located within the West Campus. The overall landform of the area rises from the southwest to the northeast, interspersed with a few small elevated knolls and Stenner Creek, which generally bisects the West Campus in a north-south direction. Radio Hill is part of the West Campus subarea, located just northeast of SR 1 and Highland Drive, providing views of the campus and the surrounding mountain ranges. The primary access roads for the area are Stenner Creek Road and Mount Bishop Road.

The West Campus subarea also includes two parcels located west of and adjacent to SR 1. A triangular-shaped parcel, just north of Westmont Avenue, is undeveloped and is bounded on the west by an established single-family residential neighborhood, and on the south by residences and a California Department of Forestry and Fire Protection facility. The second smaller triangular-shaped parcel, located northwest of the SR 1 and Highland Drive intersection, is a developed residential community bounded by residential neighborhoods to the south and west.

Because of its proximity to SR 1, the West Campus subarea is the most visible portion of campus for travelers on the highway. As seen from SR 1 much of the West Campus provides the foreground and middle-ground setting for views of the Santa Lucia Mountains to the east. The vegetation of Stenner Creek, which runs somewhat parallel to SR 1, limits views to portions of the West Campus. However, because the landform gradually rises east of the creek, views to the agricultural uses in those elevated areas are available from the highway. Although some existing developments within the West Campus are somewhat visible from SR 1, they tend to be subordinate to the overall landscape setting.

The West Campus parcel located west of SR 1 and north of Westmont Avenue is seen as the foreground for scenic views to Bishop Peak and the Morros to the west. The topography of the northern portion of this parcel rises up quickly from SR 1, precluding views of the Morros and at the same time serving as the primary ridgeline to the west.

Portions of the West Campus can also be seen from the surrounding community. Traveling northbound on Johnson Avenue near Bishop Street in San Luis Obispo, a portion of the West Campus can be seen in the distance. The West Campus parcels located west of SR 1 are immediately adjacent to residential neighborhoods, resulting in high visibility to these portions of the West Campus.

PUBLIC VIEWS: REPRESENTATIVE VIEWPOINTS

Figure 3.1-2 shows the location of photographs and viewpoints referenced in this analysis.

Viewpoint 1, shown in Figure 3.1-3, is located just south of the Academic Core and East Campus subareas and presents a typical view of the campus from the residential neighborhood located directly south of campus, across Slack Avenue. The foreground is dominated by residential development and utility lines. Farther north, the campus recreational center and athletic facilities can be seen, and views of the eastern hills are provided. Views looking south along Longview Lane indicate the residential neighborhood is densely vegetated with mature trees and scrubs and views of rolling hills can be seen in the background.

Viewpoint 2, shown in Figure 3.1-4, is located just south of East Campus subarea and presents a view from Grand Avenue, near McCollum Street, looking north towards the main campus. City residents are located along the arterial roadway and views of the campus, specifically the Yakʔitʸutʸu student housing development, can be seen.

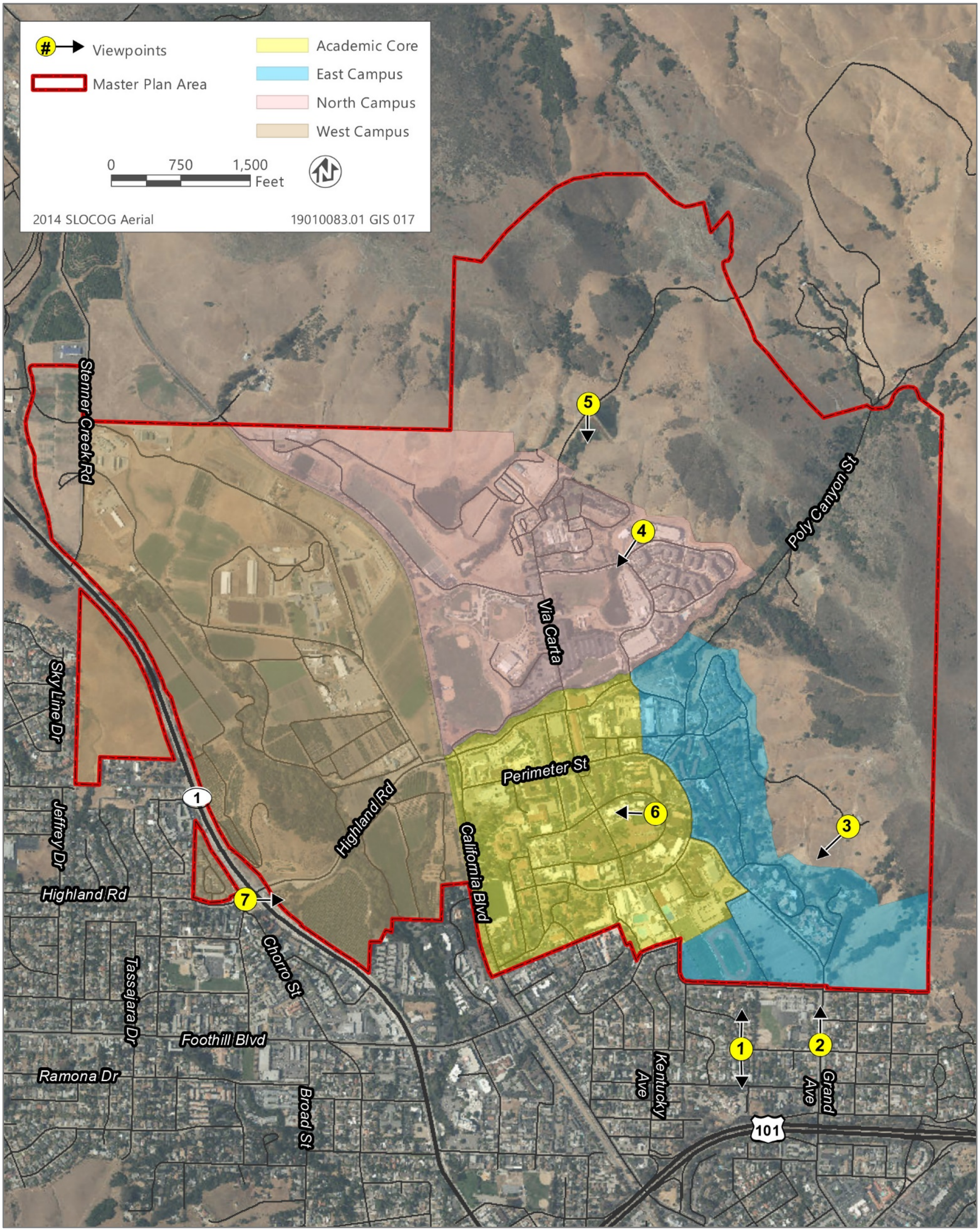
Viewpoint 3, shown in Figure 3.1-5, is located east of East Campus subarea and depicts the view looking southwest from the hills that rise above campus to the east. Student housing and athletic facilities and playing fields located in East Campus can be seen in the foreground. Development within the City is interspersed by trees and vegetation. In the distance, one can see Cerro San Luis Obispo, Bishop’s Peak, and the Sister Peaks.

Viewpoint 4, shown in Figure 3.1-6, is located in North Campus subarea and presents typical views seen from the northeastern portion of the main campus at the Canyon Circle parking structure. To the south, multistory residence halls located in Poly Canyon Village lie in the forefront and Drumm Reservoir, surrounded by grazing pasture, is seen directly west of the residence halls. Looking further west, the Sister Peaks come into view, with sparsely developed agriculture lands in the foreground.

Viewpoint 5, shown in Figure 3.1-7, is located north of North Campus subarea and displays the view of North Campus looking south from Indonesian Reservoir. The University’s Leaning Pine Arboretum can be seen, as well as Cerro San Luis Obispo. Views of the North Campus and Academic Core subareas are softened by tree coverage and vegetation.

Viewpoint 6, shown in Figure 3.1-7, is located in the Academic Core subarea and presents the view from the entrance steps of the Faculty Offices East building looking west. The Warren J. Baker Center for Science and Mathematics opened in 2013 is located to the north and the aging Science building built before 1960 is located to the south. A large lawn open space area is provided in the center of the buildings, directly west of the Faculty Offices East building. In the distance, views of Bishop’s Peak are provided.

Viewpoint 7 shows the Highland Drive Entrance and is located at the intersection of SR 1 and Highland Drive on the western campus boundary. As shown in Figure 3.1-8, this viewpoint displays the area’s rolling topography and grasslands as well as the mountain ranges on the east side of campus. The main campus is mostly hidden by the topography however an entrance sign to the campus is seen on the southeastern corner of the intersection and an entrance sign to the city is located along SR 1 on the southwestern corner of the intersection.



Source: Adapted by Ascent Environmental in 2019

Figure 3.1-2 Viewpoint Locations

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 1 – Longview Lane near Albert Drive Looking North to Campus.

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 1 – Longview Lane near Albert Drive Looking South.

Figure 3.1-3 Representative Photographs (1 of 6)

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 2 – Grand Avenue Looking North to Campus.

Figure 3.1-4 Representative Photographs (2 of 6)

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 3a – Santa Lucia Foothills Looking Southwest Across Campus.

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 3b – Santa Lucia Foothills Looking Southwest Across Campus.

Figure 3.1-5 Representative Photographs (3 of 6)

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 4a – Poly Canyon Village Looking Southwest.

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 4b – Poly Canyon Village Looking Southwest.

Figure 3.1-6 Representative Photographs (4 of 6)

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 5 - Indonesian Reservoir Looking South.

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 6 – Faculty Offices (Building 25) Looking West.

Figure 3.1-7 Representative Photographs (5 of 6)

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 7a - Highland Drive near State Route 1 Looking East toward Campus.

Source: Photo taken by Ascent Environmental in 2019

Viewpoint 7b - Highland Drive near State Route 1 Looking East toward Campus.

Figure 3.1-8 Representative Photographs (6 of 6)

VIEWER PERSPECTIVE AND SENSITIVITY

Viewer sensitivity is considered in assessing the impacts of visual change and is a function of several factors. The sensitivity of the viewer, or viewer concern, is based on the visibility of resources in the landscape, proximity of the viewers to the visual resource, elevation of the viewers relative to the visual resource, frequency and duration of views, numbers of viewers, and types and expectations of individuals and viewer groups.

The viewer's distance from landscape elements plays an important role in the determination of an area's visual quality. Visibility and visual dominance of landscape elements depend on their placement within a viewshed. A viewshed is defined as all of the area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (FHWA 1981). Landscape elements are considered higher or lower in visual importance based on their proximity to the viewer. Generally, the closer a resource is to the viewer, the more dominant, and thus the more visually important it is to the viewer. For purposes of analysis, landscapes are separated into foreground, middle-ground, and background views (U.S. Forest Service 1995). In general, the foreground is characterized by clear details (within 0.25 or 0.5 mile of the viewer); the middle ground is characterized by the loss of clear detail in a landscape, creating a uniform appearance (from the foreground to 3 to 5 miles in the distance); and the background extends from the middle ground to the limit of human sight (Bacon 1979).

Visual sensitivity is also affected by viewer activity, awareness, and expectations in combination with the number of viewers and the duration of the view. Visual sensitivity is generally higher for views that are observed by people who are driving for pleasure, or engaging in recreation activities such as hiking, biking, camping or by residents of an area. Sensitivity is lower for people engaged in work activities or commuting to work. Viewer response must be based on regional context. The same landform or landscape feature may be valued differently in different settings; landscape features common in one area would not be valued as highly as the same feature in a landscape that generally lacks similar features. For example, a small hill may have little value in a mountainous area but may be highly valued in a landscape that has little topographic variation.

Potential sensitive viewer groups include residents of the Ferrini Heights neighborhood and the Foothill neighborhood, adjacent to the West Campus subarea, and the Alta Vista and Monterey Heights Neighborhoods near the Academic Core and East Campus subareas. Campus students and faculty/staff and travelers on SR 1 are also potential sensitive viewer groups. These groups are familiar with the area, are likely to engage in recreation activities in the area, and frequently spend time on campus.

LIGHT AND GLARE CONDITIONS

Night lighting includes streetlights, interior and exterior building lights, and automobile headlights. Glare is caused by light reflections from pavement, vehicles, and building materials, such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on intensity and direction of sunlight. Dominant sources of night lighting can cause a skyglow effect that can be visible from long-distance viewpoints and can reduce night sky visibility of stars (commonly referred to as dark sky concerns).

Natural and artificial light reflect off various surfaces and can create localized occurrences of daytime and nighttime glare. Buildings and structures made with glass, metal, and polished exterior roofing materials exist throughout the main campus. Existing sources of light include streetlights along project roadways; lights in parking lots, along walkways, and on the exteriors of buildings; and interior lights in buildings. Dominant sources of night lighting are field lights used for illumination of recreation and athletic facilities, which can cause a skyglow effect that can be visible from long-distance viewpoints. Due to the high density of buildings, roadways, and pathways, the Academic Core subarea contains the most sources of light and glare and is the most brightly illuminated area of the campus at night. Campus housing, dining areas, recreational facilities, and parking lots within the East Campus subarea also present sources of light and glare. Campus housing, athletic facilities, and parking lots located north of Stenner Creek in the North Campus subarea contribute to existing light and glare. However, the West Campus consists primarily of agricultural and open space areas requiring minimal or no nighttime lighting and have minimal sources of glare. Nighttime lighting within the Academic Core and East Campus subareas results in light spillover into the adjacent Alta Vista and Monterey Heights neighborhoods. However, because the West Campus and North Campus subareas are not directly adjacent to neighborhoods (SR 1 separates the West Campus subarea from the Ferrini Heights and Foothill neighborhoods), nighttime lighting does not result in spillover to nearby neighborhoods.

3.1.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The evaluation of potential aesthetic and visual resource impacts is based on review of site photos representing key vantage points; the nature, scale, and design of 2035 Master Plan projects; and documents pertaining to the campus and surrounding area. In determining the level of significance, this analysis focuses on the nature and magnitude of visual change associated with the development under the 2035 Master Plan, the number of public vantage points from which changes would be visible, and the number of viewers who would be affected. It is assumed that projects implemented under the 2035 Master Plan would comply with applicable CSU, Cal Poly, and other state policies, regulations, and procedures pertaining to development within the campus. This includes 2035 Master Plan policies that influence the visual siting, design and quality of proposed projects.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considered continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching standards relevant to all or most Master Plan topics. They are organized by topic heading in the Master Plan as General Principle (GP), Academic Mission and Learn by Doing, Design Character (DC), Implementation, Implementation Program, Other Recommendation (OR), Sustainability and Environmental Stewardship (S), Transportation and Circulation (TC), or Residential Community and University Life. The following principles were identified as relevant to aesthetics and visual resources:

GP 05 Cal Poly's scenic setting – a campus surrounded by open spaces – should be preserved; its open lands and the surrounding natural environment are highly valued and should be considered in campus planning efforts.

GP 06 Open space should be incorporated into the core campus and integrated into the scope of every new building project, for aesthetics, leisure, social interactions, and activities contributing to a healthy lifestyle.

GP 07 Land uses should be suitable to their locations considering the environmental features of the proposed sites.

GP 08 The siting of new land uses and buildings should always be considered within the context of the greater campus; functional connections among related activities should be considered, including the nature of activities, "adjacencies" and paths of travel.

GP 09 The siting and design of campus buildings and other features should reflect and enhance visual and physical connections to the surrounding natural environment and outdoor spaces on-campus, and should maintain, enhance or create aesthetically pleasing views and vistas.

GP 10 Campus buildings should incorporate the best design elements regarding massing, human scale, materials, articulation, architectural interest, sustainability and connections with surrounding buildings and spaces; design should reflect authenticity and attention to details in materials, historical context and architectural style.

GP 16 Cal Poly should consider potential impacts – including but not limited to traffic, parking, noise and glare – on surrounding areas, especially nearby single-family residential neighborhoods, in its land use planning, building and site design, and operations.

GP 18 Cal Poly should maintain open communication with neighbors, stakeholders, and local public agencies, respecting the community context and potential impacts of campus development.

DC 01 The siting and design of campus facilities should incorporate a full 360-degree approach, where all sides of the facility contribute to a cohesive and aesthetically pleasing experience.

DC 04 The planning, siting, design and construction of campus facilities should include visual connections to activities inside buildings.

DC 05 The design of campus facilities should maintain and incorporate a pedestrian sense of scale.

DC 10 The edge of campus should be transparent, friendly, and aesthetically pleasing to the surrounding community.

OR 11 The design of the built environment (interior and exterior) should take full advantage of the Central Coast's Mediterranean climate for health, environmental, energy efficiency and aesthetic reasons.

S 04 Open spaces should form links (spaces and corridors) at all scales to form visual, recreational and access connections.

S 05 The siting and design of campus buildings and other features should reflect and enhance visual and physical connections to the surrounding natural environment and outdoor spaces on campus.

TC 15 Parking facilities should be sited and designed to reduce visual obtrusiveness while maintaining safety.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the project would normally have a significant impact on aesthetics if it would:

- have a substantial adverse effect on a scenic vista;
- damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

ISSUES NOT DISCUSSED FURTHER

All issues applicable to aesthetics listed under the significance criteria above are addressed in this chapter.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Result in a Substantial Adverse Effect on a Scenic Vista or Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and Its Surroundings

New construction and expansion within the Academic Core and North Campus subareas would be largely consistent with existing uses and would not be located in areas of high viewer sensitivity. As required by 2035 Master Plan Policies GP09 and S05, project design would preserve or enhance the existing visual character and quality of the site. The siting, scaling, and design of new development would help to maintain or preserve the existing visual quality and character. However, proposed new, permanent structures in the West Campus, specifically the Farm Shop and the University-Based Retirement Community, and in the East Campus, specifically the residential neighborhood proposed for the northeast corner of Slack Street and Grand Avenue, would be located in areas of high viewer sensitivity and could be incompatible with the existing visual character and quality of the sites. Project development in the West Campus would potentially result in adverse effects to scenic vistas, including views of the Morros, and development of the Slack and Grand project in the East Campus could result in substantial degradation of existing visual character. Therefore, this impact would be **significant.**

Academic Core Subarea

The Academic Core subarea is the most densely developed subarea and would be further developed under the 2035 Master Plan. Proposed development would include renovation and expansion of existing facilities, as well as construction of new facilities. Via Carta, which is already the primary north/south pedestrian and bicycle route for the Academic Core would become the central spine of campus, providing access to a variety of interactive gathering places, open spaces of numerous types and sizes, and would provide a framework for incorporating new buildings in an integrated, unifying and welcoming manner. Master plan development would capitalize on the varied topography of the Academic Core to create interesting places and to preserve and enhance views of the surrounding hills, campus lands and buildings. Existing topography would allow grade-level access at multiple levels for many of the proposed buildings.

Buildout of the 2035 Master Plan would result in approximately 1.29 million gross square feet (gsf) of new academic, administrative, and support buildings and 455,000 gsf of replacement space within the Academic Core. Proposed buildings within the Academic Core would be between three and six stories high, dependent on needed space and topography. Figure 3.1-9 shows the locations of the proposed development under the 2035 Master Plan.

A major focus of the Academic Core land use is to create a true heart of campus. This area is anticipated to be a confluence of two spaces, Dexter Lawn and Centennial Meadow. Implementation of the 2035 Master Plan would expand Dexter Lawn to the east and Centennial Meadow, by the Warren J. Baker Center for Science and Mathematics, would be expanded to create a more meadow-like open space with Central Coast landscaping and numerous seating areas. Visual quality would be improved through the expanded open space by creating connections between landscape and structures and a comfortable human-scale setting.

The proposed Creekside Village, at the northern edge of the Academic Core at Via Carta and Brizzolara Creek, would include a mix of uses, including teaching and office spaces, recreation, retail and food services, lounge and study spaces, the campus transit center, and more. Each new development would integrate open spaces to provide quality seating and study areas and connect the associated building to the natural setting. Views to the Cal Poly outer lands and surrounding hills would be preserved through specific alignment and orientation of roads and pathways and building siting and massing.

Several projects proposed within the Academic Core would be completed within the first 10 years of plan implementation. Near-term projects include the Health and Wellbeing Center, Engineering Projects Building, Student Center Addition, and the Classroom and Offices Building as described below:

- The Health and Wellbeing Center would construct a new health center facility (approximately 65,000 gsf) and would renovate or demolish the existing health center. This project is located on the southern border of the Academic Core, west of the recreation center and adjacent to the Alta Vista neighborhood.
- The Engineering Projects Building would encompass 71,000 gsf and would include a new building as well as replacement of the existing aeronautical hangers. The project is located on the western edge of the Academic Core bordering the UPRR tracks.
- The Student Center Addition would expand the existing Building 19 Dining Commons by approximately 44,000 gsf. This project would include office, meeting, study, and other support spaces and would be located in the center of the Academic Core, north of the recreation center and west of the Julian A. McPhee University Union.
- The Classroom and Offices Building would consist of one building or part of other mixed-use facilities depending upon space needs and would include a total of 72,000 gsf. The exact location of this project has not been identified at the time of this analysis; however, this project would be located within the Academic Core and would likely consist of infill development.
- The existing facilities operations complex constructed in 1961 would be demolished and the operations would be relocated to the West Campus. This new Facilities Operations Complex is discussed in further detail under the West Campus subarea.

	Tier 1: Replace	Low intensity, older buildings that are in need of replacement at higher density, when feasible.
	Tier 2: Renovate	Buildings may be in need of substantial investment. Replace if appropriate.
	Tier 3: Retain	Buildings are current and do not need significant improvements in the near future.

01 --- Administration
02 --- Cotchett Education
03 --- Business
04 --- Research Development Center
05 --- Architecture and Environmental Design
06 --- Christopher Cohan Center
07 --- Advanced Technology Laboratories
08 --- BioResource and Agricultural Engineering
8A --- BioResource and Agricultural Engineering Shop
09 --- Farm Shop
10 --- Alan A. Erhart Agriculture
11 --- Agricultural Sciences
13 --- Engineering
14 --- Frank E. Pilling Building
15 --- Cal Poly Corporation Administration
19 --- Dining Complex
20 --- Engineering East
21 --- Engineering West
22 --- English
24 --- Food Processing
25 --- Faculty Offices East
26 --- Graphic Arts
26A - Printing Press
27 --- Health and Wellbeing Center
28 --- Albert B. Smith Alumni and Conference Center
33 --- Clyde P. Fisher Science Hall
34 --- Walter F. Dexter Building
35 --- Robert E. Kennedy Library
36 --- University Police
38 --- Mathematics and Science
40 --- Engineering South
41A - Grant M. Brown Engineering
42 --- Robert A. Mott Athletics Center
43 --- Recreation Center
43A - Kinesiology
44 --- Alex and Faye Spanos Theatre
45 --- H.P. Davidson Music Center
46 --- Old Natatorium
47 --- Faculty Offices North
52 --- Science
53 --- Science North
60 --- Crandall Gymnasium
61 --- Alex G. Spanos Stadium
65 --- Julian A. McPhee University Union
70 --- Facilities
71 --- Transportation Services
115 - Chase Hall
116 - Jespersen Hall
117 - Heron Hall
117T CAD Research Center
124 - Student Services
130 - Grand Avenue Parking Structure
133 - Orfalea Family and ASI Children's Center
180 - Warren J. Baker Center for Science and Mathematics
186 - Construction Innovations Center
187 - Simpson Strong-Tie Material Demonstration Lab
192 - Engineering IV
197 - Bonderson Engineering Project Center

Source: Image prepared and provided by Cal Poly

Figure 3.1-9 Academic Core Subarea Building Inventory

The majority of the new development and replacement buildings proposed would be located in the center of the Academic Core or near Brizzolara Creek. Visibility of these newly constructed buildings within the Academic Core from public viewpoints in the surrounding community would be limited. Because the Academic Core is already well-developed, future development would generally be infill and would be consistent with the existing visual character of the area. As shown in Figure 3.1-9, building renovations are proposed along Campus Way, adjacent to the existing Alta Vista neighborhood. These renovations and building expansions would be visible from public viewpoints in the surrounding neighborhoods. However, development in this area would be consistent with existing uses and compatible with the general scale and density of existing and adjacent campus buildings. Existing vegetation would be preserved to the degree feasible to maintain the visual character of the site.

Although no scenic vistas have been identified within the Academic Core, views of the surrounding hillsides, specifically of the Morros and the Santa Lucia Mountains, are available throughout the subarea. Proposed development would be designed to maintain or enhance views and vistas consistent with 2035 Master Plan Principle GP 09, described above under "Methodology."

The 2035 Master Plan identifies architectural design requirements to maintain the natural setting, create a sense of place, improve connectivity, and increase character continuity throughout the campus. Architectural design requirements include the consideration of building siting and orientation, scale and massing, architectural style and materials, and strategic buildings to complement existing features, topography, and future expansion. Because development under the 2035 Master Plan would be designed to preserve existing scenic views and to enhance the visual quality and character of the site and its surroundings, project development in the Academic Core subarea would result in a less-than-significant impact.

East Campus Subarea

Development in the East Campus subarea is dominated by concentrated student housing and would remain so under the 2035 Master Plan. One near-term project proposed within the East Campus is a residential neighborhood east of the Grand Avenue campus entrance at Slack Street (referred to as Slack and Grand). This near-term project is designated predominantly for workforce housing for Cal Poly faculty, staff, or other persons employed in the area. Nontraditional students, including, but not limited to, graduate students, married students or students with families, veteran students, or other students needing specific accommodations may also be eligible. This housing is anticipated to also include some community facilities, parking, and convenience retail. The proposed residential development project would sit on 5 acres and would provide 380 units. The project would consist of a mix of three-, four-, and five-story buildings, in a layout that would place shorter buildings along the perimeter, nearer street frontages and public viewing locations, then stepping up in height with distance from the roadways.

The proposed residential neighborhood would be constructed on a vacant parcel, would remove existing horse pasture, and would impair/obstruct views of the hills to the northeast. Because of its sizeable footprint and height, the development would substantially alter the existing visual character of the site. The project would be visible from public viewpoints, specifically from residences directly south of Slack Street, from within the Alta Vista and Monterey Heights neighborhoods, and from nearby existing student housing and campus facilities. The project would also be visible from Grand Avenue, a designated scenic roadway in the city. Master Plan Principles GP 10, DC 01, and DC 05 would require project design to be cohesive with the surrounding area through the use of historical context and architectural design and a pedestrian sense of scale. Master Plan Principle DC 10 requires that the edge of campus be transparent, friendly, and aesthetically pleasing to the surrounding community, and Master Plan Principle GP 18 requires that Cal Poly maintain open communication with neighbors, stakeholders, and local public agencies. Notwithstanding adherence to these principles, implementation of the Slack and Grand project would permanently degrade the visual character and quality of the site. Near- and mid-field views of what is now a more natural landscape—pasture land, rolling hills, trees, and ridgelines—would be replaced by dense residential development with three to five-story buildings and associated retail and parking uses. While views of the site would be largely compatible with existing campus development to the north and east, the project would conflict with the visual character of the neighborhood to the south, particularly on Slack Street, which is characterized by single-story residences.

The 2035 Master Plan proposes additional future housing within the East Campus at full buildout. This would include the renovation and expansion of the North Mountain residence halls, construction of proposed student housing replacing existing parking lots located directly east of the North Mountain residence halls and south of the Cerro Vista Apartments, and informal recreation areas. This future housing development would be consistent with existing uses and compatible with the general scale and density of existing and adjacent campus facilities. These housing and recreation facilities would comply with the Master Plan Principles related to aesthetic and visual quality. In addition, campus green and other informal recreation areas would be included at the new development sites enhancing the visual quality and character of the site.

Although no designated scenic vistas have been identified within the East Campus, views of the surrounding hillsides, the Morros, and the Santa Lucia Mountains, are available throughout the subarea. The subarea is located at the base of the Santa Lucia Mountains and student housing would extend up the hillside increasing visibility of development. In accordance with Master Plan Principle GP 09 (described above under "Methodology"), the siting and design of campus buildings and other features should reflect and enhance visual and physical connections to the surrounding natural environment and outdoor spaces on-campus, and should maintain, enhance, or create aesthetically pleasing views and vistas. While application of this principle will serve to minimize aesthetic impacts to the degree feasible, implementation of proposed university developments, specifically the Slack and Grand project, will still result in substantial visual degradation from public spaces. This would be a significant impact.

<u>North Campus Subarea</u>

The North Campus subarea is the focus of the physical expansion in the 2035 Master Plan and would consist of new student housing, recreation facilities, and parking structures. Student housing would be constructed just north of Brizzolara Creek replacing existing surface parking lots. Recreational facilities, including athletic facilities, would be located near the UPRR tracks and would include expansion of existing facilities and construction of new facilities. Informal recreation areas, or campus green, would be developed along Brizzolara Creek as well as within the proposed student housing developments. Two parking structures would be constructed: the Northwest Campus Parking Structure, just north of Brizzolara Creek and east of the UPRR tracks, and the Via Carta Parking Structure, south of Sports Complex Road and west of Via Carta. These parking structures would replace existing athletic fields and a surface parking lot.

An 11.9-acre student housing development north of Brizzolara Creek and west of Village Drive is identified as a near-term project and would be constructed to provide approximately 2,600 beds. While design is still conceptual, the housing development would include buildings three to five stories tall, and support facilities such as administrative offices, recreational lounges, student study areas, community meeting rooms, laundry facilities, counseling offices, and outdoor recreational space. This project would replace an existing parking lot.

Development under the 2035 Master Plan would replace existing surface parking lots and athletic fields and would increase building density within the North Campus. However, proposed buildings and structures would be located near areas that have been previously developed and would be consistent with the surrounding uses. Informal recreation areas and pedestrian pathways, such as the one proposed along Brizzolara Creek, would enhance the visual quality of the site by improving aesthetic resources through the enhancement of the natural environment of Brizzolara Creek and preservation of open space areas.

Although no scenic vistas have been identified within the North Campus, views of the surrounding hillsides, specifically of the Morros and the Santa Lucia Mountains, are available throughout the subarea. Proposed development would be designed to maintain or enhance views and vistas, as required by Master Plan Principle GP 09, described above under "Methodology."

New development would be designed in compliance with Master Plan Principles, described above under "Methodology." The visual character of the site and surrounding area would be preserved through the integration of informal recreation areas and through a 360-degree approach, where all sides of the facility contribute to a cohesive and aesthetically pleasing experience, as required by Master Plan Principle DC 01. Because project design would preserve the visual quality and character of the area and maintain or enhance views of the surrounding areas, development in the North Campus would result in a less-than-significant aesthetic impact.

<u>West Campus Subarea</u>

The 2035 Master Plan would include the construction of various facilities dispersed throughout the West Campus subarea. Proposed development includes new and expanded agricultural support facilities, a Water reclamation facility (WRF), a technology park expansion, a retirement community, and other uses. A detailed description of near-term projects identified under the 2035 Master Plan is provided below:

- The Beef Cattle Evaluation Center Expansion Project would enlarge the existing facility by 10,000 gsf to provide needed space for continuing agricultural programs. This project would be located west of Mount Bishop Road near its intersection with Stenner Creek Road.
- The Farm Shop Project would demolish the existing Farm Shop (Building 9) and construct a 51,200-gsf replacement facility in the western portion of the campus to allow for more efficient operations. This project would be located west of Mount Bishop Road on the edge of campus, just east of SR 1.
- The IT Services Consolidation Project would construct a 15,000-gsf facility off Mt. Bishop Road near the existing Corporation Warehouse. Currently, campus Information Technology Services department offices are located throughout the campus in Old Natatorium, Cotchett Education Building, and Frank E. Pilling Building. This project would consolidate the IT Services department by providing offices to house administrative staff, programmers, and support personnel.
- The Technology Park Expansion Project would be located off Mt. Bishop Road, adjacent to the existing Technology Park facility of similar size and function, and similar to the existing facility it would provide customized research and office space. This expansion would construct multiple buildings totaling 125,000 gsf to provide customized research and office space for start-up companies. It would be designed with smaller spaces to be flexible and adaptable to changes in use over time.
- The Facilities Operations Complex would be constructed to replace the existing facilities complex within the Academic Core subarea constructed in 1961. This new Facilities Operation Complex would encompass 108,000 gsf, would include primarily administrative offices, services, and storage and would be located south of Highland Drive and west of the UPRR tracks. The first phase of the Facilities Operations Complex would provide a 934-space interim parking lot to accommodate surface parking displaced by student housing development in the North Campus.
- The University-Based Retirement Community Project would construct a retirement living community intended for alumni, former faculty and staff, and those who wish to maintain an affiliation with the university beyond their working years. This project would consist of approximately 200 units and include independent living, assisted living and memory care units and would be located on the southern 12 acres of the 25-acre site, west of SR 1 and north of Westmont Avenue.
- The Water Reclamation Facility (WRF) would treat Cal Poly wastewater and disinfect the levels required by Title 22 standards for the irrigation of Cal Poly agricultural and recreational fields. The facility would be located south of the Student Experimental farm and west of the compost operation, just south of the UPRR tracks.

Much of the development proposed within the West Campus would be constructed on vacant land and could potentially affect the visual quality and character of the site and its surroundings. The Beef Cattle Evaluation Center Expansion would be located directly adjacent to the existing evaluation center and would be designed to be compatible and cohesive with it. The IT Services Consolidation Project and the Technology Park Expansion Project would each be constructed on existing surface parking lots near existing development, maintaining the visual character of the site.

The Facilities Operations Complex would be located on agricultural land and could alter the visual character and quality of the site. The site is in an area of low viewer sensitivity, however, and is located adjacent to similar existing uses and buildings in the Academic Core subarea. The Farm Shop would be located near existing structures but would be adjacent to SR 1, and highly visible to travelers along the roadway. Therefore, this facility could adversely affect existing views of the site from SR 1. In addition, the Farm Shop could introduce commercial uses to the existing agricultural area, thereby potentially changing the existing character. Although the Farm Shop would bring more people to the area and would be a commercial use, the Farm Shop would be consistent with existing agricultural uses and would provide the campus and general population the opportunity to view and purchase agriculture products generated on campus. The University-Based Retirement Community would also be located directly adjacent to SR 1 and would be visible to travelers along the roadway. It could block hillside views, including views of Cerro San Luis from SR 1, and could be incompatible with the existing visual setting. The proposed Retirement Community would also be directly east of the Ferrini Heights single-family residential neighborhood, would be highly visible to sensitive viewers, and would potentially block or alter existing views from this neighborhood.

Development would comply with Master Plan principles previously identified under "Methodology." However, the proposed Farm Shop and University-Based Retirement Community would be highly visible, and the preservation of scenic views may not be feasible through project design. Because the project would potentially result in adverse effects on scenic vistas and may substantially alter the visual quality and character of the site, development in the West Campus would result in a significant aesthetic impact.

<u>Summary</u>

Development under the 2035 Master Plan would be largely consistent with existing uses and would apply Master Plan Guiding Principles, described above under "Methodology." New construction and expansion within the Academic Core and North Campus subareas would be largely consistent with existing uses and would not be located in areas of high viewer sensitivity. However, new structures in the West Campus, specifically the Farm Shop and the University-Based Retirement Community, and in the East Campus, specifically the Slack and Grand project, would be located in areas of high viewer sensitivity and could be incompatible with the existing visual character and quality of the site. Project development in the West and East Campus subareas (specifically the Farm Shop, University-Based Retirement Community, and Slack and Grand project) would alter visual character, block views of the surrounding hillsides and mountain peaks, and result in adverse effects to scenic views and vistas. Therefore, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 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.

<u>Significance after Mitigation</u>

In accordance with Section 15370 of the State CEQA Guidelines, mitigation includes avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements. In the context of the aesthetic impacts of the Farm Shop and the University-Based Retirement Community developments in the West Campus subarea, and of the Slack and Grand project in the East Campus subarea, mitigation could include reducing the height and scale of development or relocating the development to other less visually sensitive areas. Smaller scale development coupled with landscape screening, as described above in Mitigation Measure 3.1-1, could reduce the aesthetic impact of these developments.

However, any construction on the proposed University-Based Retirement Community site, west of SR 1, would reduce views of the Morros from SR 1. Relocation of the University-Based Retirement Community would not be feasible because there is no other campus site large enough to accommodate the proposed housing while maintaining close proximity to important community services that are vital to serve the retirement community residents. Other potential residential sites would be intended to serve students and faculty/staff where proximity to the Academic Core subarea and other campus features is of paramount importance. In general, all lands east of SR 1 are reserved for academic and support functions. The Retirement Community would blend with the nearby neighborhood, would have access to the local community, and would be distinct from the undergraduate student housing in the North and East Campus subareas. Elimination of the University-Based Retirement Community would conflict with recommendations and campus policies to provide retirement housing and housing for faculty and alumni.

Relocation of the Farm Shop would not be feasible because other sites on campus would not allow Cal Poly to realize necessary efficiencies in operations such as proximity to existing agricultural uses and access to off-campus locations, and elimination of the Farm Shop would substantially reduce the resources available to students regarding agricultural operations. Relocation of the Slack and Grand project would also be infeasible because there are no other campus sites large enough to accommodate the substantial workforce housing project, particularly in proximity to both the campus core and uses within the city such that objectives for alternative travel modes (e.g., walking, biking) can be achieved.

Because construction at any of the Farm Shop, University-Based Retirement Community, or Slack and Grand project sites would block scenic views and/or substantially degrade the visual character and quality of the sites and alternative sites are not available or feasible, this measure would not be feasible and no other feasible mitigation is available to substantially lessen the aesthetic impact.

Adherence to the 2035 Master Plan principles would address impacts and minimize, where possible, impacts on scenic views. Reducing the scale of development would not reduce impacts to less-than-significant levels and the relocation or elimination of projects within the East and West Campus subareas would not be feasible. No other feasible mitigation is available to reduce the impact to less-than-significant levels. As a result, this impact would be **significant and unavoidable**.

Impact 3.1-2: Damage Scenic Resources within a State Scenic Highway

Project development within the Academic Core, North Campus, and East Campus subareas would not occur along SR 1 and visibility of these features would be limited. Proposed development would be compatible and visually cohesive with existing development and would not damage scenic resources within a state scenic highway. Development in the West Campus subarea would be constructed along SR 1, would be prominently visible, and would reduce views of Bishop Peak and the surrounding landscape. Therefore, the project would damage scenic resources within a state scenic highway, and this impact would be **significant**.

Academic Core Subarea

The Academic Core subarea is located approximately 0.25 mile east of SR 1, the nearest officially designated state scenic highway, and approximately 0.4 mile north of US 101, the nearest eligible—not officially designated—state scenic highway. Portions of the Academic Core can be seen from SR 1; however, development within the Academic Core subarea is fairly indistinguishable from the campus and nearby city and scenic vistas are dominated by the surrounding hillsides and mountain peaks. Development proposed under the 2035 Master Plan would be consistent with existing uses and would not alter or damage scenic resources within a state scenic highway. Therefore, project development in the Academic Core subarea would result in a less-than-significant aesthetic impact.

East Campus Subarea

Although the East Campus subarea is located over 0.5 mile east of SR 1, the nearest officially designated state scenic highway, and approximately 0.4 mile north of US 101, the nearest eligible state scenic highway – not officially designated, the elevated topography of the area renders it highly visible from surrounding areas. Housing developments proposed in the East Campus subarea could be visible from SR 1. However, the proposed housing developments would be expansions or replacements of existing housing, would be consistent with existing uses, and would be designed to be transparent and aesthetically pleasing. Development within the East Campus subarea would not alter or damage scenic resources within a state scenic highway; and, therefore, would result in a less-than-significant aesthetic impact.

<u>North Campus Subarea</u>

The North Campus subarea is located approximately 0.5 mile east of SR 1, the nearest officially designated state scenic highway, and approximately 1 mile north of US 101, the nearest eligible state scenic highway – not officially designated. Similar to the East Campus subarea, the topography rises up gradually, increasing visibility of the North Campus subarea. Development of the North Campus subarea under the 2035 Master Plan would result in additional student housing and recreational facilities within the North Campus subarea. These proposed developments would be similar to existing uses and would be designed to preserve views of the surrounding area. Therefore, project development in the North Campus subarea would not damage scenic resources within a state scenic highway and would result in a less-than-significant aesthetic impact.

<u>West Campus Subarea</u>

The West Campus subarea is primarily located east of SR 1 with two additional parcels located just west of the highway. Because of its proximity to SR 1, much of the West Campus provides the fore- and middle-ground setting for views of the Santa Lucia Mountains to the east. Most of the development proposed in the West Campus subarea would be located closer to the Academic Core and North Campus subareas and would therefore be shielded by the vegetation of Stenner Creek and subordinate to the overall landscape setting. However, the proposed Farm Shop and University-Based Retirement Community would be located directly adjacent to SR 1. The Farm Shop would be located on the eastern side of SR 1, in the foreground setting for views of the Santa Lucia Mountains. The project would preserve or enhance existing vegetation along the boundary of the site directly adjacent to SR 1. Vegetation would continue to block views of the proposed Campus Farm and scenic resources within the state scenic highway would be protected.

The University-Based Retirement Community is proposed on the campus parcel located west of SR 1, just north of the existing California Department of Forestry and Fire Protection station. Portions of the site are the foreground for scenic views to Bishop Peak located to the west. In the northern portion of the site, views of Bishop Peak are reduced, due to the existing topography of the site. Development is proposed on the southern 12-acre portion of the 25-acre site and no changes to the topography of the northern portion of the site would be required such that scenic resources would be altered. Development of the southern portion could result in topographic changes due to the construction of buildings that could potentially block views of the surrounding landscape from SR 1.

Because the 2035 Master Plan would propose development within the West Campus subarea along a state scenic highway and could potentially damage scenic resources, the project would result in a significant aesthetic impact.

<u>Summary</u>

Proposed development within the Academic Core, North Campus, and East Campus subareas would not occur along SR 1 and visibility of new development from that corridor would be limited. Proposed development would be compatible and visually cohesive with existing buildings and would not damage scenic resources within a state scenic highway. Development within the West Campus subarea (specifically the University-Based Retirement Community) is proposed along SR 1, would be highly visible, and could damage scenic resources within a state scenic highway. Therefore, this impact would be **significant**.

Mitigation Measures

As discussed above under Impact 3.1-1, mitigation related to the aesthetic impacts associated with development of the West Campus subarea, in accordance with Section 15370 of the CEQA Guidelines, could include reducing the scale of the development or relocating the development to other less visually sensitive areas. However, because any construction at the proposed sites would block scenic views of Bishop Peak from SR 1, a state scenic highway, and alternative sites are not available, these mitigation measures are not considered feasible.

Significance after Mitigation

Implementation of Master Plan principles would address impacts and minimize, where possible, impacts on scenic views through project design, siting, massing, and landscaping. However, no feasible mitigation is available to reduce the aesthetic impact of development in the West Campus subarea to a less-than-significant level. A decrease in proposed development and/or greater setbacks could reduce the potential disruption to existing scenic views, however, any development on the vacant parcel west of SR 1 would reduce scenic views of the Morros, damaging scenic resources within a state scenic highway. As a result, this impact would be **significant and unavoidable**.

Impact 3.1-3: Create a New Source of Substantial Light or Glare Which Would Adversely Affect Day or Nighttime Views in the Area

Implementation of the 2035 Master Plan would introduce new sources of light and glare associated with new buildings and facilities, and new lighting at the Farm Shop, University-Based Retirement Community, and Slack and Grand project sites would contribute to degradation of visual character and quality of public views (see Impact 3.1-1). Additionally, to support the Master Plan goal to create a 24-hour campus community, increased lighting would be required for longer hours. Such lighting could contribute to indirect lighting/glare on adjacent land uses that could adversely affect daytime or nighttime views and result in additional skyglow. This impact would be **significant**.

Academic Core Subarea

Under existing conditions, the Academic Core subarea is largely developed with multiple sources of light and glare. The project would renovate or expand several existing buildings and would construct new facilities in this area. In addition, Master Plan Principle UL 04 states that entertainment, recreation, and social facilities should be provided to support a 24-hour community. Areas such as Creekside Village and the University Union could operate 24 hours per day and would require additional lighting. Pedestrian pathways and bikeways, such as Via Carta, would need to be accessible at all times and would also require nighttime lighting throughout. New or renovated buildings may include the use of metal or glass, increasing the potential for glare from reflective light. However, because multiple sources of light and glare are present under existing conditions, the increase in light or glare as a result of the project would not be substantial, may not be noticeable from off-site locations, and would not adversely affect day or nighttime views in the area. Therefore, project development in the Academic Core subarea would result in a less-than-significant impact.

East Campus Subarea

Buildout of the 2035 Master Plan would result in an increase in recreation facilities, student housing, residential neighborhoods, and amenities, thereby presenting additional sources of interior and exterior light. Recreation facilities and housing amenities, such as sports courts and dining halls, could operate 24 hours per day, based on Master Principle UL 04. Operation during nighttime hours would require increased lighting. The Slack and Grand project would create new sources of light and glare from security lighting on entrances, parking areas, pathways and buildings, and from glass or metal surfaces. These sources of light and glare could result in indirect lighting or glare in the off-campus neighborhood south of Slack Street and could affect day or nighttime views in the East Campus subarea. This impact would be significant.

North Campus Subarea

The North Campus subarea currently includes some existing housing and recreational facilities. However, under the 2035 Master Plan a substantial increase in such facilities and their densities would occur. Master Plan Principle UL 04 states that entertainment, recreation, and social facilities should be provided to support a 24-hour community. Therefore, facilities including residential units, dining halls, pedestrian and bike pathways, and recreation areas, would require lighting during evening and nighttime hours. Athletic fields would require substantial sources of light, including floodlights, during the evening and nighttime hours that may result in additional skyglow. Building materials used in project development may include reflective surfaces such as glass and metal and may result in additional sources of glare. Because new sources of light and glare would be introduced and may affect nighttime views in the North Campus subarea, this impact would be significant.

West Campus Subarea

The West Campus subarea consists primarily of agricultural uses and has limited sources of light and glare. New development in this area would increase facilities and create new sources of light and glare. Facilities proposed east of SR 1 would not operate 24 hours per day and would only require minimum security lighting during the nighttime hours. The Farm Shop would serve the campus and the surrounding public and would operate into the evening hours. In addition to light required for building operations, traffic traveling to the Farm Shop during evening hours would introduce light from vehicle headlights. The proposed University-Based Retirement Community, located west of SR 1, would develop a vacant lot and would require lighting for parking lots, roadways, entrances, security, and nighttime building operations. This community would be located directly adjacent to the existing Ferrini Ranch neighborhood and may expose existing residents to new sources of light. Building materials used throughout the West Campus subarea would likely include glass, metal, and polished roofing material which would reflect light and present new sources of glare. Because project development would create new sources of light and glare that may affect daytime and nighttime views, this impact would be significant.

Summary

Development of the main campus under the 2035 Master Plan would result in an increase in light required for building operations, parking lots, pathways, building security, and recreational facilities. Additional light sources would be required for evening and nighttime building operations to provide 24-hour access. Building materials may include glass or metal and would increase the number of reflective surfaces resulting in glare. New lighting at the Farm Shop, University-Based Retirement Community, and Slack and Grand project sites, specifically, would contribute to degradation of visual character and quality of public views (see Impact 3.1-1). Because the project would create new sources of substantial light and glare and would potentially affect daytime and nighttime views, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 3.1-3d: Install Vegetated Barriers if Needed

If the use of permanent, high-intensity lighting without directional considerations is necessary for recreational facilities, Cal Poly shall require installation of landscaping adjacent to lighted recreational facilities, to include trees and vegetation, that will shield substantial sources of light and prevent spillover light from affecting nearby receptors including existing residential neighborhoods. Barrier design would be determined at the time of individual project design, based on project details, proximity to existing land uses, and anticipated operational characteristics of the proposed development. Barriers shall be designed or approved by a qualified arborist or landscape architect, in coordination with Cal Poly, and shall consider vegetation types that are native to the region and provide year-round leaf cover, and overall design shall be consistent with other applicable University policies, while minimizing light spillover to the extent feasible.

Significance after Mitigation

Implementation of these mitigation measures would require use of nonreflective surfaces, directional lighting with shielded and cutoff type light fixtures that minimize light spillage and skyglow, and use of vegetation to reduce light spillage from recreation facilities and residential developments. These measures would limit impacts such that skyglow and light spillage would not substantially increase beyond existing conditions. Specific lighting measures for three developments proposed along the Master Plan Area perimeter (Farm Shop, University-Based Retirement Community, and Slack and Grand project) would minimize the potential for residents and receptors within the city and motorists on SR 1 to experience light spillover and/or night lighting effects associated with these developments. Effects on daytime and nighttime views from new sources of light and glare would be minimized and impacts would be reduced to **less-than-significant** levels.

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3.2 AGRICULTURE AND FORESTRY RESOURCES

This section describes the types and classifications of existing agriculture and forestry resources in the Master Plan Area and surroundings, including Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. It also addresses the potential for implementation of the 2035 Master Plan to result in the conversion of agricultural lands to other uses or the loss of forestry resources.

No comments regarding agriculture or forestry resources were received in response to the Notice of Preparation (NOP).

3.2.1 Regulatory Setting

FEDERAL

There are no federal regulations related to agriculture that apply to the 2035 Master Plan.

STATE

California Department of Conservation Farmland Mapping and Monitoring Program

Farmland in California is classified and mapped according to the California Natural Resources Agency, Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP). Authority for the FMMP comes from Government Code Section 65570(b) and PRC Section 612. The FMMP was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), which mapped farmlands based on soil quality and land use and classified the land's suitability for agricultural production accordingly (DOC 2004). The FMMP, like the NRCS, classifies agricultural lands according to suitability for agricultural production, but customizes those classifications for California. Collectively, those lands deemed suitable for agricultural production are referred to as Important Farmland. Government Code Section 65570(b) requires DOC to collect or acquire information on the amount of land converted to or from agricultural use for every mapped county, with a minimum map unit size of 10 units, and to report this information to the state legislature for purposes of planning for the future of California's agricultural land resources. PRC Section 612 requires DOC to prepare, update, and maintain Important Farmland series maps and other soils and land capability information.

FARMLAND CLASSIFICATION

The State of California maps and classifies farmland through the DOC FMMP. Classifications are based on a combination of physical and chemical characteristics of the soil and climate that determine the degree of suitability of the land for crop production. The classifications under the FMMP are as follows:

- Prime Farmland—land that has the best combination of features for the production of agricultural crops;
- Farmland of Statewide Importance—land other than Prime Farmland that has a good combination of physical and chemical features for the production of agricultural crops, but that has more limitations than Prime Farmland, such as greater slopes or less ability to store soil moisture;
- Unique Farmland—land of lesser quality soils used for the production of the state's leading agricultural cash crops;
- Farmland of Local Importance—land of importance to the local agricultural economy;
- Grazing Land—existing vegetation that is suitable for grazing;
- Urban and Built-Up Land—land occupied by structures in density of at least one dwelling unit per 1.5 acres;
- Land Committed to Nonagricultural Use—vacant areas; existing land that has a permanent commitment to development but has an existing land use of agricultural or grazing lands; and

- Other Land—land not included in any other mapping category, common examples of which include low-density rural developments, brush, timber, wetland, and vacant and nonagricultural land surrounded on all sides by urban development.

Section 21095 of the CEQA statute and the State CEQA Guidelines Appendix G define three of the FMMP's Important Farmland categories—Prime Farmland, Farmland of Statewide Importance, and Unique Farmland—as agricultural lands for purposes of CEQA analysis and acknowledge that their conversion to nonagricultural uses may be considered a significant impact.

CEQA Section 21095 and CEQA Guidelines Appendix G, together, define Prime, Unique, and Farmland of Statewide Importance as "Important Farmland," whose conversion may be considered significant. Local jurisdictions are permitted to consider other classifications of farmland as important and can also use a customized agricultural land evaluation and site assessment model to determine farmland importance and impacts from conversion. Important Farmland, within the context of CEQA, is not limited to active agricultural land but refers to land that has been designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the FMMP, which may include open space.

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) enforces the laws that regulate logging on nonfederal lands in California. CAL FIRE also provides periodic assessments of forest resources within California as part of the Forest and Range Assessment Project. Currently, CAL FIRE is preparing the 2015 Assessment, an update to the 2010 Assessment, which will present an assessment of the trends, conditions, and degree to which forestland conversion has occurred. CAL FIRE also maintains the Forest Legacy Program, which is intended to identify and protect environmentally important forestlands that are threatened by conversion of land to nonforest uses by either purchase or through deed restrictions, such as conservation easements.

California Land Conservation Act of 1965

The California Land Conservation Act of 1965, or Williamson Act, preserves agricultural and open space lands through property tax incentives and voluntary restrictive use contracts. Private landowners voluntarily restrict their land to agricultural and compatible open-space uses under minimum 10-year rolling term contracts. In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

San Luis Obispo County General Plan

The San Luis Obispo County General Plan Agriculture Element contains the following policies that are relevant to agricultural resources (County of San Luis Obispo 2010):

- Policy AGP18: Location of Improvements.

  A. Locate new buildings, access roads, and structures so as to protect agricultural land.

- Policy AGP24: Conversion of Agricultural Land.

  A. Discourage the conversion of agricultural lands to non-agricultural uses through the following actions:

     1. Work in cooperation with the incorporated cities, service districts, school districts, the County Department of Agriculture, the Agricultural Advisory Liaison Board, Farm Bureau, and affected

community advisory groups to establish urban service and urban reserve lines and village reserve lines that will protect agricultural land and will stabilize agriculture at the urban fringe.

2. Establish clear criteria in this plan and the Land Use Element for changing the designation of land from Agriculture to non-agricultural designations.
3. Avoid land redesignation (rezoning) that would create new rural residential development outside the urban and village reserve lines.
4. Avoid locating new public facilities outside urban and village reserve lines unless they serve a rural function or there is no feasible alternative location within the urban and village reserve lines.

City of San Luis Obispo General Plan

The City of San Luis Obispo General Plan contains the following policies that are relevant to agricultural resources (City of San Luis Obispo 2014):

- **Policy 9.1.1: Preserve natural and agricultural landscapes.** The City will implement the following policies and will encourage other agencies with jurisdiction to do likewise:

  A. Natural and agricultural landscapes that the City has not designated for urban use shall be maintained in their current patterns of use.

  B. Any development that is permitted in natural or agricultural landscapes shall be visually subordinate to and compatible with the landscape features. Development includes, but is not limited to buildings, signs (including billboard signs), roads, utility and telecommunication lines and structures. Such development shall:

     1. Avoid visually prominent locations such as ridgelines, and slopes exceeding 20 percent.
     2. Avoid unnecessary grading, vegetation removal, and site lighting.
     3. Incorporate building forms, architectural materials, and landscaping, that respect the setting, including the historical pattern of development in similar settings, and avoid stark contrasts with its setting.
     4. Preserve scenic or unique landforms, significant trees in terms of size, age, species or rarity, and rock outcroppings.

- **Policy 1.9.1: Agricultural Protection.** The City shall support preservation of economically viable agricultural operations and land within the urban reserve and city limits. The City should provide for the continuation of farming through steps such as provision of appropriate general plan designations and zoning.
- **Policy 1.9.2: Prime Agricultural Land.** The City may allow development on prime agricultural land if the development contributes to the protection of agricultural land in the urban reserve or greenbelt by one or more of the following methods, or an equally effective method: acting as a receiver site for transfer of development credit from prime agricultural land of equal quantity; securing for the City or for a suitable land conservation organization open space or agricultural easements or fee ownership with deed restrictions; helping to directly fund the acquisition of fee ownership or open space easements by the City or a suitable land conservation organization. Development of small parcels which are essentially surrounded by urbanization need not contribute to agricultural land protection.

3.2.2 Environmental Setting

Agriculture is an important industry in San Luis Obispo County. In 2018, wine grapes and strawberries generated the highest agricultural production value in the county. Other economically important crops or commodities include broccoli, avocados, cattle and calves, cauliflower, cut flowers, vegetable transplants (from seedlings started in greenhouses to speed crop production in the field), head lettuce, and lemons. Statewide, San Luis Obispo County ranks fourth of all counties for production of broccoli, cauliflower, and strawberry and fifth for avocado and flower production (San Luis Obispo County Department of Agriculture 2018).

EXISTING FARMLAND

San Luis Obispo County is an important key agricultural area within the State of California. Wine grapes and strawberries lead a list of high-value specialty crops grown in the County, followed by broccoli, avocados, cattle and calves, cauliflower, cut flowers, veggie transplants, head lettuce, and lemons (San Luis Obispo County Department of Agriculture 2018). As of 2016, the total area of agricultural land in the County encompassed approximately 1,587,000 acres, of which approximately 397,000 acres were designated as Important Farmland (DOC 2016).

The 1,339-acre Master Plan Area includes Cal Poly's 855-acre main campus, which is where future development of new university facilities would occur under the 2035 Master Plan. Of the Master Plan Area, the FMMP designates approximately 124 acres as Prime Farmland, 12 acres as Farmland of Statewide Importance, and 13 acres as Unique Farmland, for a total of approximately 149 acres; an additional 98 acres are designated as Farmland with Local Potential (here represented by grazing lands), which is not considered agricultural land for purposes of CEQA analysis. The balance of the Master Plan Area acreage is designated as Urban and Built-Up (approximately 457 acres), grazing land (519 acres) and Other Land (approximately 123 acres) (DOC 2018).

Farmland designated within the Master Plan Area, in accordance with the FMMP, is depicted in Figure 3.2-1. As shown in Figure 3.2-1, the approximately 149 acres of Important Farmland (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) are located in the western half of the Master Plan Area. The mapped Farmland with Local Potential (grazing lands) is predominantly located along the northern and eastern edge of the Master Plan Area.

EXISTING FORESTRY RESOURCES

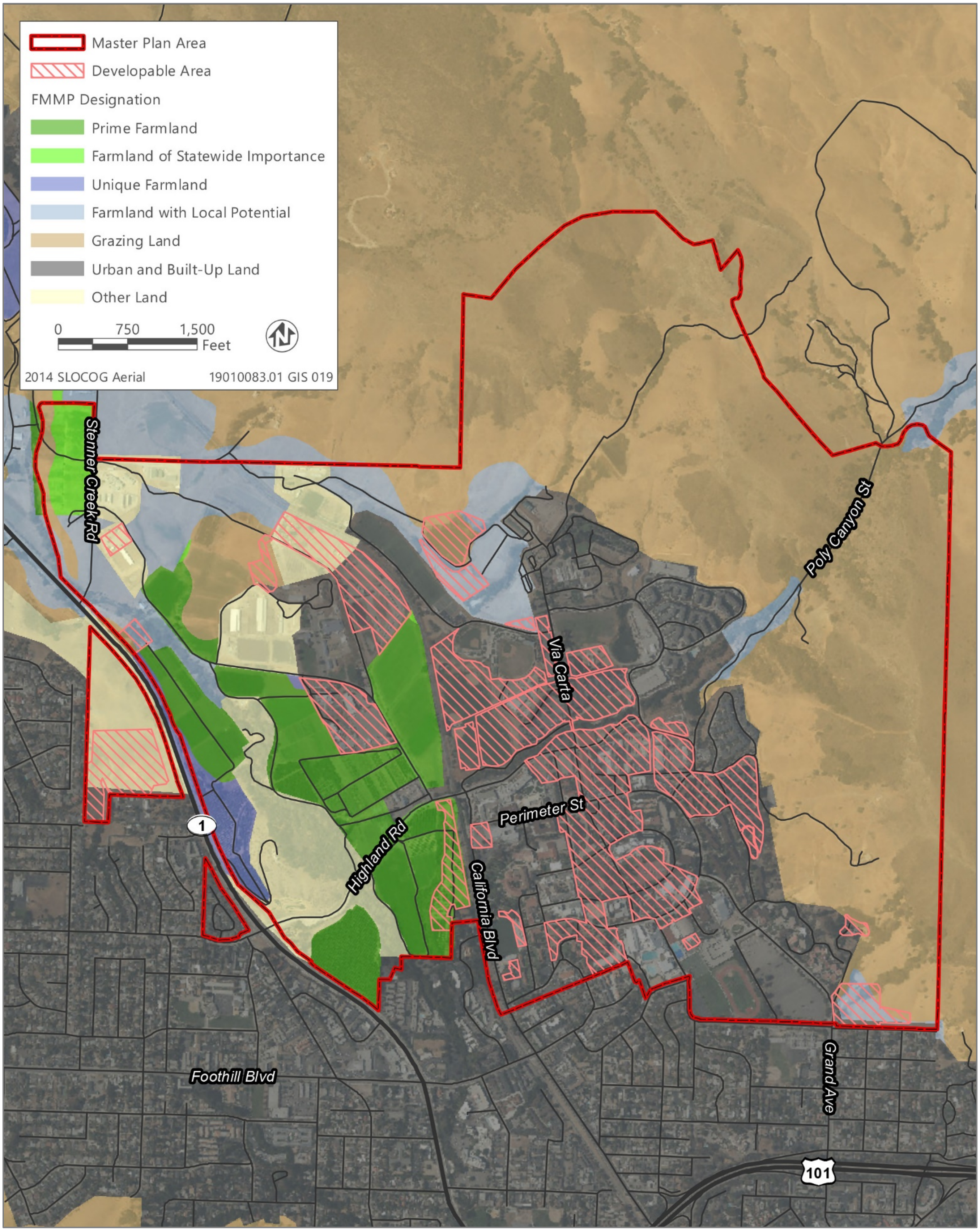
Forestry resources include forestland, timberland, and timberland production zones. Definitions used for these categories are those found in the PRC and California Government Code. Forestland is defined as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forestry resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits (PRC Section 12220[g]). Timberland is land, other than land owned by the federal government or land that is designated as experimental forest, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products (PRC Section 4526). Timberland production zones are areas that have been devoted to and used for growing and harvesting timber and compatible uses (Government Code Section 51104[g]).

Existing trees within the 2035 Master Plan area are located either within existing open space areas or retained as landscaping in and around structures. Based on the above definitions, lands within the Master Plan Area are not considered forestry or timber-production lands, nor are they designated as forestland.

3.2.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

To evaluate the potential impacts of the 2035 Master Plan on agricultural resources, the type and degree of agricultural and forestry resources that could be lost/converted were considered in relation to FMMP designations of lands within the Master Plan Area and any policies and programs related to the preservation of agricultural or forestry resources. The extent of acreages of lands potentially affected by development under the 2035 Master Plan was determined through GIS analysis, using maps provided by DOC. GIS software was used to determine acreages of farmland, by FMMP designation. The FMMP farmland mapping layer was overlaid with proposed development footprint GIS data to determine acreage of farmland that could potentially be developed during implementation of the 2035 Master Plan. In determining the level of significance, the analysis assumes that the project would comply with relevant federal and state laws, regulations, and ordinances.



Source: Data downloaded from the Department of Conservation in 2019

Figure 3.2-1 Developable Area and Farmland Mapping and Monitoring Program

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considering continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. The following principles are relevant to agricultural resources:

- **Sustainability and Environmental Stewardship (S) 02:** Cal Poly should preserve and enhance the viability of agriculture and natural habitat systems on its holdings by providing adequate land area including appropriate buffers, connectivity or corridors between related natural communities, and linear continuity along streams.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the 2035 Master Plan would normally have a significant adverse effect related to agricultural and forestry resources if it would:

- convert Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (collectively referred to as Important Farmland for purposes of this section), as shown on the maps prepared pursuant to the FMMP of DOC, to nonagricultural use;
- conflict with existing zoning for agricultural use or a Williamson Act contract;
- conflict with existing zoning for, or cause rezoning of, forestland (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
- result in the loss of forestland or conversion of forestland to nonforest use; or
- involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to nonforest use.

ISSUES NOT DISCUSSED FURTHER

Conflicts with Existing Zoning for Agricultural Use

The 2035 Master Plan would not result in the development of nonagricultural land uses adjacent to off-site agricultural uses. While implementation of the 2035 Master Plan would result in the conversion of agricultural land within the western and southern portions of campus to nonagricultural uses, these areas of proposed development are not located directly adjacent to off-campus land zoned for agricultural purposes. As a result, no impacts would occur, and potential conflicts with existing agricultural zoning are not evaluated further.

Williamson Act Contracts

In San Luis Obispo County, lands may be eligible for a Williamson Act contract only if they are within the Agriculture land use category under the County General Plan (County of San Luis Obispo 2019). Because Cal Poly is located on state land and is not subject to County land use designations, it is not eligible for participation in the County's Williamson Act Program. Therefore, the 2035 Master Plan would not result in conflicts with a Williamson Act contract, and there would be no impacts. Potential conflicts with Williamson Act contracts are not evaluated further.

Forestry Resources

The Master Plan Area and surrounding land uses are not designated as forest or timber-production lands; therefore, no forestry resources could be affected by project implementation. This issue is not evaluated further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Convert Agricultural Uses, Including Lands Designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (Important Farmland), to Nonagricultural Use

The 2035 Master Plan includes several policies related to the need to preserve and enhance the presence of agriculture. While implementation of the 2035 Master Plan largely avoids designated Important Farmland, the proposed Facilities Operations Complex, including the interim replacement surface parking lot that could be built as the first phase of development of the site, would be located on land designated as Prime Farmland. Based on data obtained through GIS analysis, this would result in the conversion of up to 10 acres of Important Farmland to nonagricultural use. The College of Agriculture has ceased to use the 10 acres for agricultural purposes: its size, condition, and configuration render it difficult to manage and of less value to the College. Nonetheless, because it is currently designated Prime Farmland, its loss would be a **significant** impact.

The 2035 Master Plan supports the need to preserve and enhance the presence of sustainable agriculture, particularly as a means to support the "Learn by Doing" approach to teaching and research. Implementation of the 2035 Master Plan largely avoids areas designated as Important Farmland and other agricultural land. However, the proposed Facilities Operations Complex would be located on land designated as Prime Farmland. This same area is currently proposed to provide a 934-space interim surface parking lot that would be built as the first phase of the Operations complex, to replace existing surface parking lots H12 and H16 that would be displaced by near-term student housing projects in the North Campus subarea. This area is currently occupied by fallow fields and windbreaks. Based on data obtained through GIS analysis and the current land plan, this would result in the conversion of up to 10 acres of Important Farmland to nonagricultural use (see Figure 3.2-1 and Table 3.2-1).

Table 3.2-1 Acres of Affected Land included in the Farmland Mapping and Monitoring Program

FMMP Designation	Acres Affected
Prime Farmland	10.0
Unique Farmland	0.0
Farmland of Statewide Importance	0.0
Total Important Farmland	**10.0**
Farmland with Local Potential	9.9
Grazing Land	8.9
Other Land	18.4
Urban and Built-Up Land	137.6
Grand Total	**184.8**

Notes: Important Farmland consists of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance.

FMMP = Farmland Mapping and Monitoring Program

Source: Data compiled by Ascent Environmental in 2019

Important Farmland, within the context of CEQA, is not all active or high-value agricultural land, but refers specifically to land that has been designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the FMMP, which may include open space, as noted in Section 3.2.1, "Regulatory Setting." Important Farmland affected by the 2035 Master Plan would consist of Prime Farmland (10 acres) and negligible amounts of Unique Farmland (0.02 acre) and Farmland of Statewide Importance (0.02 acre) (see Table 3.2-1). The 10 acres of Prime Farmland area that would be displaced by the Facilities Operations Complex/interim surface parking lot is no longer used by the College of Agriculture for agricultural purposes. The area is long and narrow, isolated from other agricultural lands, has limited sunlight, and is difficult to manage. The property has been abandoned by the College in favor of other land better suited for agricultural learning. Notwithstanding, the conversion of up to 10 acres of the approximately 149 acres of Important Farmland within the Master Plan Area would be a **significant** impact.

Mitigation Measures

Mitigation Measure 3.2-1: Preserve Other Campus Agricultural Land

Before conversion of Prime Farmland to nonagricultural uses to accommodate development of the Facilities Operations Complex (including the first phase interim replacement surface parking), Cal Poly shall preserve through a conservation easement or similar legal mechanism an equivalent acreage (up to 10 total acres for the entire 2035 Master Plan Area) of Prime Farmland within its existing land holdings for agricultural purposes (including agricultural teaching and research). If no suitable property exists within the campus, Cal Poly shall identify and purchase or place a conservation easement on a parcel containing equivalent acreage of Prime Farmland.

Significance after Mitigation

Although up to 10 acres of Important Farmland would be conserved through implementation of Mitigation Measure 3.2-1, it would only prevent future loss of an equivalent acreage of Important Farmland and would not replace Important Farmlands converted to development under the 2035 Master Plan, leaving an incremental decrease of prime soils in the County and State. Once development or modifications occur on Important Farmland, the underlying soils are no longer available for agricultural activities. Furthermore, it is infeasible for the campus to replace farmland that has already been developed with other uses. Replacement of lost agricultural land on campus would require removal of existing on-campus facilities that are otherwise needed for Cal Poly's academic purposes. In addition, agricultural lands located on-campus are intended to serve the broader academic mission of the campus. Furthermore, it is highly speculative if suitable land (with underlying soils that meet the criteria of Important Farmland) located off-campus can be acquired by Cal Poly and converted back to agricultural uses. Thus, as with on-campus farmland replacement, off-campus farmland replacement is not considered a feasible form of mitigation owing to the highly speculative nature of any such land transaction. While much of the proposed development, avoids Important Farmland, development of the Facilities Operations Complex and interim replacement surface parking under the 2035 Master Plan would occur on Important (Prime) Farmland. Therefore, this impact would be **significant and unavoidable**.

Impact 3.2-2: Involve Other Changes in the Existing Environment That Could Result in Conversion of Important Farmland to Nonagricultural Use

Development proposed under the 2035 Master Plan could result in the direct loss or conversion of existing agricultural uses on the Cal Poly campus. However, development would occur within the existing campus boundary, not resulting in sprawl or expansion of the urban growth boundary of the City or County. In addition, substantially increasing on-campus housing under the 2035 Master Plan would reduce development pressure from Cal Poly onto the City and County. This reduced pressure, in addition to City and County policies that discourage the conversion of agricultural land to nonagricultural uses (see Section 3.2.1, "Regulatory Setting"), would limit the potential for off-campus development on agricultural land. Thus, indirect impacts on agricultural resources would be **less than significant**.

As discussed above in Section 3.2.2, "Environmental Setting," there is extensive Important Farmland located in San Luis Obispo County. The conversion of agricultural lands to nonagricultural uses through development in the vicinity of other agricultural land can introduce conflicts between developed uses and agricultural operations and has the potential to indirectly result in additional conversion of agricultural lands. With respect to the 2035 Master Plan, further development of the campus and general economic and population growth in the region could result in development pressures or land use conflicts. Planning for contiguous development and other land use decisions may cause conversion of agricultural uses to nonagricultural uses to accommodate growth projections.

However, development associated with the 2035 Master Plan, including housing, would do so entirely within the confines of the existing campus, and as a result would not result in sprawl, expansion of the urban growth boundary, or the need for new infrastructure where none exists and would not otherwise indirectly lead to the conversion of any off-campus Important Farmland.

Secondly, the 2035 Master Plan proposes housing for all first- and second-year students, as well as 30 percent of upper division students in residential communities of campus. This would substantially increase undergraduate student housing on the campus, providing accommodations for approximately 63 percent of Cal Poly's undergraduate students. In addition, housing opportunities on campus would be provided to University faculty and staff, graduate students, veterans, students with families, and other members of the greater San Luis Obispo community. With development of on-campus housing, the need for off-campus residential development would be reduced. This reduced pressure, in addition to City and County policies that discourage the conversion of agricultural land to nonagricultural uses (see Section 3.2.1, "Regulatory Setting"), would limit the potential for off-campus development on agricultural land.

Thus, considering that all new development would be focused within the existing campus footprint and the fact that the 2035 Master Plan would provide additional on-site housing, potentially relieving pressure for additional off-campus development, the project would not cause indirect impacts that could result in conversion of other agricultural land, and this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

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3.3 AIR QUALITY

This section includes a discussion of existing air quality conditions, a summary of applicable regulations, and an analysis of potential construction and operational air quality impacts caused by proposed development of the 2035 Master Plan. Mitigation is included, as necessary, to reduce significant air quality impacts to the extent feasible. Detailed calculations, modeling inputs, and results can be found in Appendix C.

No comments regarding air quality were received in response to the Notice of Preparation (NOP).

3.3.1 Regulatory Setting

Air quality in the Master Plan Area and San Luis Obispo County is regulated through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality in California are discussed below.

FEDERAL

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA's air quality mandates draw primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress in 1990. EPA's air quality efforts address criteria air pollutants, ozone precursors, and hazardous air pollutants (HAPs). EPA regulations concerning criteria air pollutants and HAPs are presented in greater detail below.

<u>Criteria Air Pollutants</u>

The CAA required EPA to establish national ambient air quality standards (NAAQS) for six common air pollutants found all over the United States referred to as criteria air pollutants and precursors. EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with aerodynamic diameter of 10 micrometers or less (PM_{10}), fine particulate matter with aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. The NAAQS are shown in Table 3.3-1. The primary standards protect public health and the secondary standards protect public welfare. The CAA also required each state to prepare a state implementation plan (SIP) for attaining and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. California's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, EPA may prepare a federal implementation plan that imposes additional control measures. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Table 3.3-1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California (CAAQS)[1,2]	National (NAAQS)[3] Primary[2,4]	National (NAAQS)[3] Secondary[2,5]
Ozone	1-hour	0.09 ppm (180 μg/m^3)	–[5]	Same as primary standard
	8-hour	0.070 ppm (137 μg/m^3)	0.070 ppm (147 μg/m^3)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Same as primary standard
	8-hour	9 ppm[6] (10 mg/m^3)	9 ppm (10 mg/m^3)	
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 μg/m^3)	53 ppb (100 μg/m^3)	Same as primary standard
	1-hour	0.18 ppm (339 μg/m^3)	100 ppb (188 μg/m^3)	—
Sulfur dioxide (SO_2)	24-hour	0.04 ppm (105 μg/m^3)	—	—
	3-hour	—	—	0.5 ppm (1300 μg/m^3)
	1-hour	0.25 ppm (655 μg/m^3)	75 ppb (196 μg/m^3)	—
Respirable particulate matter (PM_{10})	Annual arithmetic mean	20 μg/m^3	—	Same as primary standard
	24-hour	50 μg/m^3	150 μg/m^3	
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3
	24-hour	—	35 μg/m^3	Same as primary standard
Lead [6]	Calendar quarter	—	1.5 μg/m^3	Same as primary standard
	30-Day average	1.5 μg/m^3	—	—
	Rolling 3-Month Average	–	0.15 μg/m^3	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 μg/m^3)	No national standards	
Sulfates	24-hour	25 μg/m^3		
Vinyl chloride [6]	24-hour	0.01 ppm (26 μg/m^3)		
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Notes: μg/m^3 = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million.

1 California standards for ozone, carbon monoxide, SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of 17 CCR.

2 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

3 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the U.S. Environmental Protection Agency for further clarification and current federal policies.

4 National primary standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

5 National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

6 The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: CARB 2016

Hazardous Air Pollutants and Toxic Air Contaminants

Toxic air contaminants (TACs), or in federal parlance, HAPs, are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects, such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects, such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.3-1). Cancer risk from TACs is expressed as excess cancer cases per 1 million exposed individuals, typically over a lifetime of exposure.

EPA regulates HAPs through its National Emission Standards for Hazardous Air Pollutants. The standards for a particular source category require the maximum degree of emission reduction that EPA determines to be achievable, which is known as the Maximum Achievable Control Technology standards. These standards are authorized by Section 112 of the 1970 CAA, and the regulations are published in 40 CFR Parts 61 and 63.

STATE

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish California ambient air quality standards (CAAQS) (Table 3.3-1). Relevant California regulations, by air pollutant type, are discussed in greater detail below.

Criteria Air Pollutants

CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In some cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to attain and maintain the CAAQS by the earliest date practical. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources. The CCAA also provides air districts with the authority to regulate indirect sources.

Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807, which established the Air Toxics Program, sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted EPA's list of HAPs as TACs. Most recently, particulate matter (PM) exhaust from diesel engines (diesel PM) was added to CARB's list of TACs.

After a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate best available control technology (BACT) for toxics to minimize emissions.

In addition, CARB has published its *Air Quality and Land Use Handbook* that provides guidance on land use compatibility with TAC sources (CARB 2005). The *Air Quality and Land Use Handbook* offers recommendations for siting sensitive receptors near TAC sources such as high-volume roadways, distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

AB 617 of 2017 aims to help protect air quality and public health in communities around industries subject to the state's cap-and-trade program for greenhouse gas emissions. AB 617 imposes a new state-mandated local program to address nonvehicular sources (e.g., refineries, manufacturing facilities) of criteria air pollutants and TACs. The bill requires CARB to identify high-pollution areas and directs air districts to focus air quality improvement efforts through adoption of community emission reduction programs within these identified areas. Currently, air districts review individual sources and impose emissions limits on emitters based on BACT, pollutant type, and proximity to nearby existing land uses. This bill addresses the cumulative and additive nature of air pollutant health effects by requiring community-wide air quality assessment and emission reduction planning.

CARB has adopted diesel exhaust control measures and more stringent emissions standards for various transportation-related mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of CARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be 85 percent less in 2020 in comparison to year 2000 (CARB 2000). Adopted regulations are also expected to continue to reduce formaldehyde emissions emitted by cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

CALIFORNIA STATE UNIVERSITY

California State University Sustainability Policy

In May 2014, the California State University (CSU) Board of Trustees adopted the first CSU system-wide Sustainability Policy. The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The CSU Sustainability Policy established the following goals related to air quality:

- Promote use of alternative fuels and transportation programs.
- Procure 33 percent of energy supply from renewable sources by 2020.
- Increase on-site energy generation from 44 to 80 megawatts by 2020.

Cal Poly Campus Administrative Policy

Cal Poly maintenance of and improvements to air quality conditions are addressed as part of the Campus Administrative Policy. Specifically, the Campus Administrative Policies include the following to address air quality:

- **151.2[2]: Sustainability.** Practice Institutional Ecology – Use a wide array of sustainable practices, related water conservation, energy conservation, alternative transportation, and new building construction.
- **362.1: Environmental Compliance Program.** The University shall comply with applicable federal, state, and local laws and regulations related to environmental protection and pollution control.
- **362.1.3: Air Pollution Control.** All stationary sources of air pollution (engines, boilers, spray booths, etc.) shall have a permit or exemption issued by the San Luis Obispo County Air Pollution Control District prior to installation and operation. The University shall implement transportation control measures consistent with its Trip Reduction Plan in response to the San Luis Obispo County Air Pollution Control Board's (APCD) Clean Air Plan.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code. However, Cal Poly is subject to the rules and regulations of the APCD as it is a special district/local-regional planning agency that is tasked with maintaining or improving air quality and human health within San Luis Obispo County.

San Luis Obispo County Air Pollution Control District

Criteria Air Pollutants

The APCD is the primary agency responsible for planning to meet NAAQS and CAAQS in San Luis Obispo County. Consistent with State law, it adopted a Clean Air Plan for San Luis Obispo County in 2001 to address attainment of state ozone and particulate matter standards (2001 Clean Air Plan). The 2001 Clean Air Plan outlines the APCD's strategies to reduce emissions from a wide variety of stationary and mobile sources, and a Triennial Report regularly documents the county's progress towards attainment. The county is currently designated as a "nonattainment" area for ozone with respect to the CAAQS and nonattainment for PM_{10} with respect to the NAAQS and CAAQS.

Since 2001 and as part of its efforts to monitor and improve air quality within the county, the APCD has developed a set of guidelines that lead agencies may use when preparing environmental documents pursuant to CEQA. The most recent set of guidelines is APCD's *CEQA Air Quality Handbook*, which was adopted in April 2012. In 2017, the APCD appended a clarification memo to the handbook which updated specific sections to reflect recent emission trends and evolving mitigation measures. The guidance provided in the 2012 handbook, as supplemented by the 2017 memorandum, includes specific consideration for project types and distinguishes between program level review, such as for a general plan update, specific plan, or in this case the 2035 Master Plan, and individual project review, such as for an office or apartment building, single phase housing development, or other individual projects. The handbook directs that for a program level review, the analysis should focus on a qualitative analysis of the program's consistency with the 2001 Clean Air Plan, and individual projects should be evaluated using the handbook's quantitative emission-based thresholds of significance for criteria air pollutants. The handbook, also contains thresholds of significance for TACs and identifies different mitigation measures depending on the project type (plan, project and/or subdivision) and the scope, type and level of exceedances of air quality emissions. See Section 3.3.3, "Environmental Impacts and Mitigation Measures" for further detail regarding APCD's recommended approach for various project types.

In addition to CEQA guidance, APCD has adopted specific rules and regulations that pertain to all development within its jurisdiction. Specific rules that are relevant to the project include:

- **Rule 202: Permits.** Any project that includes the use of equipment capable of releasing emissions to the atmosphere may be required to obtain permit(s) from the APCD before equipment operation.
- **Rule 204: Requirements.** This rule applies to any new, replacement, modified, or relocated emission unit at a stationary source and provides mechanisms, including emission offsets, by which authorities to construct such sources may be granted without interfering with the attainment or maintenance of ambient air quality standards.
- **Rule 219: Toxics New Source Review**. This rule provides a mechanism for evaluating potential impacts from air emissions of toxic substances from all new, modified, and relocated stationary sources that are required to obtain a permit.
- **Rule 402: Nuisance.** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.

- **Rule 433: Architectural Coatings**. The purpose of this rule is to limit the emissions of volatile organic compounds from the use of architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the APCD.
- **Rule 601: New Source Performance Standards.** This rule requires all new, modified, or reconstructed stationary sources of air pollution to comply with standards set forth in 40 CFR Part 60.

Toxic Air Contaminants

At the local level, air districts may adopt and enforce CARB control measures. Under APCD Rule 202 ("Permits"), Rule 204 ("Requirements"), and Rule 219 ("Toxics New Source Review"), all sources that possess the potential to emit TACs are required to obtain permits from the APCD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations and air toxics control measures such as Rule 412 ("Airborne Toxic Control Measures"). APCD limits emissions and public exposure to TACs through a number of programs. APCD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. Sensitive receptors are people, or facilities that generally house people (e.g., schools, hospitals, residences) that may experience adverse effects from unhealthful concentrations of air pollutants.

Odors

Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and the APCD. APCD's Rule 402 ("Nuisance") regulates odorous emissions.

County of San Luis Obispo

The County of San Luis Obispo General Plan was adopted in 2010 and amended in 2015. It includes the following policies related to air quality (County of San Luis Obispo 2010):

- **Policy AQ 1.1:** Encourage compact land development by concentrating new growth within existing communities and ensuring complete services to meet local needs.
- **Policy AQ 1.3:** Require new development to provide safe and convenient access to alternative transportation within the project area and safe access to public transportation as feasible.
- **Policy AQ 1.5:** Improve the operating efficiency of the transportation system by reducing vehicle travel demand and expanding opportunities for multi-modal travel.
- **Policy AQ 1.7:** Encourage bicycle and pedestrian use by supporting the policies found in the Regional Transportation Plan, County Bikeways Plan, Land Use and Circulation Element, and County Parks and Recreation Element. In addition, support public and private efforts to facilitate bicycling and walking for transportation and recreation.
- **Policy AQ 3.1:** Coordinate with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues.
- **Policy AQ 3.2:** Attain or exceed federal or state ambient air quality standards (the more stringent if not the same) for measured criteria pollutants.
- **Policy AQ 3.3:** Avoid a net increase in criteria air pollutant emissions in planning areas certified as Level of Severity II or III for Air Quality by the County's Resource Management System.
- **Policy AQ 3.4:** Minimize public exposure to toxic air contaminants, ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen oxides, and lead.
- **Policy AQ 3.7:** Encourage the reduction of heavy-vehicle idling throughout the county, particularly near schools, hospitals, senior car facilities, and areas prone to concentrations of people, including residential areas.
- **Policy AQ 3.8:** Reduce PM_{10} and $PM_{2.5}$ emissions from unpaved and paved County roads to the maximum extent feasible.

City of San Luis Obispo

The City of San Luis Obispo's General Plan includes the following policies related to air quality (City of San Luis Obispo 2014):

- Policy 2.2.2: Air quality should meet State and Federal standards, whichever are more protective, for human health.
- Policy 2.2.3: Air quality should not decline from levels experienced during the early 1990s, when the community's growth capacity was last reexamined.
- Policy 4.3.1: The City will employ the best available practices in energy conservation, procurements, use and production, and will encourage individuals, organizations and other agencies to do likewise. "Best available practices" means behavior and technologies that reflect recommendations of specialists and that use the least energy for a desired outcome, considering available equipment, life-cycle costs, social and environmental side effects, and the regulations of other agencies. Best available practices include use of sustainable sources. Sustainable sources are naturally renewed in a relatively short time and avoid substantial undesirable side effects.
- Policy 4.3.4: The City will promote the use of cost effective, renewable, non-depleting energy sources wherever possible, both in new construction projects and in existing buildings and facilities.
- Policy 4.3.5: The City will cooperate with Federal, State and local governments and other appropriate entities to accomplish energy conservation objectives throughout the state, and inform employees, its contractors, staff and the general public of the need for and methods of energy conservation.
- Policy 4.3.6: The City shall encourage energy-efficient "green buildings" as certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design Program or equivalent certification.
- Policy 4.3.7: The City's form will support energy efficiency and the use of sustainable energy sources.
- Policy 4.4.1: Residences, work places and facilities for all other activities will be located and designed to promote travel by pedestrians and bicyclists.
- Policy 4.4.2: The City's transportation and circulation systems shall foster travel by modes other than motor vehicles, including walking, bicycles and public transit.

3.3.2 Environmental Setting

The Master Plan Area is located in the South Central Coast Air Basin (SCCAB). The SCCAB includes all of San Luis Obispo, Santa Barbara, and Ventura Counties. The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

CLIMATE, METEOROLOGY, AND TOPOGRAPHY

San Luis Obispo County can be divided into three general regions: Coastal Plateau, Upper Salinas River Valley, and East County Plain. The Coastal Plateau is immediately inland from the Pacific Ocean and is bounded by the Santa Lucia Range to the northeast. The Upper Salinas River Valley lies inland from the Santa Lucia Range in the northern portion of the county. The East County Plain lies further inland along the eastern part of the county.

The Mediterranean climate type of the county is characterized by warm, dry summers and cool, rainy winters. During the summer, maximum high daily temperatures range from 70 degrees Fahrenheit (°F) near the coast to more than 90°F in the inland valleys. Minimum winter temperatures run as low as around 30 °F along the coast to around 20 °F inland. Regional meteorology is largely dominated by a persistent high-pressure area which usually resides over the eastern Pacific Ocean. During spring and early summer, as the onshore breezes pass over the cool water of the ocean, fog and low clouds often form in the shallow marine layer along the coast. Surface heating in the interior valleys partially dissipates this marine layer as it moves inland, although the marine layer influence is still observed inland towards the center of the county. From November through April, the Pacific High migrates southward, allowing northern storms to move across the county. Annual rainfall ranges from 16 to 28 inches along the Coastal Plateau, with the Upper Salinas River Valley generally receives about 12 to 20 inches of rain and the East County Plain receives less than 12 inches.

Airflow around the county plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific high-pressure system and other global patterns, by topographical factors, and by circulation patterns resulting from temperature differences between the land and sea. In the spring and summer months, when the Pacific High attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valley to form a light easterly land breeze. In the fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alternation of land-sea breeze circulation, can sometimes produce a "sloshing" effect. Under these conditions, pollutants may accumulate over the ocean for a period of 1 or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, "trapping" pollutants near the surface.

This effect is intensified when the Pacific High weakens or moves inland to the east. This may produce a "Santa Ana" condition in which the air, often pollutant-laden, is transported into the county from the east and southeast. This can occur over a period of several days until the high-pressure system returns to its normal location, breaking the pattern. The breakup of a Santa Ana condition may result in relatively stagnant conditions and a buildup of pollutants offshore. The onset of the typical daytime sea breeze can bring these pollutants back onshore, where they combine with local emissions to cause high pollutant concentrations. Not all occurrences of the "post Santa Ana" condition lead to high ambient pollutant levels, but it does play an important role in the air pollution meteorology of the county.

The local meteorology of the project site and surrounding area is represented by measurements recorded at the Western Regional Climate Center San Luis Obispo Polytech station. The normal annual precipitation is approximately 22 inches. January temperatures range from a normal minimum of 41°F to a normal maximum of 62°F. July temperatures range from a normal minimum of 49°F to a normal maximum of 76°F (WRCC 2016). The prevailing wind direction is from the west northwest (WRCC 2011).

CRITERIA AIR POLLUTANTS

Criteria air pollutants are those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive people from illness or discomfort.

A brief description of key criteria air pollutants in the SCCAB and their health effects are provided below. Criteria air pollutants include ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. However, ozone and PM_{10} are the criteria air pollutants of primary concern in this analysis because of their nonattainment status with respect to the NAAQS and CAAQS. The attainment status of criteria air pollutants with respect to the NAAQS and CAAQS in San Luis Obispo County are shown in Table 3.3-2. Monitoring data representative of ambient air concentrations in the project area are provided in Table 3.3-3.

Ozone

Ground-level ozone is not emitted directly into the air but is created by chemical reactions between reactive organic gas (ROG) and oxides of nitrogen (NO_X). This happens when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources chemically react in the presence of sunlight. Ozone at ground level is a harmful air pollutant because of its effects on people and the environment, and it is the main ingredient in smog (EPA 2016).

Acute health effects of ozone exposure include increased respiratory and pulmonary resistance, cough, pain, shortness of breath, and lung inflammation. Chronic health effects include permeability of respiratory epithelia and possibility of permanent lung impairment (EPA 2016). Emissions of the ozone precursors ROG and NO_X have decreased over the past two decades because of more stringent motor vehicle standards and cleaner burning fuels (CARB 2013).

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2012).

Acute health effects of exposure to NO_X includes coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis, or pulmonary edema, breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, and death. Chronic health effects include chronic bronchitis and decreased lung function (EPA 2016).

Particulate Matter

PM_{10} is emitted directly into the air, and can include fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (CARB 2013). $PM_{2.5}$ includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM_{10} emissions in the SCCAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM_{10} and $PM_{2.5}$ are projected to remain relatively constant through 2035. Emissions of $PM_{2.5}$ in the SCCAB are dominated by the same sources as emissions of PM_{10} (CARB 2013).

Acute health effects of PM_{10} exposure include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, and premature death. Chronic health effects include alterations to the immune system and carcinogenesis (EPA 2016).

Table 3.3-2 Attainment Status Designations for San Luis Obispo County

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Ozone	No Federal Standard	Nonattainment (1-hour) Classification
	Nonattainment – Eastern San Luis Obispo County Attainment – Western San Luis Obispo County	Nonattainment (8-hour)
Respirable particulate matter (PM_{10})	Unclassified/Attainment (24-hour)	Nonattainment (24-hour)
		Nonattainment (Annual)
Fine particulate matter ($PM_{2.5}$)	Unclassified/Attainment (24-hour)	(No state standard for 24-Hour)
	Unclassified/Attainment (Annual)	Attainment (Annual)
Carbon monoxide (CO)	Unclassified (1-hour)	Attainment (1-hour)
	Unclassified (8-hour)	Attainment (8-hour)
Nitrogen dioxide (NO_2)	Unclassified (1-hour)	Attainment (1-hour)
	Unclassified (Annual)	Attainment (Annual)
Sulfur dioxide (SO_2)	Unclassified (1-Hour)	Attainment (1-hour)
		Attainment (24-hour)
Lead (Particulate)	No Attainment Information	Attainment (30-day average)

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Hydrogen Sulfide	No Federal Standard	Attainment (1-hour)
Sulfates		Attainment (24-hour)
Visibly Reducing Particles		Attainment (8-hour)
Vinyl Chloride		No Attainment Information

Source: APCD 2019

MONITORING STATION DATA AND ATTAINMENT DESIGNATIONS

Criteria air pollutant concentrations are measured at several monitoring stations in the SCCAB. The San Luis Obispo-3220 South Higuera Street monitoring station, the station closest to the 2035 Master Plan Area and most representative, has recent data for ozone, PM_{10}, and $PM_{2.5}$. Table 3.3-3 summarizes the air quality data from the last 3 years (2016-2018) from this location.

Both CARB and EPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants (attainment designations are summarized above in Table 3.3-2) As shown in Table 3.3-2 above, San Luis Obispo County is designated as a nonattainment for ozone with respect to both the NAAQS (8-hour standard) and CAAQS (1-hour Classification and 8-hour standard) and is in nonattainment for PM_{10} with respect to the CAAQS. At the San Luis Obispo-3320 South Higuera Street monitoring station, emission levels exceeded the CAAQS for $PM_{2.5}$ in 2018, but did not exceed CAAQS or NAAQS between 2016 and 2018. All other pollutants were considered to be in attainment for both the NAAQS and CAAQS over the last three years.

Table 3.3-3 Summary of Annual Data on Ambient Air Quality – South Higuera Street Monitoring Station (2016-2018)

	2016	2017	2018
Ozone			
Maximum concentration (1-hr/8-hr avg, ppm)	0.069/0.062	0.074/0.066	0.062/0.053
Number of days state standard exceeded (1-hr/8-hr)	0/0	0/0	0/0
Number of days national standard exceeded (8-hr)	0	0	0
Fine Particulate Matter ($PM_{2.5}$)			
Maximum concentration (24-hour μg/m^3)	21.0	25.6	38.4
Number of days national standard exceeded (24-hour measured[2])	0	0	1
Respirable Particulate Matter (PM_{10})			
Maximum concentration (μg/m^3)	42.6/43.2	67.8/70.1	45.4/46.4
Number of days state standard exceeded	0	5	0
Number of days national standard exceeded	0	0	0

Notes: μg/m^3 = micrograms per cubic meter; ppm = parts per million

Source: CARB 2019a

TOXIC AIR CONTAMINANTS

According to the *California Almanac of Emissions and Air Quality* (CARB 2013), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Diesel PM poses the greatest health risk among these 10 TACs mentioned. Based on receptor modeling techniques, CARB estimated the average statewide cancer risk associated with diesel PM concentrations to be 360 excess cancer cases per million people in the year 2020 (CARB 2000:15). Overall, statewide emissions of diesel PM are forecasted to decline by 71 percent between 2000 and 2035 (CARB 2013:3-8).

ODORS

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. Odor sources of concern include asphalt batch plants, chemical manufacturing, coffee roasters, composting facilities, fiberglass manufacturing, food processing facilities, oil fields, painting operations, petroleum refineries, rendering plants, sanitary landfills, transfer stations, and wastewater treatment plants (APCD 2012:3-11). Existing odor sources on campus include on-site treatment ponds, swine units, viticulture activities, and other types of agricultural operations. The 2035 Master Plan proposes construction of a new Water Reclamation Facility (WRF) in the West Campus subarea. The WRF is considered an odor generating use by the APCD.

ASBESTOS

Naturally occurring asbestos (NOA) was identified as a TAC in 1986 by CARB. NOA is located in many parts of California, and is commonly associated with ultramafic rocks, according to a special publication by the California Geological Survey (Churchill and Hill 2000). Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong durable fibers. Ultramafic rocks form in high-temperature environments well below the surface of the earth. By the time they are exposed at the surface by geologic uplift and erosion, ultramafic rocks may be partially to completely altered into a type of metamorphic rock called serpentinite. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in the bodies of these rocks, along their boundaries, or in the soil.

Asbestos could be released into the air from serpentinite or ultramafic rock if the rock is broken or crushed. At the point of release, asbestos fibers could become airborne, causing air quality and human health hazards. Natural weathering and erosion processes act on asbestos bearing rock and soil, increasing the likelihood for asbestos fibers to become airborne if disturbed (California Geological Survey 2002:22).

According to the report, A General Location Guide to Ultramafic Rocks in California—Areas More Likely to Contain Naturally Occurring Asbestos, there are areas of San Luis Obispo County in which asbestos is likely to occur (Churchill and Hill 2000).

Asbestos-containing material may be present in existing structures at the project site. The demolition or renovation of existing structures would be subject to regulatory requirements for the control of asbestos-containing material.

SENSITIVE RECEPTORS

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and/or the potential for increased and prolonged exposure of individuals to pollutants.

Academic facilities, campus housing, recreation and athletic facilities, a retirement community, and other support buildings would be constructed throughout the Master Plan Area. The Alta Vista and Monterey Heights single-family residential neighborhoods in the city of San Luis Obispo border the southern edge of campus, the Foothill and Ferrini Heights neighborhoods (which are largely single-family residential) are located to the west of campus, north of Foothill Boulevard. Several multifamily housing complexes that accommodate primarily Cal Poly and students attending Cuesta Community College are located near the southwest corner of campus along Foothill Boulevard. Educational facilities in the vicinity of the Master Plan Area are located to the southwest of the intersection of Grand Avenue and Slack Street and include Charles E. Teach Elementary School (approximately 100 feet from campus), San Luis Obispo Classical Academy High School (approximately 175 feet from campus), and the Monart Art School (approximately 270 feet from campus). Residential areas west of the Master Plan Area are buffered from the campus by Cal Poly Technology Park and State Route (SR) 1. Additionally, educational facilities located within the Master Plan Area are generally concentrated in the Academic Core subarea with student housing generally located to the north and east of the subarea and as close as 100 feet away. Refer to Figures 2-2and 2-3 in Chapter 2, "Project Description" for depictions of the planning areas and surrounding neighborhoods.

3.3.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

As described in Section 1, "Introduction," this EIR, and therefore this air quality analysis, evaluates the Cal Poly 2035 Master Plan at a programmatic level, which is appropriate for planning documents (e.g., general plans, specific plans, area plans, etc.) The APCD, through its 2012 *CEQA Air Quality Handbook* and 2017 clarification memorandum, provides guidance for evaluating air quality impacts at both the project- and plan-level. The handbook directs that the primary measure for analyzing air quality impacts for a program level review should be a qualitative evaluation of the program's consistency with the 2001 Clean Air Plan, and this consistency analysis is set forth in Section 3.3.-1 below. In addition, this EIR also evaluates construction-related emissions based upon the anticipated Master Plan project phasing schedule and operational emissions for all potential development under the 2035 Master Plan, as set forth in Sections 3.3-2 and 3.3-4 below. This quantitative emissions analysis represents a very conservative analysis that meets and exceeds the APCD's guidelines by quantifying and applying a project-specific threshold to the all 2035 Master Plan project emissions collectively (as phased for construction emissions, or in total for operational emissions). In addition, this EIR analyzes localized CO emissions (3.3-4), TACs (3.3-5) and odor impacts (3.3-6).

Consistency Analysis

In accordance with APCD guidance for plan-level CEQA analyses, the 2035 Master Plan was evaluated qualitatively for consistency with the most recently adopted air quality plan in the region and other relevant standards, including measures outlined in the APCD's 2012 *CEQA Air Quality Handbook* and 2017 clarification memorandum. Specifically, the guiding principles and sustainability features of the Cal Poly 2035 Master Plan were compared to the land use and transportation control measures and strategies outlined in the *2001 Clean Air Plan* and updated plan-level measures identified in Table 3-5 of the APCD's 2017 clarification memorandum.

Additionally, a discussion of the consistency of the 2035 Master Plan with CSU Sustainability Policy and Cal Poly Administrative Policies is also provided.

Criteria Air Pollutants and Ozone Precursor Emissions

The APCD also provides guidance for assessing project-level impacts, including numeric thresholds for daily and quarterly emissions. That is, the APCD identifies the level of individual project-generated emissions above which project impacts would be cumulatively considerable because they represent the level at which one project's emissions contribution to the air basin would impede the basin from achieving ambient air quality standards, considering anticipated growth and associated emissions in that region. Although APCD has not established plan-level numeric thresholds, a quantitative analysis was conducted to evaluate the potential combined short-term construction and long-term operational emissions that may occur during development of projects consistent with the 2035 Master Plan in order to provide information about how construction and operational emissions may occur over time.

Overall, the total development (i.e., building square footage) and land use types (e.g., residential, academic, recreational) included in the 2035 Master Plan were assumed to be constructed over the 15-year planning horizon. Although specific square footage and land use types were used, emissions modeling were general in nature and did not include specific construction schedules or project-specific details for each individual land use (as such information is not available at this time). Rather, the modeling generally captured the scale of construction and operational activities that could occur with approval of the Cal Poly 2035 Master Plan. Specific methods for each impact assessed are described below.

Construction

Construction emissions of criteria air pollutants and precursors were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 computer program, as recommended by the APCD. Modeling was based on project-specific information (e.g., land use type, area to be developed) where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type.

It was assumed that development projects could begin as early as 2021. Although the actual construction schedule is unknown, near-term projects were estimated to begin construction in 2021 and assumed to last until 2035, with the student housing project located in the North Campus. the University-Based Retirement Community in the West Campus and the faculty, staff and workforce housing project at Slack Street and Grand Avenue in the East Campus beginning construction in 2021 along with other academic projects. Long-term projects were estimated to begin construction in 2029 and the project's full buildout would occur by 2035. Additionally, Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0 was used to estimate linear infrastructure that would be installed to support buildout of the 2035 Master Plan. It was assumed that approximately 1 mile of linear infrastructure would be installed each year over the construction period.

The level of health risk from exposure to construction-related criteria pollutants and precursors was analyzed qualitatively.

Construction emissions for all development anticipated under the 2035 Master Plan were compared to APCD's project-level thresholds of significance, which were developed for individual development projects rather than large-scale plans. This emissions modeling was conducted to disclose the potential impacts of multiple projects within the 2035 Master Plan undergoing construction at the same time. This is considered to be a very conservative estimate because this evaluates the most intensive likely construction scenario, given the uncertainty with respect to the timing and scope of individual development projects within the 2035 Master Plan. Modeling therefore assumes 2035 Master Plan project implementation will move forward on a concurrent and expedited schedule (such that multiple projects would be under construction simultaneously).

Operation

Emission modeling was conducted using CalEEMod Version 2016.3.2. Emission estimates include long-term operational emissions of ozone precursors (i.e., ROG, NO_X) and criteria air pollutants (e.g., PM_{10}, $PM_{2.5}$) associated mobile sources (i.e., vehicle trips) and stationary sources (e.g., area-wide and energy consumption). Overall, operational modeling was based on project-specific information, where available, and CalEEMod defaults.

CalEEMod estimates exhaust emissions of criteria air pollutants and precursors as well as emissions of fugitive road dust (PM_{10} and $PM_{2.5}$), which are a function of vehicle miles traveled (VMT). However, because project-specific VMT was available, CalEEMod default trip generation rates/trip lengths were adjusted to match the project-specific VMT for purposes of estimating mobile-source emissions associated with the project. For detailed modeling inputs and results, refer to Appendix C.

APCD CEQA Air Quality Handbook specifies that for program level environmental review, such as this EIR, a quantitative operational air emissions analysis is not required at the project scale; rather, the handbook directs that a qualitative analysis of the air quality impacts should be conducted instead. Nonetheless, as with construction emissions and for purposes of disclosure, operational emissions for all development anticipated under the 2035 Master Plan were quantified and compared to APCD's project-level thresholds of significance for operation. The emissions modeling were conducted to provide the reader with a comparison of the cumulative operational effects of all individual projects under the 2035 Master Plan. Also as with construction emissions, the operational emission criteria are intended to apply to individual projects, not large scale plans. Therefore, the analysis should be viewed as very conservative given emissions from all contemplated Master Plan projects have been analyzed together for purposes of the operational quantitative analysis, yet are compared against the APCD's single project threshold.

Carbon Monoxide, Toxic Air Contaminants, Asbestos, Lead, and Odor

CO impacts were assessed using the screening criteria set forth by the APCD and results from the project-specific traffic study (i.e., trip generation rates). Maximum daily CO emissions were compared to the APCD's screening levels for CO.

The level of health risk from exposure to construction- and operation-related TAC emissions, asbestos release, and lead-based paint exposure were assessed qualitatively. This assessment was based on the proximity of TAC-generating construction activity to off-site sensitive receptors, the number and types of diesel-powered construction equipment being used, and the duration of potential TAC exposure. Operational-related exposure from existing sources (e.g., stationary sources, roadways) to new on-campus receptors was also evaluated qualitatively using CARB guidance and appropriate screening methods.

Impacts related to odors were assessed qualitatively, based on proposed construction activities, equipment types and duration of use, overall construction schedule, and distance to nearby sensitive receptors. New operational odor sources, such as the proposed WRF, were also evaluated. Short-term construction and long-term permanent odor sources were evaluated qualitatively in accordance with APCD guidance.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considering continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. The following principles are relevant to air quality:

- Guiding Principle (GP) 11: Cal Poly should be sustainable with regard to its land and resource planning, as well as site and building design, and operations. Cal Poly should meet or exceed all state and system-wide sustainability policies.
- GP 13: Access to and around campus should be safe, efficient and effective for all modes, while shift to an active transportation system that gives priority to walking, bicycles, emerging mobility technologies, and transit over cars.
- Implementation Program (IP) 05: Cal Poly should continue its program of identifying areas for solar and other forms of renewable energy.
- IP 06: Cal Poly should continue its program of retrofitting older buildings for energy and water efficiency.
- IP 12: Cal Poly should incorporate pedestrian, bicycle and transit plans into a comprehensive and updated multi-modal active transportation plan designed consistent with leading standards.

- **IP 14:** As a regional leader in fostering active transportation, Cal Poly should partner with local, regional and national public and private organizations (including but not limited to the City, County, Caltrans, SLOCOG [San Luis Obispo Council of Governments], RTA [San Luis Obispo Regional Transit Authority], Amtrak, and Union Pacific Railroad) to make San Luis Obispo a model for modal shift from single occupancy autos to a complete active transportation system.
- **IP 20:** Cal Poly should partner with the City to help develop off-campus bicycle improvements as prescribed in the City's bike plan and that improve connections between the campus and community.
- **IP 21:** Convenient bicycle routes throughout the campus, as well as bike parking located as near as practical to campus origins and destinations, should be provided to encourage bicycle use.
- **IP 23:** Cal Poly should continue to work with the City and RTA to make public transportation move convenient than automobile use through such improvements as shorter headways, increased evening and weekend services, and greater convenience for on-campus residents.
- **IP 25:** Parking should be efficiently managed to reduce the need for parking spaces through real time information regarding space location and availability, variable time pricing, and other best practices.
- **IP 28:** Where activities are located beyond walking distance from the Academic Core, alternative transportation options should be provided.
- **IP 29:** If intra-campus shuttles or similar future services are provided, they should be low or zero emission (such as electric, CNG [compressed natural gas] or gas hybrid).
- **Other Recommendations (OR) 13:** Infrastructure development should maximize resource conservation, leverage current policy and practice in support of sustainable design, consider long-term return on energy investment, and establish a foundation for future revenue potential.
- **OR 14:** Cal Poly should strive to be a net zero campus by investing in renewable power and prioritizing on-campus generation.
- **OR 15:** Cal Poly should continue to exceed Title 24 CALGreen requirements in new construction.
- **Transportation and Circulation (TC) 01:** Existing roads in the Academic Core, including North Perimeter, should be re-designed and managed to reflect mode priorities.
- **TC 02:** Single occupancy vehicle trips to campus should be reduced by increasing ride sharing and by substituting cars with active transportation options.
- **TC 04:** On-campus residential neighborhoods should have convenient access to public transportation.
- **TC 07:** Cal Poly should give higher priority to committing resources to active transportation and trip reduction measures over providing more parking on campus.
- **TC 08:** Conflicts among circulation modes should be avoided through such methods as separated routes, grade separated paths, traffic calming and intersection controls.
- **TC 09:** A multimodal transportation center should be planned and funded on the campus.

THRESHOLDS OF SIGNIFICANCE

The APCD has developed guidance and adopted thresholds of significance for evaluating impacts to air quality for use by lead agencies when preparing CEQA documents for both plan-level (or program-level) and project-level analyses (APCD 2012). Plan-level environmental review should center upon a consistency analysis with the land use and transportation control measures and strategies outlined in the *2001 Clean Air Plan* (APCD 2012:3-1). In addition to the 2001 Clean Air Plan, the 2035 Master Plan's consistency with CSU's Sustainability Policy and Cal Poly's Administrative Policy was also evaluated.

Project-level air quality thresholds of significance are not directly applicable to the Cal Poly 2035 Master Plan; Nevertheless, for the purpose of providing information about construction emissions that may occur and Master Plan-wide emissions after the contemplated projects are built, project-level air quality thresholds of significance were also considered. This provides the public additional information about air quality and the implementation of the Cal Poly 2035 Master Plan. Project-level air quality thresholds of significance are tied to achieving or maintaining attainment designations with the NAAQS and CAAQS, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health.

In consideration of new and more stringent NAAQS and CAAQS adopted since 2000, the APCD identified numerical thresholds for project-generated emissions of criteria air pollutants and precursors that would determine whether a project's emissions would result in a cumulative, regional contribution (i.e., significant) to the baseline nonattainment status of San Luis Obispo County. The APCD's quantitative thresholds of significance for project-level CEQA evaluation may be used to determine the extent to which an individual project's emissions of criteria air pollutants and precursors would contribute to regional degradation of ambient air quality within San Luis Obispo County.

Using federal and state guidance pertaining to TACs/HAPs, the APCD developed cancer risk thresholds for TAC exposure. Unlike criteria air pollutants, there are no known safe concentrations of TACs. Moreover, TAC emissions contribute to the deterioration of localized air quality because of the dispersion characteristics of TACs, emissions that do not cause regional-scale air quality impacts. The APCD thresholds are designed to ensure that a source of TACs does not contribute to a localized, significant impact to existing or new receptors.

Per Appendix G of the CEQA Guidelines and APCD recommendations, the Cal Poly 2035 Master Plan's impact on air quality would be significant if it would:

- conflict with or obstruct implementation of an applicable air quality plan.
- for an individual project, cause construction-generated criteria air pollutant or precursor emissions to exceed the following APCD-recommended thresholds (APCD 2019):
  - 137 pounds per day (lb/day) for ROG and NO_X combined and 7 lb/day for diesel PM;
  - Tier 1: 2.5 tons per quarter (tons/quarter) of ROG and NO_X combined, 2.5 tons/quarter of fugitive PM_{10} dust, and 0.13 tons/quarter of diesel PM;
  - Tier 2: 6.3 tons/quarter of ROG and NO_X combined and 0.32 tons/quarter of diesel PM.
- for an individual project, result in a net increase in long-term operational criteria air pollutant or precursor emissions that exceed the APCD-recommended thresholds of:
  - 25 lb/day or 25 tons per year (tons/year) for ROG and NO_X combined;
  - 1.25 lb/day for diesel PM;
  - 25 lb/day or 25 tons/year for fugitive PM_{10} dust;
  - 550 lb/day for CO;
- expose sensitive receptors to substantial increases in TAC emissions from the following sources:
  - construction-generated TAC emissions that exceed 10 in 1 million for carcinogenic risk (i.e., the risk of contracting cancer) at existing sensitive receptors;
  - operational TAC sources that exceed 89 in 1 million for carcinogenic risk (i.e., the risk of contracting cancer) at new or existing sensitive receptors; or
- result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

ISSUES NOT DISCUSSED FURTHER

All issues pertaining to air quality are discussed below.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Conflict with or Obstruct Implementation of an Applicable Air Quality Plan

The APCD has developed its *2001 Clean Air Plan* to guide the region toward achieving attainment of the federal 8-hour ozone standard and the California 1-hour and 8-hour ozone standards. The plan is based on an inventory of existing emission sources as well as projections about the future level of land use development in San Luis Obispo County. With implementation of the 2035 Master Plan, operational emissions per person, primarily associated with vehicle emissions, would decrease compared to existing conditions. On-campus improvements related to promoting pedestrian/bicycle modes of transportation and decreasing on-campus parking are consistent with objectives of the Clean Air Plan. Further, new buildings planned for development would be consistent with CSU and Cal Poly policy, including 2035 Master Plan Guiding Principles, which requires increased renewable energy, building efficiencies greater than required by building code, and development of on-site renewable energy sources, with goals to achieve zero net energy buildings, all of which would reduce project-generated emissions, consistent with the goals of the Clean Air Plan. For these reasons, the project would not conflict with the APCD's long-term air quality planning efforts and this impact would be **less than significant**.

San Luis Obispo County is in an area of nonattainment for ozone with respect to the CAAQS. Because of this, the APCD is required to develop a plan to achieve and maintain the state ozone standards by the earliest practicable date. The APCD's *2001 Clean Air Plan* addresses the attainment and maintenance of the NAAQS and CAAQS.

The *2001 Clean Air Plan* outlines the APCD's strategies to reduce ozone precursor emissions from various sources. The plan includes a stationary source control program, administered by the APCD for permitted stationary sources, as well as transportation and land use management strategies to reduce mobile-source emissions. Transportation and land use control measures are implemented at the local or regional level by promoting and facilitating the use of alternative transportation options, increased pedestrian access and accessibility to community services and locations, reductions in VMT, and promotion of congestion management efforts. In addition, local jurisdictions prepare population forecasts, which are used by the APCD to forecast emissions and air quality attainment.

In compliance with the APCD's *CEQA Air Quality Handbook* (2012), a consistency analysis with the *2001 Clean Air Plan* is required for a program-level environmental review. For such projects, evaluation of consistency is based on a comparison of the project with the land use and transportation control measures and strategies outlines in the *2001 Clean Air Plan*. If the project is consistent with these measures, the project is considered consistent with the *2001 Clean Air Plan*.

The 2035 Master Plan was guided by overarching sustainability principles and the goal of wise resource management is reflected in features and policies throughout the 2035 Master Plan. This includes requiring that new facilities and campus infrastructure be environmentally responsible, energy efficient, and showcase advancements in sustainable technology. New buildings would continue to be designed to meet Leadership in Energy and Environmental Design (LEED) standards. Energy systems would be continually monitored, maintained, and updated to assure that Cal Poly operates in the most efficient manner possible. The 2035 Master Plan includes policies for renewable energy generation, water reclamation, and composting as included above and in Sections 3.6, "Energy," 3.8, "Greenhouse Gas Emissions," and 3.13, "Transportation." All of these policies would reduce air pollutant emissions.

The 2035 Master Plan would be consistent with the *2001 Clean Air Plan's* Land Use and Circulation Management Strategies, including planning compact communities; providing mixed land uses; balancing jobs and housing; promoting walking, biking, and transit use; and parking management. In addition, the 2035 Master Plan incorporates "smart growth" measures, such as the compact form around the Academic Core subarea and mixed land uses, which reduce reliance on cars and improve efficiency of infrastructure and energy use. The 2035 Master Plan allows for increased on-campus housing that would reduce commuting and its associated mobile-source emissions. The 2035 Master Plan also emphasizes a pronounced shift away from cars toward active transportation modes such as walking and biking.

The 2035 Master Plan also include a key parking management strategy that would limit the amount of parking on campus, and not provide for an increase in the provision of parking spaces despite the projected growth in enrollment.

The 2001 Clean Air Plan's transportation control measures are designed to reduce vehicle trips and VMT, which primarily targets the student populations of college campuses and requires the development of individual programs tailored to meet the trip reduction needs of each campus through an agreement. Cal Poly and the APCD have developed an agreement that is consistent with the program for college campuses that includes the following measures:

- Appoint a Transportation Coordinator, whose responsibilities are to implement and administer the trip reduction program at the campus and act as a point of contact to the APCD.
- Create an On-Site Transportation Information Center, which could be as simple as a bulletin board or as elaborate as a small office, depending upon the campus's needs.

Cal Poly submitted a Trip Reduction Plan to the APCD and has already made significant progress in implementing a student trip reduction program. The University has appointed a full-time "Commuter Services Coordinator" for the campus, designated a transportation information center, and will develop and implement a Trip Reduction Plan that includes transit subsidies, bicycle and pedestrian facility improvements, and telecommuting programs.

As discussed in Impact 3.3-3 and in Section 3.13, "Transportation," the 2035 Master Plan would reduce VMT per day per person compared to existing conditions. The various features of the 2035 Master Plan (e.g., policies to reduce parking, on-site bicycle/pedestrian facilities) would substantially improve VMT efficiency, in comparison to existing conditions, despite the projected student/faculty growth, resulting in more efficient growth from a regional air quality perspective. In addition, new buildings would be constructed in accordance with higher efficiency standards than existing building code and Cal Poly would continue to develop and procure renewable energy, reducing emissions associated with electricity generation. Construction activities are temporary and would not conflict with long-term operational planning efforts by the APCD. For these reasons, the 2035 Master Plan would be consistent with the *2001 Clean Air Plan's* goals and objectives.

With respect to the CSU Sustainability Policy, future growth within the Master Plan area would need to increase the use of alternative fuels, advance alternative transportation programs, and increase the use and generation of renewable energy. As noted above, new facilities and campus infrastructure developed as part of the 2035 Master Plan would be environmentally responsible, energy efficient, and showcase advancements in sustainable technology. New buildings would continue to be designed to meet LEED standards and, where feasible, would include on-site solar or other renewable energy systems. Energy systems would be continually monitored, maintained, and updated to assure that Cal Poly operates in the most efficient manner possible. Further, as noted in Section 3.13, "Transportation," implementation of the 2035 Master Plan would reduce per capita vehicle miles traveled, which would be consistent with the CSU Sustainability Policy with respect to both energy use and promotion of alternative transportation. This aforementioned consistency would also apply to the Cal Poly Administrative Policy, as it relates to sustainability. Further, consistent with the Cal Poly Administrative Policy, any new stationary sources of air pollution developed as part of the 2035 Master Plan would need to be permitted by the APCD. As a result, the 2035 Master Plan would be consistent with all applicable air quality plans, and this impact would be **less than significant.**

Mitigation Measures

No mitigation is required.

Impact 3.3-2: Cause Construction-Generated Criteria Air Pollutant or Precursor Emissions to Exceed APCD-Recommended Thresholds

The project would be consistent with the *2001 Clean Air Plan's* goals and objectives. However, for purposes of disclosure, a quantitative analysis was performed that identifies construction-related emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ if multiple projects were to be under construction at the same time. Emissions were assumed to result from demolition, site preparation (e.g., excavation, clearing), off-road equipment, material and equipment delivery trips, worker commute trips, and other construction activities (e.g., building, asphalt paving, application of architectural coatings). Construction activities would result in daily and quarterly emissions of ROG and NO_X that could exceed the APCD's individual project thresholds of 137 lb/day and 2.5 tons/quarter, as well as quarterly emissions of diesel PM that could exceed the APCD's threshold of 0.13 tons/quarter. Therefore, construction-generated emissions of ROG, NO_X, and diesel PM from multiple, simultaneous projects could contribute to the existing nonattainment status of San Luis Obispo County for ozone and PM. While the 2035 Master Plan would not conflict with the *2001 Clean Air Plan* and other applicable plans and policies, it is possible that multiple projects developed at the same time under the 2035 Master Plan could exceed APCD individual project-level thresholds. Should this occur, this impact would be **significant**.

Project construction activities would result in emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ from demolition, site preparation (e.g., excavation, clearing), off-road equipment, material delivery, worker commute trips, building construction, asphalt paving, and application of architectural coatings. Fugitive dust emissions of PM_{10} and $PM_{2.5}$ are associated primarily with site preparation and grading and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, and VMT on and off the site. Emissions of ozone precursors, ROG and NO_X, are associated primarily with construction equipment and on-road mobile exhaust. Paving and the application of architectural coatings result in off-gas emissions of ROG. PM_{10} and $PM_{2.5}$ are also contained in vehicle exhaust.

Typical construction activities would require all-terrain forks, forklifts, cranes, pick-up and fuel trucks, compressors, loaders, backhoes, excavators, dozers, scrapers, pavement compactors, welders, concrete pumps, concrete trucks, and off-road haul trucks, as well as other diesel-fueled equipment as necessary.

Construction activities could begin as early as 2021 and are estimated to be complete by 2035. Although construction phasing and activities are unknown, conservative assumptions were used and individual projects were overlapped (i.e., near-term projects, University-Based Retirement Community, Slack and Grand neighborhood, student housing in the North campus, WRF, linear infrastructure) to account for construction activities potentially occurring simultaneously. As such, reported emissions represent a conservative estimate of maximum daily and quarterly emissions. It is also important to note that as construction continues in the future, equipment exhaust emission rates would decrease as newer, more emission-efficient construction equipment replaces older, less efficient equipment. For specific assumptions and modeling inputs, refer to Appendix C.

Table 3.3-4 summarizes the modeled maximum daily emissions from the construction activities by year over the buildout period (ending in 2035). This analysis is conservative because it assumes development could overlap in time, which would depend on market conditions and construction schedules of individual projects, and because it applies APCD's project-specific thresholds to multiple simultaneous projects.

As shown in Table 3.3-4, maximum daily emissions of ROG and NO_X could potentially exceed the project-level threshold during the first 2 years of construction.

Table 3.3-4 Unmitigated Maximum Daily Emissions of Criteria Air Pollutants and Precursors Emissions Associated with Project Construction (lb/day)

Maximum Daily Emissions	ROG	NO_X	ROG + NO_X Combined	PM_{10}
2021	25	152	**177**	**7.7**
2022	19	104	122	3.9
2023	34	77	111	2.7
2024	27	72	99	2.4
2025	5	51	56	2.1

Maximum Daily Emissions	ROG	NO_X	ROG + NO_X Combined	PM_{10}
2026	16	43	59	1.5
2027	6	50	56	2.1
2028	22	45	67	1.5
2029	19	45	63	1.5
2030	6	32	38	0.9
2031	22	31	53	0.6
2032	19	31	50	0.8
2033	6	33	39	0.9
2034	26	33	59	0.6
2035	23	30	53	0.5
APCD Thresholds of Significance	NA	NA	137	7

Notes: ROG = reactive organic gas; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; lb/day = pounds per day; APCD = San Luis Obispo County Air Pollution Control District; NA = not applicable.

Bold values indicate exceedance of an APCD project-level threshold.

Source: Modeling conducted by Ascent Environmental in 2019.

Table 3.3-5 summarizes the modeled quarterly emissions from construction activity by year over the Master Plan planning horizon. As shown in Table 3.3-5, quarterly emissions estimates of ROG and NO_X combined, as well as diesel PM could exceed the applicable thresholds throughout the construction period, assuming construction activities overlap in time.

Table 3.3-5 Unmitigated Quarterly Emissions of Criteria Air Pollutants and Precursors Emissions Associated with Project Construction (tons/quarter)

Quarterly Emissions	ROG	NO_X	ROG + NO_X	Diesel PM	Fugitive PM_{10}
2021	0.4	3.5	**3.9**	**0.15**	0.82
2022	0.7	2.6	**3.3**	0.09	0.65
2023	0.3	1.9	2.2	**0.28**	0.61
2024	2.1	1.3	**3.4**	0.11	0.47
2025	0.1	0.9	1.1	0.03	0.40
2026	0.6	0.8	1.4	0.03	0.33
2027	0.1	1.0	1.1	0.04	0.46
2028	0.1	1.0	1.1	0.03	0.42
2029	1.1	0.8	1.8	0.02	0.37
2030	0.1	0.6	0.8	0.01	0.46
2031	0.1	0.7	0.8	0.01	0.42
2032	1.1	0.6	1.6	0.03	0.37
2033	0.1	0.7	0.8	0.01	0.48
2034	0.1	0.8	0.9	0.01	0.45
2035	1.3	0.6	1.8	0.01	0.39
APCD Thresholds of Significance	NA	NA	2.5	0.13	2.5

Notes: ROG = reactive organic gas; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; APCD = San Luis Obispo County Air Pollution Control District; NA = not applicable.

Bold values indicate exceedance of an APCD project-level threshold.

Source: Modeling conducted by Ascent Environmental in 2019.

As shown above in Table 3.3-4, construction activities associated with development contemplated in the 2035 Master Plan could result in emissions of ROG, NO_X, and diesel PM that exceed APCD's project-level thresholds of significance.

The addition of ROG and NO_X, which are precursors to ozone, could result in an increase in ambient concentrations of ozone in San Luis Obispo County and, moreover, increase the likelihood that ambient concentrations exceed the CAAQS and NAAQS. As summarized in "Environmental Setting" above, human exposure to ozone may cause acute and chronic health impacts including coughing, pulmonary distress, lung inflammation, shortness of breath, and permanent lung impairment. Also, the increase in construction-generated emissions of PM_{10} could impede air quality planning efforts to bring San Luis Obispo County into attainment of the CAAQS for PM_{10}. However, it would be misleading to correlate the levels of criteria air pollutant and precursor emissions associated with implementation of the project to specific health outcomes for sensitive receptors. While the description of effects noted above could manifest in the recipient receptors, actual effects on individuals depend on individual factors, such as life stage (e.g., older adults are more sensitive), preexisting cardiovascular or respiratory diseases, and genetic polymorphisms. Even armed with this type of specific medical information (which is confidential to the individual), there are wide ranges of potential outcomes from exposure to ozone precursors and particulates, from no effect to the effects described above. Therefore, other than determining the types of health effects that could occur, it would be speculative to more specifically correlate exposure to criteria air pollutant and precursors from this project to specific health outcomes for sensitive receptors. When evaluating emissions of air pollutants against APCD's thresholds, with the understanding that such thresholds are intended to apply to individual projects, it is conservatively possible that health complications associated with ozone and PM_{10} exposure could be exacerbated by construction-generated emissions.

Because of the nonattainment status of San Luis Obispo County for ozone and PM_{10}, construction activities associated with project implementation may result in adverse air quality impacts to existing surrounding land uses and may contribute to the existing adverse air quality condition in the county. Further, as actual construction phasing is not known, it is possible that emissions may exceed or be below modeled emissions shown in Tables 3.3-4 and 3.3-5. Nonetheless, based on conservative modeling described above, it is possible that development under the Master Plan could exceed Tier 1 ROG and NO_X and diesel PM thresholds at some point during the construction phases. Therefore, construction emissions could contribute to the existing nonattainment condition in the county with respect to the CAAQS and NAAQS for ozone and PM and could therefore increase the potential for adverse health impacts from exposure to ozone and PM_{10}. While the 2035 Master Plan would not conflict with the *2001 Clean Air Plan* and other applicable plans and policies, it is possible that individual projects developed under the 2035 Master Plan could exceed APCD project-level thresholds. For this reason, should this occur, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 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 off-road equipment operators of the 5-minute idling limit.
- Reduce the amount of the disturbed area where possible.

- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increase water frequency whenever wind speeds exceed 15 miles per hour (mph). Reclaimed (nonpotable) water should be used whenever possible.
- 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.
- 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.
- The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust off-site. Their duties include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons will be provided to APCD Compliance Division before the start of any grading, earthwork, or demolition.
- 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.

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.

<u>Enhanced Construction Emission Reduction Measures for Individual Projects that Exceed APCD Thresholds</u>

- 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;
- 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.

Significance after Mitigation

Implementation of Mitigation Measure 3.3-2 would reduce ozone precursors, fugitive dust, and diesel PM emissions through a variety of requirements including by requiring distance and idling time limitations, requiring dust suppression activities, and employing exhaust emissions controls. Although implementation of this measure would reduce ozone precursor and diesel PM emissions, the exact reduction cannot be quantified at this time and would depend on site-specific conditions for each project under the 2035 Master Plan. The implementation of these measures would reduce exposure of sensitive receptors to ozone precursor emissions and would reduce health risk. Further, the years in which construction emissions from the project would exceed APCD thresholds is limited to the three of the 15 years of construction. The limited exposure associated with the construction period would also decrease the potential health risk to receptors. Regardless, because the future construction schedule, project design, and other features are currently unknown, it is possible that health complications associated with ozone and PM_{10} exposure could be exacerbated by construction-generated emissions if a single large Master Plan project were to exceed emission thresholds and/or if multiple Master Plan projects were to exceed emission thresholds and occur simultaneously in close proximity to the same sensitive receptors. While the 2035 Master Plan would not conflict with the applicable plans and policies related to reducing air emissions, it is possible that individual projects developed under the 2035 Master Plan could exceed APCD project-level thresholds. Should this occur, this impact would be **significant and unavoidable.**

Impact 3.3-3: Result in a Net Increase in Long-Term Operational Criteria Air Pollutant and Precursor Emissions That Exceed APCD-Recommended Thresholds

Implementation of individual projects under the 2035 Master Plan may result in long-term operational emissions that would exceed the APCD's thresholds of significance (25 lb/day and 25 tons/year for ROG and NO_X combined, 550 lb/day for CO, 25 lb/day and 25 tons/year for PM_{10}, and 1.25 tons/year for diesel PM). Therefore, operation-generated emissions could conflict with APCD operational thresholds and contribute substantially to the nonattainment status of San Luis Obispo County with respect to ozone and PM_{10}. Should this occur, this impact would be **significant**.

As discussed in Impact 3.3-1, the 2035 Master Plan would be consistent with the goals and objectives of applicable plans and policies, including the *2001 Clean Air Plan,* the program-level threshold set by APCD for plan-level documents. However, for purposes of disclosure, an analysis was performed to quantify the potential operational emissions of all proposed projects within the 2035 Master Plan expected to be operational in 2035 and their total cumulative emissions of criteria air pollutants and precursors. The APCD-adopted thresholds apply at the individual project level and are cumulative in nature; that is, they identify the level of project-generated emissions below which would not be cumulatively considerable, or above which would be considered cumulatively considerable. Thus, the analysis set forth here reflects a conservative approach as it applies to an individual project's operational emissions rather than the total operational emissions resulting from all Master Plan projects.

Project operation would result in the generation of long-term operational emissions of ROG, NO_X, and particulate matter (e.g., PM_{10} and $PM_{2.5}$) as a result of mobile, stationary, and area-wide sources. Mobile-source emissions of criteria air pollutants and precursors would result from vehicle trips generated by students, residents, employee commute trips (as further detailed below and in Section 3.13), and other associated vehicle trips (e.g., delivery of supplies, visitors). Stationary and area-wide sources would include the combustion of natural gas for space and water heating (i.e., energy use), the use of landscaping equipment and other small equipment, the periodic application of architectural coatings, and generation of ROG from the use of consumer products.

Table 3.3-6 summarizes the maximum daily and annual operational emissions of criteria air pollutants and ozone precursors at full buildout.

Table 3.3-6 Unmitigated Criteria Air Pollutant and Precursor Emissions Associated with Operation of 2035 Master Plan Buildout (2035)

Source	ROG + NO_X Combined (lb/day)	ROG + NO_X Combined (tons/year)	CO (lb/day)	PM_{10} Diesel (tons/year)	PM_{10} Fugitive (lb/day)	PM_{10} Fugitive (tons/year)
Area	140	25.4	230	0.2	0	0
Energy	12	2.3	7	0.2	0	0
Mobile	52	7.0	154	0.05	105	13.3
Total	**205**	**34.6**	391	0.45	**105**	13.3
APCD Thresholds of Significance	25	25	550	1.25	25	25

Notes: ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = respirable particulate matter; lb/day = pounds per day; APCD = San Luis Obispo County Air Pollution Control District.

Bold values indicate exceedance of an APCD project-level threshold.

Source: Calculations by Ascent Environmental in 2019

As shown in Table 3.3-6, operational activities associated with development contemplated in in the 2035 Master Plan could result in emissions of ROG and NO_X that exceed APCD's project-level thresholds of significance. As discussed in the "Thresholds of Significance" section, the APCD developed these thresholds in consideration of achieving and maintaining the NAAQS and CAAQS, which represent concentration limits of criteria air pollutants needed to adequately protect human health. Therefore, the project's contribution to operational criteria pollutants and precursors could result in greater acute or chronic health impacts compared to existing conditions.

The 2035 Master Plan was developed with specific intent to reduce energy consumption, encourage alternative modes of travel, result in pedestrian-friendly design, and reduce VMT and associated emissions. The 2035 Master Plan includes design features and policies that are consistent with plan-level mitigation measures identified by APCD in its CEQA Handbook, as shown in Table 3.3-7 below.

Table 3.3-7 2035 Master Plan Consistency with APCD-Recommended Mitigation Measures

APCD-Recommended Mitigation Measures	2035 Master Plan Guiding Principle(s)
Design and build high density, compact development within the urban core or urban reserve to encourage alternative transportation (walk, bike, bus, etc.)	GP 13, AM 04
Provide a pedestrian-friendly and interconnected streetscape with good access to/from the development for pedestrians, bicyclists, and transit users to make alternative transportation more convenient, comfortable and safe.	GP 13, DC 05, DC 06, IP 12
Incorporate traffic calming modifications to project roads to reduce vehicle speeds and increase pedestrian and bicycle usage and safety.	TC 08
Increase bicycle accessibility and safety in the vicinity of the project; for example: provide interconnected bicycle routes/lands or construction of bikeways.	IP 12, IP 20, IP 21, IP 22, TC 11
Develop recreational facility (e.g., parks, trails, gym, pool, etc.) within one-quarter of a mile from site.	S 04, UL 04, UL 11, UL 13, UL 15, UL 17
Develop recreational facility (e.g., parks, trails, gym, pool, etc.) within one-quarter of a mile from site.	S 04, UL 04, UL 11, UL 13, UL 15, UL 17

While the project would not conflict with the policies and strategies included in the *2001 Clean Air Plan,* individual projects operating under the 2035 Master Plan could exceed the project-level thresholds developed and adopted by APCD. For this reason, it is conservatively assumed that this impact would be **significant**.

Mitigation Measures

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. Note that measures recommended below are based on current (i.e., 2012 and updated in 2017) APCD guidance and other applicable measures may become available overtime that may be applied as APCD guidance is updated, emissions trends change, or as applicable to the specific individual development.

Mitigation Measure 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.

Mitigation Measure 3.3-3b: Reduce Operational Emissions

The following measures shall be included, where appropriate, as part of individual development projects 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. Below is a list of APCD's recommended emission reduction measures that are applicable and feasible at the time this EIR was prepared:

- 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% of parking spaces to reduce evaporative emissions from parked vehicles.

<u>Significance after Mitigation</u>

Implementation of Mitigation Measures 3.3-3a and 3.3-3b would result in reductions in air pollutant emissions and would reduce ROG and NO_X emissions to the extent feasible. Note that Mitigation Measure 3.13-1, detailed in Section 3.13, "Transportation," includes preparation and implementation of a Traffic Demand Management Plan that would provide substantial reductions in VMT and vehicle trips, resulting in further reductions in mobile-source exhaust emissions of criteria air pollutants and ozone precursors. With implementation of Mitigation Measure 3.13-1 in Section 3.13, "Transportation," an anticipated VMT reduction of approximately 20 percent would occur. This would result in associated emission reductions of approximately 20 percent, as shown in Table 3.3-8 below. Even with implementation of all feasible mitigation, an individual 2035 Master Plan project's operational emissions could still exceed APCD thresholds.

Table 3.3-8 Mitigated Criteria Air Pollutant and Precursor Emissions Associated with Operation of 2035 Master Plan Buildout (2035)

Source	ROG + NO_X Combined (lb/day)	ROG + NO_X Combined (tons/year)	CO (lb/day)	PM_{10} Diesel (tons/year)	PM_{10} Fugitive (lb/day)	PM_{10} Fugitive (tons/year)
Area	101	19.0	230	0.2	0	0
Energy	10	1.8	6	0.1	0	0
Mobile	42	5.6	123	0.04	84	10.6
Total	**153**	**26.4**	359	0.3	**84**	10.6
APCD Thresholds of Significance	25	25	550	1.25	25	25

Notes: ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = respirable particulate matter; lb/day = pounds per day; APCD = San Luis Obispo County Air Pollution Control District.

Bold values indicate exceedance of an APCD project-level threshold.

Source: Calculations by Ascent Environmental in 2019

While the 2035 Master Plan does not conflict with applicable plans and policies, including the *2001 Clean Air Plan,* it is possible a 2035 Master Plan project could exceed APCD project-level thresholds and should this occur the impact would be **significant and unavoidable**.

Impact 3.3-4: Result in a Short- or Long-Term Increase in Localized CO Emissions That Exceed APCD-Recommended Thresholds

Long-term operation-related local mobile-source emissions of CO generated by development in the Master Plan Area would not violate a standard or contribute substantially to an existing or project air quality violation or expose sensitive receptors to substantial pollutant concentrations. As a result, this impact would be **less than significant**.

Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO is extremely limited because it dissipates rapidly with distance from the source under normal meteorological conditions. However, under certain meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels at nearby sensitive land uses, such as residential units, hospitals, schools, and childcare facilities. As a result, it is recommended that CO not be analyzed at the regional level, but at the local level.

Construction was conservatively assumed to occur over 15 years, and therefore, traffic related to construction activities would also be spread over the duration of construction activities. As such, construction-generated traffic is not anticipated to result in large peaks at any one time over the course of construction. This analysis focuses on operation-related traffic.

Project-generated traffic would be associated primarily with the operational phase. At complete buildout, the project would generate up to 7,495 daily trips (Rubins, pers. comm., 2019). Based on modeling conducted for this project, this would result in maximum daily CO emissions of 154 lb/day, which is below the APCD's threshold of 550 lb/day above which would indicate a potential CO hotspot. As a result, this impact would be **less than significant**.

Mitigation Measures

No mitigation would be required.

Impact 3.3-5: Expose Sensitive Receptors to Substantial Increases in TAC Emissions

Construction-related emissions of TACs associated with proposed land use development would be spread over a large geographic area, not affecting any one receptor for extended periods of time, and therefore, would not result in exposure of existing receptors to substantial TAC concentrations. The placement of new sensitive receptors in proximity to existing stationary sources of TAC, such as the co-generation facility, would not result in increased health risk because the diesel PM emissions generated at the facility are below the APCD threshold. The project would not result in the operation of new stationary sources of TACs. Thus, project-generated TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk greater than 10 in 1 million for construction and 89 in 1 million for operation. This impact would be **less than significant**.

The focus of this TAC analysis is diesel PM. Although other TACs exist (e.g., benzene, 1,3-butadiene, hexavalent chromium, formaldehyde, methylene chloride), they are primarily associated with industrial operations and the project would not include any industrial sources. TACs from diesel PM are of particular import because the potential cancer risk from inhalation of diesel PM outweighs the risk for all other health impacts (i.e., noncancer chronic risk, short-term acute risk) and health impacts from other TACs (CARB 2003).

Construction

Construction-related activities would result in temporary, intermittent emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, clearing, grading); paving; on-road truck travel; and other miscellaneous activities. On-road diesel-powered haul trucks traveling to and from the construction areas to deliver materials and equipment are less of a concern because they would not stay on the site for long periods of time.

With regards to exposure of diesel PM, the dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher level of health risk for nay exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period.

Based on the emissions modeling conducted and presented in Table 3.3-4 above, maximum daily emissions of diesel PM would not exceed 6.6 lb/day during construction activity. This maximum daily emission level represents multiple, simultaneous construction projects. It is more likely, however, that construction activities would be located at various locations throughout the Master Plan Area, and due to the dispersive properties of diesel PM, concentrations from individual construction sites would be lower. In addition, the use of off-road heavy-duty diesel equipment would be limited to the construction phase of 12 years but with each individual construction activity within this 12-year period being shorter. As construction progresses, activity intensity and duration would vary throughout the campus. As such, no single existing or future receptor would be exposed to substantial construction-related emissions of diesel PM for extended periods of time.

Regarding existing off-site receptors, residences are located within approximately 200 feet to the south and west of the Master Plan Area. Studies show that diesel PM is highly dispersive, and receptors must be close to emissions sources and for long durations to result exposure to concentrations of concern. Because of the distance between construction sites and residential areas and the intermittent nature of diesel PM emissions during construction, TAC emissions would not adversely affect sensitive receptors. However, some proposed developments (e.g., Slack and Grand, University-Based Retirement Community) are proposed near existing residents. Nonetheless, given the anticipated low level of daily diesel PM emissions, construction-related TAC emissions would not be substantial. Further, mitigation measures identified under Impact 3.3-2 would serve to substantially reduce diesel PM emissions compared to unmitigated emissions evaluated herein. Thus, given the temporary and intermittent nature of construction activities within specific locations in the Master Plan Area (i.e., construction does not occur in any one part of the campus during the 12-year buildout period), the dose of diesel PM of any one receptor would be limited. This impact would be less than significant.

Asbestos-Containing Materials

Implementation of the 2035 Master Plan would result in ground-disturbance activities in areas known to contain NOA. However, the APCD requires a geological survey for the project site because it is located in the APCD-identified candidate NOA area. If the geological survey determines that NOA is found on the project site, a plan will be developed to comply with the requirements listed in CARB's Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying, and Surface Mining Operations. If NOA is not present at the project site, an exemption request will be filed with the APCD (APCD 2012:1-6).

Demolition and remodeling activities have the potential to encounter asbestos-containing materials. If asbestos-containing material is identified, various regulatory requirements may apply, include the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40 CFR 61[M]). These requirements include but are not limited to notification to the APCD, an asbestos survey conducted by a Certified Asbestos Inspector, and applicable removal and disposal requirements (APCD 2012:2-4). Because there are requirements in place by APCD that would require construction personnel to handle and dispose of asbestos-containing material in a safe manner, in accordance with law, asbestos-containing material would not expose people to substantial and harmful concentrations. This impact would be less than significant.

Lead-Based Paint

Improper demolition of structures coated with lead-based paint can result in the release of lead-containing particles from a project site. Sandblasting or removal of paint by heating with a heat gun can result in significant emissions of lead. Therefore, APCD requires proper abatement of lead before demolition of such structures. Depending on the removal method, a permit form APCD may be required. Approval of a lead work plan by APCD is required and must be submitted 10 days before the start of demolition. Because there are requirements in place by APCD that would require construction personnel to handle and dispose of lead-containing material in a safe manner, in accordance with law, lead would not expose people to substantial and harmful concentrations. This impact would be less than significant.

<u>Long-Term Operation</u>

Operation of the project would locate new sensitive land uses in areas that could be exposed to TAC emissions from roadways and stationary sources (e.g., cogeneration facilities, generators, boilers). The project would not result in the construction of any new facilities that would result in any new stationary sources of TACs. Individual buildings constructed under the 2035 Master Plan could install back-up diesel-powered generators. However, if such stationary equipment is required, Cal Poly would comply with the permitting requirements set forth by APCD and would ensure that all emissions standards are met.

The campus is located approximately 1,500 feet north of U.S. Highway 101 (US 101) at its closest approach and approximately 1,200 feet east of SR 1 at its closest approach. Traffic on US 101 and SR 1 is the primary source of TACs in the project vicinity, with traffic volumes of approximately 54,700 and 29,700 vehicles per day, respectively (Caltrans 2017). Guidance from APCD's CEQA Air Quality Handbook and CARB's Air Quality and Land Use Handbook recommends that new sensitive receptors be placed at least 500 feet from freeways or urban streets with traffic volumes of 100,000 vehicles per day or more (APCD 2012:4-8; CARB 2005). Not only would the majority of new uses under the 2035 Master Plan be located more than 500 feet from the nearest freeway, the freeways do not experience traffic volumes that exceed the CARB screening criteria. Therefore, new residential land uses within the Master Plan Area would not be placed within screening distances to roadway TAC sources established by CARB.

Existing traffic volumes along nearby roadways range from approximately 5,090 to 33,199 vehicles per day. Project-generated traffic would add to the existing traffic volumes of these roads. The largest increase in traffic volume would occur on Grand Avenue south of Slack Street, with an increase of 1,129 to a total traffic volume of 12,410 vehicles per day. This road segment is located less than 100 feet from the Master Plan Area but would experience traffic volumes far below the CARB screening threshold of 100,000 vehicles per day. The largest traffic volumes would continue to occur on Santa Rosa Street (SR 1), which would increase from 33,199 to 33,501 vehicles per day, an increase of 302 vehicles per day. Thus, new and existing sensitive receptors would be not be exposed to increased health risk from increase traffic volumes on nearby roadways.

With regard to placement of new sensitive receptors near sources of TACs, the co-generation facility on the campus is the only known source and is located adjacent to the parking structure for the Poly Canyon Village on the north east edge of campus. Based on available emissions inventories, the existing cogeneration facility generated 119 pounds per year of diesel PM in 2017 (CARB 2019b), or an average of 0.3 lb/day. The APCD's threshold for operational diesel PM is 1.25 lb/day, which is not being exceeded based on these data. In addition, this facility currently holds an Authority to Operate permit issued by the APCD and based on recent permit data, health risks associated with this source do no exceed the APCD's screening limit of 10 chances in a million for stationary sources. Further, the cogeneration facility is anticipated to be decommissioned and retired within the next four and a half years. Therefore, it is unlikely that new residential development would be subject to emissions from the cogeneration plant, as the closest residential development would not be operational in four and a half years. Even if new residences were constructed in this timeframe, new residential development would be located well over 1,000 feet from this existing source, consistent with APCD guidance, and therefore would not be exposed to substantial TAC concentrations from this source. This impact would be less than significant.

<u>Summary</u>

Considering the relatively low levels of diesel PM emissions that would be generated by construction, the relatively short duration of diesel PM-emitting construction activity at any one location of the Master Plan Area, the distance to the nearest off-site sensitive receptors, and the highly dispersive properties of diesel PM, construction-related TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk that exceed APCD thresholds of significance. In addition, all applicable Air District rules and regulations would be adhered to during construction activities, limiting exposure form potential NOA or lead. There are no roadways within 500 feet of the Master Plan

Area with traffic volumes that exceed 100,000 vehicles per day, nor would project-generated traffic contribute to existing traffic volumes such that CARB's screening threshold of 100,000 vehicles per day would be exceeded. New sensitive land uses would not be located within APCD-screening distances for stationary sources, such as the existing on-site cogeneration facility, and therefore would not be exposed to substantial TAC concentrations from this source. Thus, construction and operation-related TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk that exceed APCD thresholds of significance. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.3-6: Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People

The project would introduce new odor sources into the area (e.g., temporary diesel exhaust emissions during construction). However, these odor sources would be temporary, intermittent, and dissipate rapidly from the source. The project would also construct and operate a WRF to treat wastewater on-site that would be located within 1 mile of sensitive receptors. As a result, potential exposure of sensitive receptors to objectionable odors could be **significant**.

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the affected receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generate citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose a substantial number of people to objectionable odors would be deemed to have a significant impact.

Construction

Minor odors from the use of heavy-duty diesel equipment and the laying of asphalt during project-related construction activities would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. While construction would occur intermittently over a 15-year buildout period, these types of odor-generating activities would not occur at any single location, or within proximity to off-site receptors, for an extended period. Existing sensitive receptors include residential areas in the vicinity of the Master Plan Area are generally located south of Slack Street and Foothill Boulevard, and west of SR 1, buffered from the campus by Cal Poly Technology Park and SR 1. Additionally, there are educational facilities located to the southwest of the intersection of Grand Avenue and Slack Street and include Charles E. Teach Elementary School, San Luis Obispo Classical Academy High School, and the Monart Art School. Given the temporary and intermittent nature of construction activities within specific locations in the project area (i.e., construction does not occur in any one part of the Master Plan Area during the 15-year buildout period), project construction is not anticipated to result in an odor-related impact during the construction phase of the project. This impact would be less than significant.

Long-Term Operation

Existing odor sources on campus include on-site treatment ponds, swine units, viticulture activities, and other types of agricultural operations. Refer to Section 3.2, "Agricultural Resources," regarding compatibility issues with existing agriculture operations. New development that has the potential to release odors would be subject to APCD Rule 402 (Nuisance) regarding the control of nuisances, including odors.

The 2035 Master Plan includes the construction and operation of the WRF to treat wastewater generated on campus. The site would be approximately 0.75 miles from the nearest sensitive receptors (i.e., Poly Canyon Village). The APCD recommends a screening distance of 1 mile for wastewater treatment facilities. Because the WRF is a use typically associated with objectionable odors and because it would be located less than one mile from existing and future receptors, it could result in emissions of new odors on campus that could affect a substantial number of people. This impact would be significant.

<u>Summary</u>

Given the temporary and intermittent nature of construction activities within specific locations in the project area (i.e., construction does not occur in any one part of the Master Plan Area during the 12-year buildout period, project construction is not anticipated to result in an odor-related impact during the construction phase of the project. The 2035 Master Plan includes the construction of the WRF and because the WRF is a use typically associated with objectionable odors and because it would be located less than 1 mile from existing and future receptors, it could result in emissions of new odors on campus that could affect a substantial number of people. This impact could be **significant**.

Mitigation Measures

Mitigation Measure 3.3-6: Prepare an Odor Control Plan

The following odor management conditions will be implemented by Cal Poly with respect to the WRF prior to its operation and would be consistent with the conditions of the site's Authority to Control or Permit to Operate issued by APCD:

- Cal Poly will prepare an Odor Control Plan (OCP), which will include known feasible measures to minimize the potential for a substantial odor increase at receptors within 1 mile of the WRF and will identify the facility's odor abatement system equipment, the system performance monitoring protocols, and the procedures for investigating and correcting public complaints. The APCD will ensure the OCP is consistent and not in conflict with the APCD requirements. All complaints received by facility management will be investigated and documented, and if verified, appropriate response action will be taken. The facility will provide a 24-hour hotline for public complaints, and the number will be posted at the facility entrance.

<u>Significance after Mitigation</u>

Implementation of Mitigation Measure 3.3-6 would reduce odor-related impacts of the project on sensitive receptors within 1 mile of the WRF; however, it cannot be guaranteed that odor-related impacts would be abated entirely. Thus, this impact would be **significant and unavoidable**.

3.4 ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

This section analyzes and evaluates the potential impacts of the project on known and unknown cultural resources. Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include prehistoric resources, historic-era resources, and tribal cultural resources.

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-era physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical (or architectural) resources include standing buildings (e.g., houses, barns, outbuildings, cabins), intact structures (e.g., dams, bridges, roads, districts), and landscapes. A cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. Tribal cultural resources include site features, places, cultural landscapes, sacred places or objects, which are of cultural value to a Native American tribe. Database information and Correspondence related to tribal consultation are provided in Appendix D.

No comments regarding archaeological, historical, or tribal cultural resources were received in response to the Notice of Preparation (NOP).

3.4.1 Regulatory Setting

FEDERAL

National Historic Preservation Act

Among those statutes enacted by Congress that affect historic properties, the National Historic Preservation Act of 1966 (NHPA) is the most significant law addressing historic preservation. The NHPA establishes the National Register of Historic Places (NRHP), the national inventory of historic resources, including districts, sites, buildings, structures, and objects, recognized as significant in American history, architecture, archaeology, engineering, and culture. The NRHP is administered by the National Park Service.

The formal criteria (36 CFR 60.4) for evaluating eligibility for NRHP listing state that a property must retain integrity of location, design, setting, materials, workmanship, feeling, and associations, and possess at least one of the following characteristics:

A. Association with events that have made a significant contribution to the broad patterns of history (events).

B. Association with the lives of persons significant in the past (persons).

C. Distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).

D. Has yielded, or may be likely to yield, information important to prehistory or history (information potential).

A project is considered to have a significant impact when its effects on a historic property may diminish the property's integrity. The seven aspects of integrity are defined as follows (36 CFR 60.4):

- **Location.** Integrity of location refers to whether a property remains where it was originally constructed or was relocated.
- **Design.** Integrity of design refers to whether a property has maintained its original configuration of elements and style that characterize its plan, massing, and structure. Changes made after original construction can acquire significance in their own right.

- **Setting.** Integrity of setting refers to the physical environment surrounding a property that informs the characterization of the place.
- **Materials.** Integrity of materials refers to the physical components of a property, their arrangement or pattern, and their authentic expression of a particular time period.
- **Workmanship.** Integrity of workmanship refers to whether the physical elements of a structure express the original craftsmanship, technology and aesthetic principles of a particular people, place or culture at a particular time period.
- **Feeling.** Integrity of feeling refers to the property's ability to convey the historical sense of a particular time period.
- **Association.** Integrity of association refers to the property's significance defined by a connection to a particular important event, person or design.

A property should possess most of the above aspects of integrity; however, certain aspects of integrity may be more important than others for communicating a property's historic significance. Determining which aspects of integrity are essential for a given property requires an understanding of the formal eligibility criteria (associations, distinctive characteristics, potential to yield information) that apply to that property – that is, why a property is considered potentially significant in the first place. For example, if a property is being evaluated for its significance under Criterion C because it represents the distinctive characteristics of a specific architectural style, it must retain the majority of the physical features that illustrate that style (e.g., massing, spatial relationships, pattern of windows and doors, ornamentation) to be considered eligible (National Register Bulletin No. 16).

Criteria considerations set forth by the NRHP further state that properties that have achieved significance within the past 50 years shall not be considered eligible for the NRHP, although such properties may qualify if they are of integral importance to a district that do meet eligibility criteria, or if they are of exceptional importance as defined by the NRHP.

Listing in the NRHP does not entail specific protection or assistance for a property, although it does guarantee recognition in planning for federal or federally-assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA.

Section 106 of the National Historic Preservation Act

Federal protection of cultural resources is legislated by (a) the NHPA of 1966 as amended by 16 U.S. Code 470, (b) the Archaeological Resource Protection Act of 1979, and (c) the Advisory Council on Historical Preservation. Section 106 of the NHPA and accompanying regulations (36 CFR Part 800) constitute the main federal regulatory framework guiding cultural resources investigations and require consideration of effects on properties that are listed in, or may be eligible for listing in, the NRHP. These laws and bodies define the processes for determination of the effects on historical properties eligible for listing in the NRHP. For Cal Poly, listing on the NRHP and compliance with Section 106 is relevant to future projects if they require federal funds, permitting, licensing, or approval(s).

Secretary of the Interior's Standards

The *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Secretary's Standards), codified in 36 CFR 67, provides guidance for working with historic properties. The Secretary's Standards are used by lead agencies to evaluate proposed rehabilitative work on historic properties. The Secretary's Standards are a useful analytic tool for understanding and describing the potential impacts of proposed changes to historic resources. Projects that comply with the Secretary's Standards benefit from a regulatory presumption that they would not result in a significant impact to a historic resource. Projects that do not comply with the Secretary's Standards may or may not cause a substantial adverse change in the significance of a historic property.

In 1992, the Secretary's Standards were revised so they could be applied to all types of historic resources, including landscapes. They were reduced to four sets of treatments to guide work on historic properties: preservation, rehabilitation, restoration, and reconstruction. The four distinct treatments are defined as follows:

- **Preservation** focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.
- **Rehabilitation** acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.
- **Restoration** depicts a property at a particular period of time in its history, while removing evidence of other periods.
- **Reconstruction** recreates vanished or nonsurviving portions of a property for interpretive purposes.

Guidelines for the Treatment of Historic Properties

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings (Guidelines) illustrate how to apply the four treatments detailed above to historic properties in a way that meets the Secretary's Standards and are advisory, not regulatory. The purpose of the Guidelines is to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers before beginning work. They address both exterior and interior work on historic buildings. There are four sections, each focusing on one of the four treatment standards: preservation, rehabilitation, restoration, and reconstruction. Each section includes one set of standards with accompanying Guidelines that are to be used throughout the course of a project.

STATE

California Register of Historical Resources

All properties listed in or formally determined eligible for listing in the NRHP are eligible for listing in the California Register of Historical Resources (CRHR). The CRHR is a listing of State of California resources that are significant within the context of California's history. The CRHR is a statewide program of similar scope and with similar criteria for inclusion as those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historic resource must be significant at the local, state, or national level under one or more of the criteria defined in CCR Title 15, Chapter 11.5, Section 4850. The CRHR criteria are similar to the NRHP criteria and are tied to CEQA because any resource that meets the criteria below is considered a historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria for determining the eligibility of a resource for listing in the CRHR. These criteria ask whether a resource:

1. Is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
2. Is associated with the lives of persons important to local, California, or national history.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Like the NRHP, a resource must meet one of the above criteria and retain integrity. The CRHR uses the same seven aspects of integrity as the NRHP (location, design, setting, materials, workmanship, feeling, and association). The State Office of Historic Preservation (OHP), an office within the California Department of Parks and Recreation (DPR), implements the policies of the NHPA at the statewide level. The OHP also maintains the CRHR. The State Historic Preservation Officer (SHPO), an appointed official, implements the state's historic preservation programs under state jurisdiction.

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on "historical resources," "unique archaeological resources," and "tribal cultural resources." Pursuant to PRC Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources. Pursuant to Section 21084.2, a "project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."

Historical Resources

"Historical resource" is a term with a defined statutory meaning (PRC, Section 21084.1; determining significant impacts to historical and archaeological resources is described in the State CEQA Guidelines, Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

1) A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1).
2) A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if it meets the following criteria for listing in the CRHR (PRC Section 5024.1):
    a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    b) Is associated with the lives of persons important in our past;
    c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    d) Has yielded, or may be likely to yield, information important in prehistory or history.
4) The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Section 5020.1(j) or 5024.1.

California Historical Landmarks

California Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. The specific standards now in use were first applied in the designation of Landmark # 770. California Historical Landmarks #770 and above are automatically listed in the California Register of Historical Resources.

To be designated as a California Historical Landmark, a resource must meet at least one of the criteria listed below; have the approval of the property owner(s); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks.

To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

Unique Archaeological Resources

CEQA requires lead agencies to consider whether projects would affect unique archaeological resources. PRC Section 21083.2(g), states that a unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, beyond merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Tribal Cultural Resources

CEQA requires lead agencies to consider whether projects would affect tribal cultural resources. PRC Section 21074 states the following:

a) "Tribal cultural resources" are any of the following:

   1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

      A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

      B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

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

b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Public Resources Code Sections 5024 and 5024.5

The California State Legislature enacted PRC Sections 5024 and 5024.5 as part of a larger effort to establish a state program to preserve historical resources. These sections of the code require state agencies to take a number of actions to ensure preservation of state-owned historical resources under their jurisdictions. These actions include evaluating resources for NRHP eligibility and California Historical Landmark eligibility, maintaining an inventory of eligible and listed resources, and managing these historical resources so that that they will retain their historic characteristics.

PRC Section 5024(f) requires state agencies to submit to the State Historic Preservation Officer (SHPO) for comment documentation for any project having the potential to affect historical resources under its jurisdiction which are listed in or potentially eligible for inclusion in the NRHP, or are registered or eligible for registration as California Historical Landmarks. The SHPO has 30 days after receipt of the notice for review and comment.

Health and Safety Code, Sections 7052 and 7050.5

Section 7050.5(b) of the California Health and Safety Code specifies protocol when human remains are discovered. The code states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both state and private lands. The Act requires that upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are of a Native American, the coroner must notify the Native American Heritage Commission (NAHC). The NAHC then notifies those persons most likely to be descended from the Native American's remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods. The descendants may, with the permission of private landowners, inspect the site and recommend to the owner or the person responsible for the excavation means for treating or disposing of the remains and associated grave goods. The descendants must complete their inspection and make recommendations within 24 hours of their notification by the NAHC. The recommendation may include scientific removal and nondestructive analysis.

Public Resources Code Section 5097

PRC Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the NAHC. Section 5097.5 of the code states the following:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate pale ontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Assembly Bill 52 (2014)

Assembly Bill (AB) 52, which adds several sections to the PRC, was signed by the California governor in September 2014 and establishes a new class of resources under CEQA: "tribal cultural resources." It requires that lead agencies undertaking CEQA review must, upon the written request of a California Native American tribe, begin consultation once the lead agency determines that the project application is complete, before the issuance of a notice of preparation of an EIR or notice of intent to adopt a negative declaration or mitigated negative declaration. AB 52 also resulted in a revision to Appendix G, the environmental checklist, of the State CEQA Guidelines. This revision created a new standalone environmental topic and series of checklist questions for tribal cultural resources.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein, but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

San Luis Obispo County General Plan

The San Luis Obispo County General Plan Cultural Resources Element contains the following policies that are relevant to cultural resources (County of San Luis Obispo 2010):

- **Policy CR 3.3: Remodeling and Reconstruction.** Maintain and enhance the historic character of the county by establishing review procedures for the remodeling and reconstruction of buildings and other structures consistent with the Secretary of the Interior's Standards.
- **Policy CR 4.1: Non-Development Activities.** Discourage or avoid non-development activities that could damage or destroy Native American and archaeological sites, including off-road vehicle use on or adjacent to known sites. Prohibit unauthorized collection of artifacts.
- **Policy CR 4.2: Protection of Native American Cultural Sites.** Ensure protection of archaeological sites that are culturally significant to Native Americans, even if they have lost their scientific or archaeological integrity through previous disturbance. Protect sites that have religious or spiritual value, even if no artifacts are present. Protect sites that contain artifacts, which may have intrinsic value, even though their archaeological context has been disturbed.
- **Policy CR 4.3: Cultural Resources and Open Space.** The County supports the concept of cultural landscapes and the protection and preservation of archaeological or historical resources as open space or parkland on public or private lands.
- **Policy CR 4.4: Development Activities and Archaeological Sites.** Protect archaeological and culturally sensitive sites from the effects of development by avoiding disturbance where feasible. Avoid archaeological resources as the primary method of protection.
- **Policy CR 4.5: Paleontological Resources.** Protect paleontological resources from the effects of development by avoiding disturbance where feasible.
- **Policy CR 4.6: Resources-Based Sensitivity.** Protect archaeological resources near streams, springs and water sources, rock outcrops, and significant ridgetops, as these are often indicators of the presence of cultural resources.

City of San Luis Obispo General Plan

The City of San Luis Obispo General Plan Conservation and Open Space Element contains the following policies that are relevant to cultural resources (City of San Luis Obispo 2014a):

- **Policy 3.3.1: Historic Preservation.** Significant historic and architectural resources should be identified, preserved, and rehabilitated.
- **Policy 3.3.2: Demolitions.** Historically or architecturally significant buildings should not be demolished or substantially changed in outward appearance, unless doing so is necessary to remove a threat to health and safety and other means to eliminate or reduce the threat to acceptable levels are infeasible.
- **Policy 3.3.3: Historical Documentation.** Buildings and other cultural features that are not historically significant, but which have historical or architectural value should be preserved or relocated where feasible. Where preservation or relocation is not feasible, the resources shall be documented and the information retained in a secure but publicly accessible location. An acknowledgement of the resources should be incorporated within the site through historic signage and the reuse or display of historic material and artifacts.
- **Policy 3.5.1: Archaeological Resource Protection.** The City shall provide for the protection of both known and potential archaeological resources. To avoid significant damage to important archaeological sites, all available measures, including purchase of the property in fee or easement, shall be explored at the time of a development proposal. Where such measures are not feasible and development would adversely affect identified archaeological or paleontological resources, mitigation shall be required pursuant to the Archaeological Resource Preservation Program Guidelines.

- **Policy 3.5.2: Native American Sites.** All Native American cultural and archaeological sites shall be protected as open space wherever possible.
- **Policy 3.5.3: Non-Development Activities.** Activities other than development which could damage or destroy archaeological sites, including off-road vehicle use on or adjacent to known sites, or unauthorized collection of artifacts, shall be prohibited.
- **Policy 3.5.4: Archaeological Sensitive Areas.** Development within an archaeologically sensitive area shall require a preliminary site survey by a qualified archaeologist knowledgeable in Native American cultures, prior to a determination of the potential environmental impacts of the project.
- **Policy 3.5.5: Archaeological Resources Present.** Where a preliminary site survey finds substantial archaeological resources, before permitting construction, the City shall require a mitigation plan to protect the resources. Possible mitigation measures include: presence of a qualified professional during initial grading or trenching; project redesign; covering with a layer of fill; excavation removal and curation in an appropriate facility under the direction of a qualified professional.
- **Policy 3.5.6: Qualified Archaeologist Present.** Where substantial archaeological resources are discovered during construction or grading activities, all such activities in the immediate area of the find shall cease until a qualified archaeologist knowledgeable in Native American cultures can determine the significance of the resource and recommend alternative mitigation measures.
- **Policy 3.5.7: Native American Participation.** Native American participation shall be included in the City's Guidelines for resource assessment and impact mitigation. Native American representatives should be present during archaeological excavation and during construction in an area likely to contain cultural resources. The Native American community shall be consulted as knowledge of cultural resources expands and as the City considered updates or significant changes to its General Plan.
- **Policy 3.6.3: Construction within Historic Districts.** The Cultural Heritage Committee and Architectural Review Commission will provide specific guidance on the construction of new buildings within historic districts.

<u>Historic Preservation Ordinance</u>

In 2010, the City of San Luis Obispo passed a Historic Preservation Ordinance to identify and protect important historic resources within the city (City of San Luis Obispo 2010). When determining if a property should be designated as a listed historic or cultural resource, the Cultural Heritage Commission and City Council are to consider this ordinance and SHPO standards. To be eligible for designation, the resource will exhibit a high level of historic integrity; be at least 50 years old (less than 50 if it can be demonstrated that enough time has passed to understand its historical importance); and satisfy a series of criteria related to style, design, and the people and history associated with the structure.

<u>Municipal Code</u>

In addition to the City of San Luis Obispo's requirements to designate a historic or cultural resource, the City Municipal Code contains specific requirements for the demolition and relocation of structures listed in the inventory of historic resources. These requirements are stated in Municipal Code Sections 14.01.100 and 14.01.110.

3.4.2 Environmental Setting

REGIONAL PREHISTORY

Archaeological evidence demonstrates that Native American groups (including the Chumash) have occupied the Central Coast for at least 10,000 years, and that Native American use of the central coast region may have begun during the late Pleistocene, as early as 9000 B.C., demonstrating that historical resources began their accumulation on the central coast during the prehistoric era. Chronology of the existence of cultural resources and human settlement of the area has been divided into seven periods: Paleoindian/Paleocoastal (13,000 to 8,500 BP), Millingstone Horizon

(8,500 BP to 5,500 BP), Early Period (5,500 BP to 2,600 BP), Middle Period (2,600 to 1,000 BP), Middle/Late Transition (1,000 to 750 BP), Late Period (750 to 450 BP), and Protohistoric Period (450 to 150 BP) (Jones and Waugh 1995).

The city and county of San Luis Obispo are located within the area historically occupied by the Obispeño Chumash, the northernmost of the Chumash people of California. The Obispeño Chumash occupied much of San Luis Obispo County, including the Arroyo Grande area, and from the Santa Maria River north to approximately Point Estero. The earliest evidence of human occupation in the region comes from archaeological sites along the coast (Breschini, Haversat, and Erlandson 1996; Moratto 1974). The period after A.D. 1000 was a time of emergent political and complexity, development of social ranking, and the rapid development of craft specialization along the Santa Barbara Channel. It was also marked by a decrease in climatic pressure. By the end of this period, the Chumash population had been decimated by foreign disease and declining birthrates (City of San Luis Obispo 2014b).

ETHNOGRAPHY

The Master Plan Area was historically occupied by the northernmost subdivision of the Chumash, the Obispeño (after Mission San Luis Obispo de Tolosa), with the Salinan bordering to the north. However, the precise location of the boundary between the Chumashan-speaking Obispeño Chumash and their northern neighbors, the Hokan-speaking Playanos Salinan, is currently the subject of debate, as those boundaries may have changed over time.

HISTORIC SETTING

Native American villages occupied by Chumash were first recorded in the Cal Poly vicinity by Europeans during Gaspar de Portolá's land expedition in search of Monterey Bay. In 1772, Fray Junípero Serra founded Mission San Luis Obispo de Tolosa, the third Franciscan mission in Alta California, about 1 mile south of the future campus site. Mission livestock—cattle, horses, mules, and sheep—grazed freely on the slopes of the surrounding hills. This pastoral land use continued after the missions were secularized in the 1830s and former mission lands were parceled out as rancho grants.

The campus occupies grazing lands formerly associated with Rancho Potrero de San Luis Obispo (granted to Maria Concepcion Boronda in 1842, though purchased by Estevan Quintana in the 1820s), Rancho San Luisito (granted to Guadalupe Cantua in 1841), and Rancho El Chorro (granted to John Wilson and James Scott in 1845). No architectural resources date to the pre-American period, but some of the campus boundaries are coterminous with earlier rancho boundaries (Marx 2002:143–144).

Although "Yankees" and other non-Mexican citizens had taken up residence in Alta California in the 1820s and 1830s, the Mexican–American War of 1846–1848 marked the official intervention of U.S. interests in California. The discovery of gold in the foothills of the Sierra Nevada instigated a population boom, and California achieved statehood in 1850. Severe flooding in 1862, followed by the disastrous drought of 1863–1864, devastated the cattle industry that had supported the San Luis Obispo County economy. Local population did not increase noticeably until further immigration in the 1870s, when dairying, mining, and sheep raising began to form the basis of a newly organized economy. The advent of shipping ports and a narrow-gauge railway supported a burgeoning commercial core in the county seat, the City of San Luis Obispo, which began to grow and acquire the aspects of an Americanized city (Thompson & West 1883:320).

By the 1880s, local boosters were promoting sales of former rancho lands, which were being partitioned into smaller tracts suitable for orchards and diversified crops. Future Cal Poly lands were among the tracts that transferred from rancho heirs to new owners, including prosperous sheep rancher Joseph Hollister and, later, dairymen Charles Walters and Giuseppe Gilardi. The Rancho Potrero de San Luis Obispo, which had reverted to the Quintana family, was also subdivided. Cal Poly's Serrano, Peterson, and Cheda Ranches represent portions of the Rancho Potrero (Spanish for "pasture") that have retained their pastoral land use (Marx 2002:168–169).

The foundation of the California Polytechnic School can be attributed, in large measure, to its promotion by Myron Angel, a local publisher who settled in San Luis Obispo in 1883. As the city gained stature—especially after the Southern Pacific Railroad reached the city from the north in 1894—a concerted effort was made to establish a local school. Legislation was enacted in 1897, and funding was finally allocated in 1902, spurred on by the 1901 completion of the

Southern Pacific Railroad line from San Francisco to San Diego, which opened the Central Coast to further settlement and investment. A 281-acre site at the north end of the city was offered to the fledgling school (Cal Poly 2001:13–16).

In March 1901, California Governor Henry T. Gage signed "An Act to Establish the California Polytechnic School," The enabling act was effective January 1, 1902. Classes began in 1903, and the student body consisted of 20 men and women. The Cal Poly Catalogue offered instruction from three faculty members who taught: animal husbandry and other agricultural courses, domestic science (home nursing, farm accounting, dressmaking and millinery (hat making), laundering, nutrition, and the safe preparation and storage of food), and carpentry. The first class of four men and four women graduated on June 15, 1906. By 1908, the student body comprised 151 men and women (Cal Poly 2001: 15-24). Enrollment decreased through World War I and totaled 128 students by Fall 1922. Through the 1920s the campus grew to 1,200 acres, and included extensive dryland crops, vegetable fields, vineyards, and orchards (Cal Poly 2001: 29-33).

The Great Depression caused market prices for crops to collapse, resulting in decreased enrollment. In 1929, the State Legislature and Governor C.C. Young barred women from enrolling or studying at Cal Poly after 1930 to reduce the costs related to maintenance of the women's dorm and the household arts curriculum (Cal Poly 2001: 35). Under Julian McPhee, who became president of the university in 1933, Cal Poly's curriculum was expanded to include programs such as mechanical engineering, aeronautics, agricultural mechanics, and air conditioning. Along with these changes, the student body expanded from a low of 117 in 1933 to 711 students during the 1941-1942 academic year (Cal Poly 2001: 44-48).

In 1937, Cal Poly was granted three-year technical college status by the State Board of Education. In 1940, Cal Poly collegiate status was conferred upon Cal Poly, allowing for the first Bachelor of Science degrees to be awarded to 26 graduates on May 29, 1942 (Cal Poly 2001: 50-51). After World War II ended, interest in Cal Poly increased substantially due to funding of education to veterans through the GI bill. This increase in demand fed expansion of campus offerings, and by 1950 there were 206 instructors covering 24 departments (Cal Poly 2001: 64). Women were readmitted to Cal Poly in 1956 (Cal Poly 2001: 76). By 1960, the San Luis Obispo campus covered 2,850 acres and had 4,497 students enrolled (Cal Poly 2001: 79).

As the 1960s began, Cal Poly administrators were absorbed in planning efforts relating to new public policy for higher education in California. A watershed event in the history of California education, the original Statewide Education Master Plan combined policy and planning for the University of California, the state colleges, and the community colleges. Produced by a joint committee of educators and sponsored by the California Department of Education, the recommendations were submitted to the Legislature by Assemblywoman Dorothy M. Donahoe, a champion of the Master Plan. In 1960, the legislature passed the Donahoe Higher Education Act, which included Cal Poly in the new California State Colleges system (Cal Poly 2001: 79).

The 1960s saw continued expansion of the campus core and construction of numerous two-story classroom buildings, dormitories, and upgrades to campus services to accommodate growth brought about by increasing access to college education by veterans and baby boomers (individuals born between 1946 and 1964). A new administration building, designed by the Division of the State Architect, was constructed in 1964, and two more large-scale dormitory projects and facilities to support the then-new Environmental Horticulture Science program were constructed in 1967.

Pursuant to a 1970 Master Plan for the campus, a new student union was established downslope of the administration building, and several large-scale buildings were constructed around the campus core between 1972 and 1985, the end of the "historic period" for purposes of the 2035 Master Plan). Development since 1985 is characterized by continued growth to support the academic curriculum (reorganized in 1986 into seven distinct schools) and growing student population. The Agricultural Science and Foundation Administration buildings were completed in the late 1980s. The 1990s and 2000s saw construction of the University Center for Teacher Education, Faculty Offices East, Business Building, Children's Center, Recreational Sports Complex, parking facilities, and expansion of agricultural technology and instructional facilities. The result is an architecturally eclectic, comparatively densely developed Academic Core, with the areas surrounding the Academic Core on three sides (West Campus, North Campus, and East Campus) providing the majority of facilities to support on-campus housing, student athletics and the agricultural programs offered at Cal Poly.

CULTURAL RESOURCES RECORDS SEARCH

A cultural resources records search was completed on July 25, 2019, at the Central Coast Information Center (CCIC) of the California Historical Resources Information System at the University of California, Santa Barbara. The search was conducted to determine if prehistoric or historic cultural resources were previously recorded within the Master Plan Area, the extent to which the Master Plan Area had been previously surveyed, and the number and type of cultural resources within a 0.5-mile radius of the Master Plan Area. The archival search of the archaeological and historical records, national and state databases, and historic maps included:

- NRHP;
- CRHR;
- California Inventory of Historic Resources (1976);
- California State Historical Landmarks (1996 and updates);
- California Points of Historical Interest (1992 and updates);
- Historic Property Data File and Archaeological Determinations of Eligibility for San Luis Obispo County (updated April 2012);
- 1867 and 1877 General Land Office plats for Township 30 South, Range 12 East; and
- San Luis Obispo U.S. Geological Survey 7.5-minute quadrangles.

The records search review revealed that 22 previous studies of cultural resources have been conducted within the Master Plan Area, and an additional 59 cultural resources studies have been completed for lands within a 0.5-mile radius of the Master Plan Area. All studies were completed between 1977 and 2011. The records search at the CCIC revealed that 12 prehistoric resources and 10 historic resources (including one roadbed and nine buildings) have been previously recorded within the Master Plan Area. Of the recorded historic resources, three have been demolished and following six remain on the Main Campus:

- **Crandall Gymnasium.** Named for Dr. Benjamin Crandall, Cal Poly President from 1924 to 1933, Crandall Gymnasium was completed in 1928 and designed by the Office of the State Architect. The building was constructed in the Mission Revival style. California was the birthplace of the Mission Revival style, popular from the 1890s to the 1920s. The style was employed extensively throughout the western United States due in large part to the Santa Fe and Southern Pacific Railroads adopting this style for their stations.
- **Jespersen Hall. A** two-story pseudo-Spanish-style building constructed in 1928. It originally consisted of concrete bearing walls, a plastered wood floor and roof structure, and tile roof. In 1983 it was remodeled to include an exterior porch entry. This building is one of the earliest dormitories on campus.
- **Heron Hall.** A companion building to Jespersen Hall, Heron Hall is also a pseudo-Spanish-style building constructed in 1928. Like Jespersen, it is a two-story building that originally consisted of concrete bearing walls, a plastered wood floor and roof structure, and tile roof. In 1982, a porch entry was added to the exterior. This building is one of the earliest dormitories on campus.
- **University House (President's Home).** University House (President's Home), was developed in 1928 in a pseudo-Spanish style as a home for then-President Crandall. Other university presidents who resided in the University House included: Julian McPhee, Robert Kennedy, and Warren Baker. It is a two-story wood frame building that originally consisted of concrete bearing walls, a plastered wood floor and roof structure, and a tile roof. Extensive interior and exterior remodeling occurring in 1968, 1980, and 2018.
- **Chase Hall.** A companion building to Jespersen and Heron Halls, Chase Hall is also a pseudo-Spanish style building constructed in 1930, Chase Hall originally consisted of concrete bearing walls, a plastered wood floor and roof structure, and tile roof. This building is one of the earliest dormitories on campus.

- **Old Power House.** The Old Power House is a large, one-story, Mission/Spanish Colonial-style building designed by William H. Weeks and constructed in 1908-1909. It is situated in the oldest part of campus and is one of its original buildings. Formerly referred to as the Power Plant, it originally contained one 100 horsepower (hp) boiler, one 50 hp steam engine, and one 30-kilowatt generator. Upgrades occurred over time to accommodate and facilitate campus growth. The Power House was in continuous operation as an electrical power and steam heating plant from 1910 to 1940. In 1955, it was abandoned after completion of the new power plant. Beginning in the 1960s, it was used by the Architecture Department as lab space but was abandoned in 1990 due to seismic instability.

Prehistoric and remaining historic resources within the Master Plan Area are listed in Table 3.4-1.

Table 1.4-1 Cultural Resources Previously Recorded within Master Plan Area

Trinomial/Building No.	Period	Brief Description
CA-SLO-44	Prehistoric	Occupation site
CA-SLO-490	Prehistoric	Bedrock mortars (11)
CA-SLO-523	Prehistoric	Projectile point-trail connecting to Mustang Village
CA-SLO-524	Prehistoric	Granite bowl-fragment
CA-SLO-669	Prehistoric	Bedrock mortars (4)
CA-SLO-2053	Prehistoric	Shell and lithic scatter
CA-SLO-2090	Prehistoric	Lithic scatter
CA-SLO-2280	Prehistoric	Shell and lithic scatter and biface
CA-SLO-002870	Prehistoric	Lithic scatter
CA-SLO-038190	Prehistoric	Lithic-chert flake
CA-SLO-038191	Prehistoric	Lithic-chert flake
CA-SLO-038350	Prehistoric	Lithic-chert flake
N/A	Historic	Linear feature-roadbed located north of Highland Drive and adjacent to Highway 1's western shoulder
60	Historic	Structure-Crandall Gymnasium - circa 1928. Remodeled in 1982.
116	Historic	Structure-Jespersen Hall – 1928. Remodeled in 1983.
117	Historic	Structure-Heron Hall – 1928. Remodeled in 1982.
51	Historic	Structure-University House (President's Home) – 1928. Remodeled in 1968, 1980, and 2018.
115	Historic	Structure-Chase Hall – 1930
76	Historic	Structure-Old Power House – 1908. Remodeled in 1970s.

In addition to this search, burial sensitivity areas for the campus have been identified along Brizzolara Creek by the City of San Luis Obispo (City of San Luis Obispo 2014a: 6-19).

NATIVE AMERICAN AND TRIBAL CULTURAL RESOURCES

In 2016, Cal Poly sent a letter to the NAHC requesting the list of tribes that expressed interest in formal consultation pursuant to AB 52. NAHC provided contact information for two tribes: *yak tityu* (a Northern Chumash tribe) and Torres Martinez Desert Cahuilla Indians. The NAHC also indicated that the search of the Sacred Lands File did not indicate the presence of Native American cultural resources within the Master Plan Area.

Letters providing formal notification of a campus master plan project and the opportunity for tribal consultation with Cal Poly pursuant to AB 52 were sent to Torres Martinez Desert Cahuilla Indians on July 28, 2016, and *yak ttiyu tityu* on December 12, 2018. AB 52 requires early consultation by a lead agency with Native American tribes when a written request for such consultation is received by a tribe within 30 days of notification. No response was received by either tribe within the response period and no tribal cultural resources (as defined in Section 4 of AB 52) have been identified by any tribes within the Master Plan Area. While the formal AB 52 process was closed, the tribes have since contacted Cal Poly about potential effects on cultural resources and Cal Poly will engage in informal consultation with the tribes during the CEQA environmental review process.

3.4.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

To evaluate the potential impacts of the 2035 Master Plan on archaeological, historical, and tribal cultural resources, the proposed activities of the project were considered in relation to known resources or the potential for unknown resources. The analysis is informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources. In determining the level of significance, the analysis assumes that the project would comply with relevant federal and state laws, regulations, and ordinances.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, the project would normally result in a significant impact on cultural resources if it would:

- cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
  - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.
- disturb any human remains, including those interred outside of dedicated cemeteries.

ISSUES NOT DISCUSSED FURTHER

All potential archaeological, historical, and tribal cultural resources issues identified in the significance criteria are evaluated below.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource

The 2035 Master Plan proposes new campus development and redevelopment to support projected campus population growth and to enable expanded and new program initiatives, including the renovation of some existing buildings, including potentially historically significant buildings. Some historically significant structures/buildings identified for renovation may need substantial investment and, while not anticipated at this time, could be replaced if renovation proves infeasible. This could result in damage to or destruction of historic buildings and structures, thereby resulting in a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. This impact would be **potentially significant**.

As discussed above in Section 3.4.2, "Environmental Setting," there are nine previously recorded historic resources located within the Master Plan Area, three of which have been previously demolished. Extant historic structures/buildings include the Crandall Gymnasium, Jespersen Hall, Heron Hall, the University House (President's Home), Chase Hall, and others (see Table 3.4-1 for complete list). There are additional on-campus buildings that have not been identified as historic resources, but may become historically significant resources during the planning period (i.e., through 2035). The demolition, alteration, or disturbance of existing features, buildings, and structures could result in changes to or destruction of historic resources if they meet the definition of historic resource under Section 15064.5(a) of the CEQA Guidelines.

The 2035 Master Plan proposes general types of campus development and land uses to support projected campus population growth and to enable new and expanded program initiatives. The 2035 Master Plan proposes various new built elements on campus, including housing, recreation and athletic facilities, and academic, administrative, and support facilities. A primary component of the 2035 Master Plan is the renovation and/or replacement of 455,000 gsf of existing campus facilities. These Master Plan elements could be sited in areas with known, recorded historical buildings or structures, or in areas with resources that have not yet been evaluated for historical significance and/or resources that may become historic during the planning period.

Historic structures are generally clustered in the southwest portion of campus, in the Academic Core and the site of the original university center. Jespersen Hall (Building 116) and Heron Hall (Building 117), both constructed in 1928, and Chase Hall, constructed in 1930 are located in this area, and the Old Powerhouse (Building 76) and Crandall Gymnasium (Building 60) are located to the north of the residence halls, just north of South Perimeter Road. The University House, home of the Cal Poly President, is located to the east of Chase Hall, across Cuesta Avenue, just off Campus Way. Except for the Old Powerhouse and University House, each of these buildings is slated for renovation and may be in need of substantial investment. While none of the identified historic structures are presently proposed for replacement, if in the course of detailed planning it is determined that renovation of any of the buildings is infeasible, replacement may become necessary. Therefore, there is the potential for new development to adversely affect buildings, structures, or other resources that are known to be or could potentially be historically significant.

Damage to or destruction of a building or structure that is a designated historic resource, eligible for listing as a historic resource, or a potential historic resource that has not yet been evaluated could result in a change in its historical significance. Therefore, impacts on historical resources would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-1: Conduct Project-Specific Surveys and Identify and Implement Measures to Protect Identified Historic Resources

Before altering or otherwise affecting a building or structure that is 50 years old or older, Cal Poly shall retain a qualified architectural historian to record the building or structure on a California Department of Parks and Recreation DPR 523 form or equivalent documentation, if the building has not previously been evaluated. Its significance shall be assessed and documented by a qualified architectural historian in accordance with the significance criteria set forth for historic resources under CEQA Guidelines Section 15064.5. The evaluation process shall include the development of appropriate historical background research as context for the assessment of the significance of the structure in the history of the CSU system, Cal Poly, and the region. For buildings, structures, and other resources determined through this evaluation process not to meet the CEQA historical resource criteria, no further mitigation is required.

For any building, structure, and or other resource that qualifies as a historic resource, the architectural historian and Cal Poly shall consult to consider measures that would enable the Master Plan project to avoid direct or indirect impacts to the historic building or structure. These could include preserving the building on site, using it “as is,” or other measures that would not materially alter the historically significant components of the building or structure. If the project cannot feasibly avoid modifications to the historically significant features of the historic building or structure, the following measures shall be undertaken as appropriate:

1) If the building or structure can be preserved on-site, but remodeling, renovation or other alterations are required, this work shall be conducted in compliance with the “Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings” (NPS 1983).
2) If a significant historic building or structure is proposed for major alteration or renovation, or to be moved and/or demolished, Cal Poly shall ensure that a qualified architectural historian thoroughly documents the building and associated landscaping and setting. Documentation shall include still and video photography and a written documentary record of the building to the standards of the Historic American Building Survey or Historic American Engineering Record, including accurate scaled mapping, architectural descriptions, and scaled architectural plans, if available. A copy of the record shall be deposited with the University archives, Shields Library Special Collections. The record shall be accompanied by a report containing site-specific history and appropriate contextual information. This information shall be gathered through site specific and comparative archival research, and oral history collection as appropriate.
3) If preservation and reuse at the site are not feasible, the historical building shall be documented as described in item (2) and, when physically and financially feasible, be moved and preserved or reused.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1 would reduce potentially significant impacts on historic resources because actions would be taken to record, evaluate, avoid, or otherwise treat the resource appropriately, in accordance with pertinent laws and regulations. However, State CEQA Guidelines Section 15126.4(b)(2) notes that in some circumstances, documentation of a historical resource shall not mitigate the effects of demolition of that resource to a less-than-significant level because the historic resources would no longer exist. Therefore, because the potential for permanent loss of a historic resource or its integrity cannot be precluded, the project’s impacts on historic resources is concluded to be **significant and unavoidable**.

Impact 3.4-2: Cause a Substantial Adverse Change in the Significance of an Archaeological Resource

Future development associated with the 2035 Master Plan could be located in areas that contain known or unknown archaeological resources and ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5. This impact would be **potentially significant**.

The 2035 Master Plan proposes campus development to support projected campus population growth and to enable expanded and new program initiatives. This development would be related to academic, residential, and infrastructure uses and would include various levels or ground disturbance.

The CCIC records search revealed 12 previously recorded prehistoric sites within the Master Plan Area, which indicates that archaeological sites may be encountered throughout the un-surveyed portions of the Master Plan Area. In addition, areas along Brizzolara Creek are considered to be sensitive for the presence of archeologically significant burials. Development or improvements in locations of sensitivity, where highly important sites are most likely to be located, could encounter previously undiscovered or unrecorded archaeological sites and materials. Ground disturbance could damage or destroy previously undiscovered archaeological resources, which would be a **potentially significant** impact.

Mitigation Measures

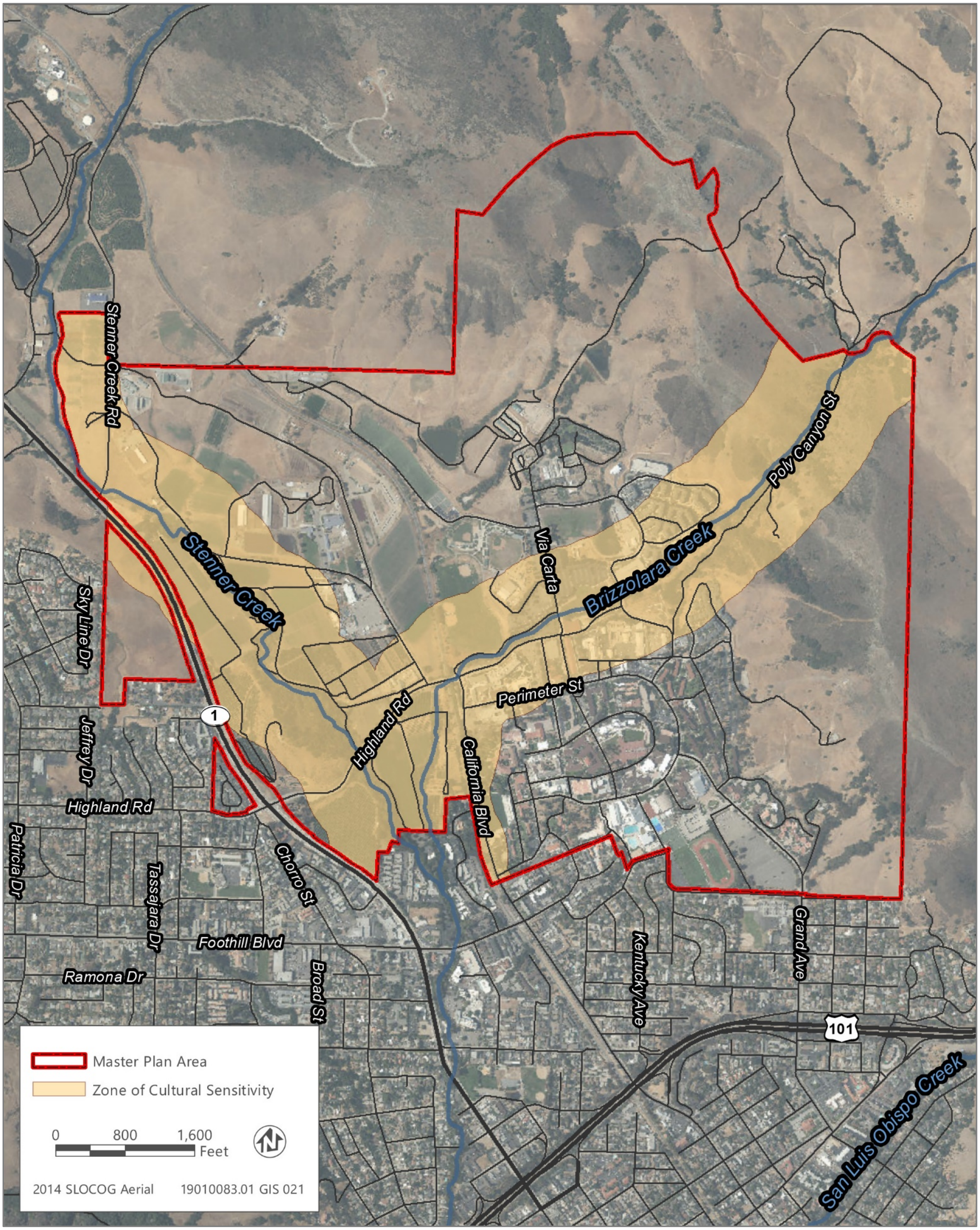
Mitigation Measure 3.4-2a: Identify and Protect Unknown Archaeological Resources

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).

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.



Source: Data received from Cal Poly SLO in 2019; adapted by Ascent Environmental in 2019

Figure 3.4-1 Zone of Cultural Sensitivity

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.

Mitigation Measure 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 Measure 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.

Significance after Mitigation

Implementation of Mitigation Measures 3.4-2a through 3.4-2c would reduce potentially significant impacts on archaeological resources to less-than-significant levels because mitigation would be developed in coordination with the appropriate federal, state, and/or local agency(ies) and tribes to avoid, move, record, or otherwise treat the archaeological resource appropriately, in accordance with pertinent laws and regulations. Therefore, the project's impacts would be **less than significant**.

Impact 3.4-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource

Cal Poly sent letters inviting tribal consultation to the tribes that expressed interest in formal consultation pursuant to AB 52. No response to these letters was received within the 30-day period required to initiate consultation. However, it is possible that tribal cultural resources could be identified during analysis of subsequent projects. Compliance with PRC Section 21080.3.2 and Section 21084.3(a) would render this impact **less than significant**.

As discussed above in Section 4.3.2, "Environmental Setting," Cal Poly sent letters providing formal notification of the opportunity for tribal consultation pursuant to AB 52 to Torres Martinez Desert Cahuilla Indians on July 28, 2016, and to *yak ttiyu tityu* on December 12, 2018. No response was received from either tribe during the 30-day period required to initiate formal consultation so the AB 32 process is closed. However, the tribes have since contacted Cal Poly about potential effects on cultural resources and Cal Poly will engage in informal consultation. Notwithstanding, no tribal cultural resources, as described under AB 52 and defined in PRC Section 21074, have been identified by either tribe.

Implementation of projects contemplated in the 2035 Master Plan may require subsequent discretionary approvals and site-specific project-level analyses to fulfill CEQA requirements, which may include additional AB 52 consultation and identification of tribal cultural resources. Although no resources within the Master Plan Area have been identified as meeting any of the PRC Section 5024.1(c) criteria, it is possible that tribal cultural resources could be identified during analysis of subsequent projects. California law recognizes the need to protect tribal cultural resources from inadvertent destruction, and the procedures for the treatment of tribal cultural resources are contained in PRC Section 21080.3.2 and Section 21084.3 (a).

Within 14 days of Cal Poly determining that it may undertake a project, Cal Poly must provide formal notification, in writing, to the California Native American tribes that are traditionally and culturally affiliated with the geographic area of the project and that have requested notification of projects in the lead agency's jurisdiction. If any affiliated tribe wishes to engage in consultation on the project, the tribe must respond to Cal Poly within 30 days of receipt of the formal notification. Cal Poly would be required to begin the consultation process with the tribes that have requested consultation within 30 days of receiving the request for consultation. Consultation concludes when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect is determined to exist, on a tribal cultural resource, or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

No tribal cultural resources were identified through the AB 52 process for the 2035 Master Plan. Notwithstanding, Cal Poly remains open to informal consultation requests, such as those recently received, and expects that over the time horizon of the 2035 Master Plan, formal consultation pursuant to AB 32 may take place. If Cal Poly determines that a subsequent project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, new provisions in the PRC describe measures that, if determined by the lead agency to be feasible, could be implemented to reduce potential effects of campus-related development on tribal cultural resources. Such measures include avoidance and preservation of resources, establishment of permanent conservation easements in areas where resources are present, and protecting resources through other means. Compliance with PRC Section 21080.3.2 and Section 21084.3 (a) and Cal Poly's continuing notification of the Torres Martinez Desert Cahuilla Indians and *yak ttiyu tityu* of all projects will continue to provide an opportunity to avoid or minimize the disturbance of tribal cultural resources, and to appropriately treat any remains that are discovered. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.4-4: Disturb Human Remains

Construction and excavation activities associated with project development could unearth previously undiscovered or unrecorded human remains, if they are present. Compliance with California Health and Safety Code Sections 7050.5 and 7052 and PRC Section 5097 would make this impact **less than significant**.

The location of grave sites and Native American remains can occur outside of dedicated cemeteries or burial sites. Ground-disturbing construction activities could uncover previously unknown human remains, which could be archaeologically or culturally significant. The 2035 Master Plan proposes new development and building improvements involving construction activities that would disturb native terrain, including excavation, grading, and soil removal; therefore, the potential exists for previously undiscovered human remains to be discovered.

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California Health and Safety Code Sections 7050.5 and 7052 and PRC Section 5097.

If human remains are discovered during any construction activities, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and Cal Poly shall notify the San Luis Obispo County coroner and the NAHC immediately, according to PRC Section 5097.98 and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the NAHC to be Native American, the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the archaeologist, and the NAHC-designated most likely descendant shall recommend the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Compliance with California Health and Safety Code Sections 7050.5 and 7052 and PRC Section 5097 would provide an opportunity to avoid or minimize the disturbance of human remains, and to appropriately treat any remains that are discovered. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

3.5 BIOLOGICAL RESOURCES

This section describes the terrestrial and aquatic biological resources that are known or have the potential to occur in the Master Plan Area, in particular the main campus where development would occur, and describes the potential impacts of implementation of the 2035 Master Plan on those resources. This section identifies biological resources that could occur within the Master Plan Area, including common vegetation and habitat types, sensitive plant communities, and special-status plant and animal species, as well as regulatory requirements pertaining to those resources. Information regarding historic occurrences of sensitive biological resources (species and habitat) is presented in Appendix D. The analysis describes potential direct and, indirect impacts from implementation of the 2035 Master Plan and identifies mitigation measures for those impacts determined to be significant.

For this analysis, information about common and sensitive biological resources known or with potential to occur in the Master Plan Area is based on a reconnaissance-level survey of the main campus and review of the following existing sources: results of previous biological surveys conducted for/by Cal Poly; a records search of the California Natural Diversity Database (CNDDB) (CNDDB 2019); California Native Plant Society (CNPS) Online Inventory or Rare and Endangered Plants (CNPS 2019); a list of federally proposed, candidate, threatened, and endangered species that may occur in the project region obtained from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system (USFWS 2019a); USFWS National Wetlands Inventory (USFWS 2019b); and high-resolution aerial imagery interpretation. The reconnaissance survey of the main campus was conducted by an Ascent biologist on June 26, 2019.

No comments related to biological resources were received in response to the Notice of Preparation (NOP).

3.5.1 Regulatory Setting

FEDERAL

Federal Endangered Species Act

The federal Endangered Species Act (ESA) requires formal or informal consultation with USFWS or the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) when it is likely that a project could affect species federally listed as threatened or endangered. The purpose of the ESA is to conserve the ecosystems upon which listed species depend. The law's ultimate goal is to "recover" listed species such that the protections of the act are no longer needed. The ESA requires that recovery plans be developed that describe the steps necessary to restore the species. Similarly, the act provides for the designation of "critical habitat" when prudent and determinable. Critical habitat is geographic areas that contain physical and biological features essential to the conservation of the species and that may require special management considerations or protection. Critical habitat designations affect only federal agency actions or federally funded or permitted activities.

The act also regulates the "taking" of a species listed as threatened or endangered under the ESA. Under the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take. If implementing a project would result in take of a federally listed species, either the project applicant must acquire an incidental take permit (ITP) under Section 10(a) of the ESA or, if a federal discretionary action is involved, the federal agency must consult with USFWS under Section 7 of the act.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act declares it is illegal to "take" bald eagles, including their parts, nests, or eggs, unless authorized. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, injury to an eagle; a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits and causes injury, nest abandonment, or death.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in 50 CFR 10.13. The list includes nearly all birds native to the United States.

Clean Water Act

Section 404 of the Clean Water Act (CWA) requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States that has the effect of replacing any portion of waters of the United States with dry land or changing the bottom elevation of any portion of waters of the United States. Waters of the United States include navigable waters; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; relatively permanent tributaries to any of these waters; and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands typically must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of the CWA pending U.S. Army Corps of Engineers (USACE) verification.

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board (SWRCB) to the nine regional water quality control boards (RWQCBs). Section 3.9, "Hydrology and Water Quality," includes further discussion of water quality regulations.

STATE

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) regulates the taking of species listed as threatened or endangered under the California Endangered Species Act (CESA), which prohibits the taking of state-listed endangered or threatened species, as well as candidate species being considered for listing, without the issuance of ITPs. Project proponents may obtain an ITP pursuant to Fish and Game Code Section 2081 if the impacts of the take are minimized and fully mitigated and if the take would not jeopardize the continued existence of the species. A "take" of a species, under CESA, is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" an individual of a species. The CESA definition of "take" does not include "harm" or "harass" as is included in the ESA definition. As a result, the threshold for take under CESA may be higher than under the ESA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) requires that each of the nine Regional Water Quality Control Boards (RWQCBs) prepare and periodically update basin plans for water quality control in their respective regions. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB's jurisdiction includes waters of the United States, as well as areas that meet the definition of "waters of the state." "Waters of the state" is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under CWA Section 404 provided they meet the definition of waters of the state, and the SWRCB published a new set of procedures for discharges of dredged or fill material into waters of the state on March 22, 2019. Mitigation requiring no net loss of wetlands functions and values of waters of the state typically is required by the RWQCB.

The SWRCB has adopted the following definition of wetlands:

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes the area lacks vegetation.

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1600 et seq. of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFW, or use any material from the streambeds, without first notifying CDFW of such activity and obtaining a final agreement authorizing such activity. CDFW's jurisdiction in altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) (California Fish and Game Code Section 1900 et seq.) allows the California Fish and Game Commission to designate plants as rare or endangered. Sixty-four species, subspecies, and varieties of plants are protected as rare under the NPPA. The act prohibits take of endangered or rare native plants but includes exceptions for agricultural and nursery operations; for emergencies; and, after proper notification of CDFW, for vegetation removal from canals, roads, and other building sites, changes in land use, and other situations.

Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. The fully protected status prohibits take or possession of these species and generally does not provide for authorization of incidental take. "Fully protected" is a separate classification, distinct from a listing as endangered or threatened under CESA and the federal ESA. The fully protected species laws were enacted prior to CESA and the ESA. Several of the fully protected species are also protected by the federal and state endangered species laws. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species. On October 8, 2011, the governor signed Senate Bill 618, authorizing CDFW to permit the incidental take of fully protected species if the species is covered and conserved in a natural community conservation plan (NCCP). An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activities. There are no NCCPs adopted within the Master Plan Area.

Protection for Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. Section 3513 of the California Fish and Game Code codifies the federal MBTA.

California Environmental Quality Act

Rare, threatened, or endangered plant species, subspecies, and varieties are specifically considered in various sections of CEQA and the State CEQA Guidelines. State CEQA Guidelines Section 15380(b) provides the criteria for endangered, rare, and threatened species. Section 15380(d) states that species that are not on state and federal lists but meet the criteria in Section 15380(b) "shall nevertheless be considered to be endangered, rare or threatened." California Rare Plant Rank 1A, 1B, 2A, and 2B species are presumed to meet these criteria. Additionally, under Section 15380, species will be considered endangered, rare, or threatened if they are listed as such under CESA or the ESA. Species designated as candidates for listing by the California Fish and Game Commission under CESA also are "presumed to be endangered." CESA presumes that candidate species meet the criteria for listing as endangered, rare, or threatened.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

San Luis Obispo County General Plan

The San Luis Obispo County General Plan (2010) includes policies related to biological resources, including:

- **Policy BR 1.1: Protect Sensitive Biological Resources**. Protect sensitive biological resources such as, wetlands, migratory species of the Pacific flyway, and wildlife movement corridors through:
  - Environmental review of proposed Development applications, including consideration of cumulative impacts;
  - Participation in comprehensive habitat management programs with other local and resource agencies; and,
  - Acquisition and management of open space lands that provide for permanent protection of important natural habitats.
- **Policy BR 1.10: Identify and Protect Ecologically Sensitive Areas**. Protect and enable management of ecologically sensitive areas to the maximum extent feasible.
- **Policy BR. 1.11: Protect Wildlife Nursery Areas and Movement Corridors**. Identify, protect, and enable the management of connected habitat areas for wildlife movement. Features of particular importance to wildlife for movement may include, but are not limited to, riparian corridors, shorelines of the coast and bay, and ridgelines.
- **Policy BR 1.12: Development Impacts to Corridors**. Ensure that important corridors for wildlife movement and dispersal are protected as a condition of discretionary permits. Provide linkages and corridors as needed to connect sensitive habitat areas such as woodlands, forests, and wetlands.
- **Policy BR 1.15: Restrict Disturbance in Sensitive Habitat During Nesting Season**. Avoid impacts to sensitive riparian corridors, wetlands, and coastal areas to protect bird-nesting activities.
- **Policy BR 2.1: Coordinate with Trustee Agencies**. The County will consult with trustee and other relevant state and federal agencies during environmental review when special-status species, sensitive natural communities, marine resources, or wetlands may be affected.
- **Policy BR 2.2: Promote Early Consultation with Other Agencies**. Require applicants to consult with all agencies with review and/or permit authority for projects in areas supporting wetlands and special-status species at the earliest opportunity.
- **Policy BR 2.6: Development Impacts to Listed Species**. Ensure that potential adverse impacts to threatened, rare, and endangered species from development are avoided or minimized through project siting and design. Ensure that proposed development avoids significant disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species. When avoidance is not feasible, require no net loss of sensitive natural plant communities and critical habitat.

- **Policy BR 2.8: Invasive Plant Species**. Promote and support efforts to reduce the effects of noxious weeds on natural habitats. The County will work with local resource and land management agencies to develop a comprehensive approach to controlling the spread of non-native invasive species and reducing their extent on both public and private land.
- **Policy BR 2.9: Promote Use of Native Plant Species**. Landscaping for proposed development will use a variety of native or compatible nonnative, non-invasive plant species as part of project landscaping to improve wildlife habitat values.
- **Policy BR 3.2: Protection of Native Trees in New Development**. Require proposed discretionary development and land divisions to avoid damage to native trees (e.g., Monterey Pines, oaks) through setbacks, clustering or other appropriate measures. When avoidance is not feasible, require mitigation measures.
- **Policy BR 3.3: Oak Woodland Preservation**. Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat.
- **Policy BR 3.5: Non-native Trees**. Protect healthy and non-hazardous, non-native trees (e.g., eucalyptus groves) and forests that provide raptor nesting or roosting sites or support colonies of monarch butterflies.
- **Policy BR 4.1: Protect Stream Resources.** Protect streams and riparian vegetation to preserve water quality and flood control functions and associated fish and wildlife habitat.
- **Policy BR 4.2: Minimize Impacts from Development.** Minimize the impacts of public and private development on streams and associated riparian vegetation due to construction, grading, resource extraction, and development near streams.
- **Policy BR 4.5: Encourage Stream Preservation on Private Lands**. Encourage private landowners to protect and preserve stream corridors in their natural state and to restore stream corridors that have been degraded.
- **Policy BR 5.1: Protect Wetlands**. Require development to avoid wetlands and provide upland buffers.
- **Policy BR 5.2: No Net Loss of Wetlands**. Ensure that all public and private projects avoid impacts to wetlands if feasible. If avoidance is not feasible, ensure no net loss of wetlands, consistent with state and federal regulations and this Element.
- **Policy BR 5.3: Wetland Conversion**. Avoid the conversion of wetlands, including vernal pools, except where grazing may improve the health and function of those wetlands. Where grazing occurs in and around wetlands and vernal pools, encourage grazing management that improves the health and function of those wetlands.
- **Policy BR 5.4: Wetlands on Agricultural Lands**. Support use of best management practices and proper range uses to minimize impacts to wetlands on agricultural lands.
- **Policy BR. 6.1: Avoid Impacts to Fisheries**. Require all proposed discretionary land use projects and land divisions to avoid impacts to freshwater and saltwater fisheries and wildlife habitat to the maximum extent feasible. When avoidance is not feasible, offset potential losses of fisheries and wildlife.

City of San Luis Obispo General Plan

The City of San Luis Obispo General Plan (City of San Luis Obispo 2014a, 2014b) includes policies related to biological resources, including:

- **Policy LU 6.6.1: Creek and Wetlands Management Objectives**. The City should manage its lake, creeks, wetlands, floodplains, and associated wetlands to achieve the multiple objectives of:
  - Maintaining and restoring natural conditions, and fish and wildlife habitat;
  - Preventing loss of life and minimizing property damage from flooding;
  - Providing recreational opportunities which are compatible with fish and wildlife habitat, flood protection, and use of adjacent private properties; and

- Recognizing and distinguishing between those sections of creeks and Laguna Lake which are in previously urbanized areas, such as the downtown core and sections which are in largely natural areas. Those sections already heavily impacted by urban development and activity may be appropriate for multiple use whereas creeks and lakeshore in a more natural state shall be managed for maximized ecological value.

- Policy LU 6.6.3: Amenities and Access. New public or private developments adjacent to the lake, creeks, and wetlands must respect the natural environment and incorporate the natural features as project amenities, provided doing so does not diminish natural values. Developments along creeks should include public access across the development site to the creek and along the creek, provided that wildlife habitat, public safety, and reasonable privacy and security of the development can be maintained, consistent with the Conservation and Open Space Element.
- Policy COS 7.3.1: Protect Listed Species (A-D).

A. The City will identify the location, habitat and buffer needs of species listed for protection. This information will be developed by qualified people early in the planning and development review process.

B. The City will establish and maintain records on the location of listed species. The City will maintain, for public use, generalized maps showing known locations of listed species. Specific site information may be kept confidential to protect the resources.

C. The City will comply with State and Federal requirements for listed species.

D. The City will protect listed species through its actions on: land-use designations; development standards; development applications; location, design, construction and maintenance of creeks, City roads and facilities; and on land that the City owns or manages.

- Policy COS 7.3.2: Species of Local Concern. The City will:

A. Maintain healthy populations of native species in the long term, even though they are not listed for protection under State or Federal laws. These "species of local concern" are at the limit of their range in San Luis Obispo, or threats to their habitat are increasing.

B. Identify the location, habitat and buffer needs of species of local concern. This information will be developed by qualified people early in the planning and development review process.

C. Protect species of local concern through: its actions on land use designations, development standards, development applications; the location, design, construction, and maintenance of City facilities; land that the City owns or manages.

D. Encourage individuals, organizations, and other agencies to protect species of local concern within their areas of responsibility and jurisdiction.

E. Protect sensitive habitat, including creeks, from encroachment by livestock and human activities.

- Policy COS 7.3.3: Wildlife Habitat and Corridors. Continuous wildlife habitat, including corridors free of human disruption, shall be preserved and where necessary, created by interconnecting open spaces, wildlife habitat, and corridors. To accomplish this, the City will:

A. Require public and private developments, including public works projects, to evaluate animal species and their movements within and through development sites and create habitats and corridors appropriate for wildlife.

B. Plan for connectivity of open spaces and wildlife habitat and corridors using specific area plans, neighborhood plans, subdivision maps, or other applicable planning processes, consistent with Open Space Guidelines.

C. Coordinate with San Luis Obispo County and adjoining jurisdictions, federal and state agencies such as Caltrans to assure regional connectivity of open space and wildlife corridors.

D. Preserve and expand links between open spaces and creek corridors.

- **Policy COS 7.5.1: Protection of Significant Trees**. Significant trees, as determined by the City Council upon the recommendation of the Tree Committee, Planning or Architectural Review Committee, are those making substantial contributions to natural habitat or to the urban landscape due to their species, size, or rarity. Significant trees, particularly native species, shall be protected. Removal of significant trees shall be subject to the criteria and mitigation requirements in Chapter 8.6.3 [COS Element Policy]. Oak Woodland communities in the Greenbelt and in open space areas shall be protected.
- **Policy COS 7.5.2: Use of Native California Plants in Urban Landscaping**. Landscaping should incorporate native plant species, with selection appropriate for location.
- **Policy COS 7.5.3: Heritage Tree Program**. The City will continue a program to designate and help protect "heritage trees."
- **Policy COS 7.5.4: Preservation of Grassland Communities and Other Habitat Types**. Grassland communities and other habitat types in the Greenbelt and in designated open space areas shall be preserved.
- **Policy COS 7.5.5: Soil Conservation and Landform Modification**. Public and private development projects shall be designed to prevent soil erosion, minimize landform modifications to avoid habitat disturbance, and conserve and reuse onsite soils.
- **Policy COS 7.7.6: Replace Invasive, Non-Native Vegetation with Native Vegetation**. The City and private development will protect and enhance habitat by removing invasive, non- native vegetation that detracts from habitat values by replanting it with native California plant species. The Natural Resources Manager will prioritize projects and enlist the help of properly trained volunteers to assist in non-native vegetation removal and replanting when appropriate.
- **Policy COS 7.7.7: Preserve Ecotones**. Condition or modify development approvals to ensure that "ecotones," or natural transitions along the edges of different habitat types, are preserved and enhanced because of their importance to wildlife. Natural ecotones of particular concern include those along the margins of riparian corridors, marshlands, vernal pools, and oak woodlands, where they transition to grasslands and other habitat types.
- **Policy COS 7.7.8: Protect Wildlife Corridors**. Condition development permits in accordance with applicable mitigation measures to ensure that important corridors for wildlife movement and dispersal are protected. Features of particular importance to wildlife include riparian corridors, wetlands, lake shorelines, and protected natural areas with cover and water. Linkages and corridors shall be provided to maintain connections between habitat areas.
- **Policy COS 7.7.9: Creek Setbacks**. As further described in the Zoning Regulations [Section 17.16.025], the City will maintain creek setbacks to include: an appropriate separation from the physical top of bank, the appropriate floodway as identified in the Flood Management Policy, native riparian plants or wildlife habitat, and space for paths called for by any city-adopted plan. In addition, creek setbacks should be consistent with the following:
  A. The following items should be no closer to the wetland or creek than the setback line: buildings, streets, driveways, parking lots, aboveground utilities, and outdoor commercial storage or work areas.
  B. Development approvals should respect the separation from creek banks and protection of floodways and natural features identified in Part A above, whether or not the setback line has been established.
  C. Features which normally would be outside the creek setback may be permitted to encroach where there is no practical alternative, to allow reasonable development of a parcel, consistent with the Conservation and Open Space Element.
  D. Existing bridges may be replaced or widened, consistent with policies in this Element. Removal of any existing bridge or restoration of a channel to more natural conditions will provide for wildlife corridors, traffic circulation, access, utilities, and reasonable use of adjacent properties.
- **Policy COS 8.3.1: Open Space within an Urban Area**. The City will preserve the areas listed in Goal 8.2.2 (creek corridors, including open channel with natural banks and vegetation, wetlands and vernal pools, grassland communities and woodlands, wildlife habitat corridors, habitat of listed species, and unique plant and animal

communities including “species of local concern”) and will encourage individuals, organizations, and other agencies to do likewise. The City will designate these areas as Open Space or Agriculture in the General Plan.

- Policy COS 8.3.2: Open Space Buffers. When activities close to open space resources within or outside the urban area could harm them, the City will require buffers between the activities and the resources. The City will actively encourage individuals, organizations, and other agencies to follow this policy. Buffers associated with new development shall be on the site of the development, rather than on neighboring land containing the open space resource. Buffers provide distance in the form of setbacks, within which certain features or activities are not allowed or conditionally allowed. Buffers shall also use techniques such as planting and wildlife-compatible fencing. Buffers shall be adequate for the most sensitive species in the protected area, as determined by a qualified professional, and shall complement the protected area’s habitat values. Buffers shall be required in the following situations (four of the five noted here, see COS Policy 8.3.2 for A):

    B. Between urban development and agricultural operations, to address dust, noise, odors, chemical use, and access by people and pets.

    C. Between agricultural operations and natural habitat, to address noise, chemical use, sediment transport, and livestock access.

    D. Between new development and cultural resources, to address visual compatibility and access by people.

    E. Between new development and scenic resources or the greenbelt, to address view blockage, lighting and noise, and visual transition from urban character to rural character.

    F. Urban development or uses located adjacent to the Urban Reserve Line (URL) to provide a transition to open space or greenbelt areas. Transition areas should add to the preservation of open space lands or resources. At a minimum, a 50-foot transition area (preserved in essentially a natural state) shall be provided within the project along the project boundary with the URL, unless the transition area is defined elsewhere in this Element.

- Policy COS 8.6.3 G: Required Mitigation. Any development that is allowed on a site designated as Open Space or Agriculture, or containing open-space resources, shall be designed to minimize its impacts on open space values on the site and on neighboring land.

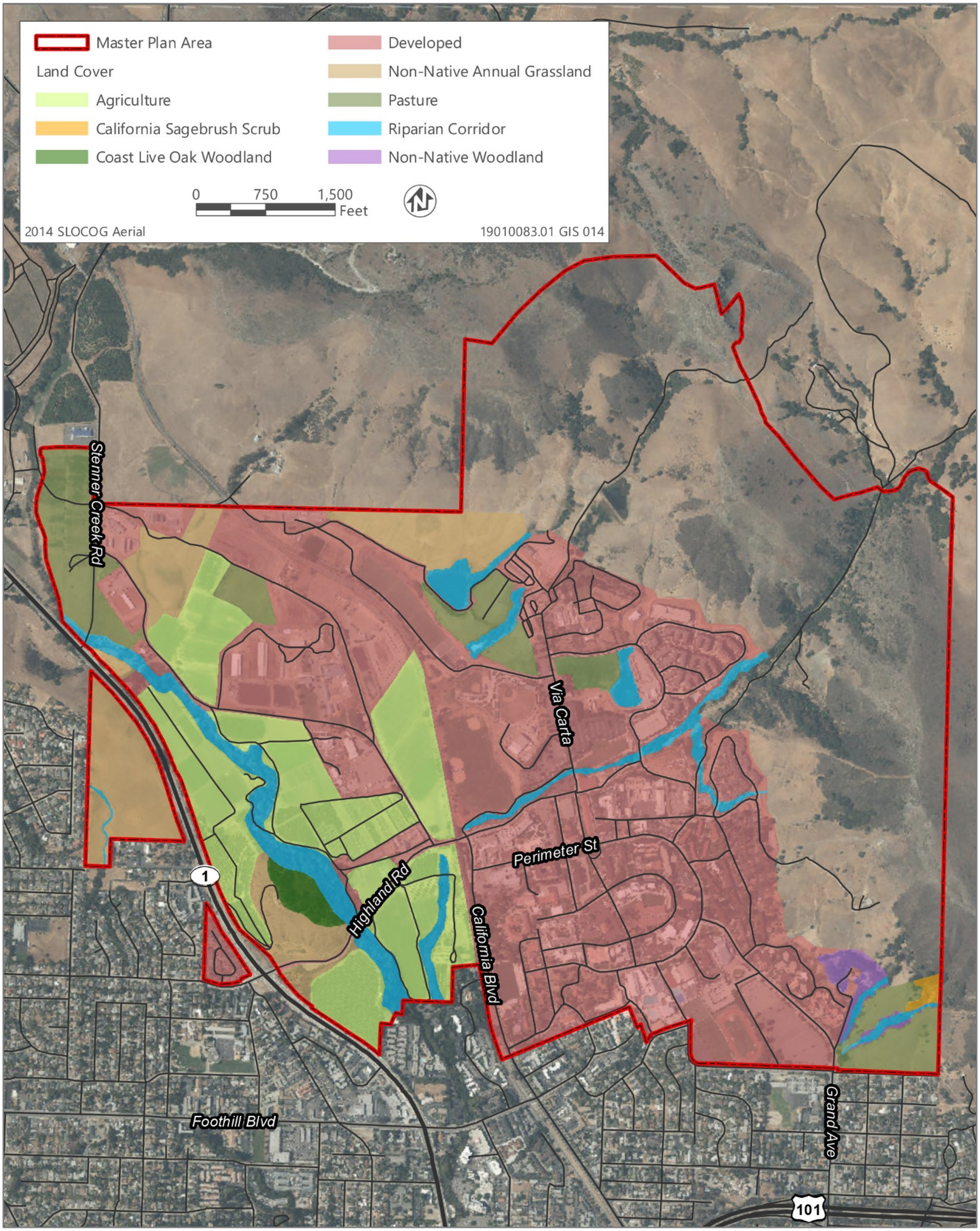
    A. Hillside development shall comply with the standards of the Land Use Element, including minimization of grading for structures and access, and use of building forms, colors, and landscaping that are not visually intrusive (See also Chapter [COS Element Policy] 9.21.1).

    B. Creek corridors, wetlands, grassland communities, other valuable habitat areas, archaeological resources, agricultural land, and necessary buffers should be within their own parcel, rather than divided among newly created parcels. Where creation of a separate parcel is not practical, the resources shall be within an easement. The easement must clearly establish allowed uses and maintenance responsibilities in furtherance of resource protection.

- Policy COS 8.7.2 C: Enhance and Restore Open Space. Remove invasive, non-native species in natural habitat areas, and prevent the introduction or spread of invasive, non-native species and pathogens.

3.5.2 Environmental Setting

The Master Plan Area is located north of the city of San Luis Obispo in San Luis Obispo County in California’s Central Coast Floristic Province (Sawyer et al. 2009). The Master Plan Area abuts the city of San Luis Obispo to the south and west, and open space, ranchland, and public land to the north and east. Elevations within the Master Plan Area range from approximately 260 to 700 feet above mean sea level. The Master Plan Area supports several land cover types including developed/disturbed, grasslands, woodland, waterways, and ruderal areas. The land cover map in Figure 3.5-1 shows the locations of the land cover types within the main campus of the Master Plan Area; however, some existing land cover types are small enough in size that they are not observable at the map scale.



Source: Data received from Cal Poly in 2019

Figure 3.5-1 Land Cover

VEGETATION AND HABITAT TYPES

Developed/Disturbed

Within the main campus, areas designated as developed/disturbed land cover include the academic, administrative, student support, and recreation facilities; student housing; parking; and ornamental landscaping. This land cover type contains little native habitat, as it does not contain native or naturalized vegetation communities. The developed/disturbed land cover does not support potential special-status plant habitat and is not expected to support special-status wildlife species. As is typical of developed/disturbed environments, the campus's developed/disturbed land cover provides foraging and nesting habitats for common avian species such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*B. lineatus*), American kestrel (*Falco sparverius*), Brewer's blackbird (*Euphagus cyanocephalus*), a variety of gull species (*Larus* sp.), and common passerines, such as house finch (*Haemorhous mexicanus*), European starling (*Sturnus vulgaris*), and house sparrow (*Passer domesticus*). Mammals that have adapted to developed/disturbed urban environments and are expected to occur include raccoon (*Procyon lotor*), coyote (*Canis latrans*), California ground squirrel (*Otospermophilus beecheyi*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), Norway rat (*Rattus norvegicus*), and house mouse (*Mus musculus*).

Ruderal

Ruderal vegetation is indicative of disturbed areas that have been significantly altered by construction or other land-clearing activities. Ruderal habitats in the main campus occur along roadsides and fence lines, on the edges of development, in fallow agricultural areas, and in other areas that experience ongoing disturbance of natural vegetative cover. Plants found in ruderal areas are typically introduced Mediterranean species that exhibit clinging seeds, adhesive stems, and rough leaves that assist their invasion and colonization of the disturbed ground. Species observed include wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), Russian thistle (*Salsola* sp.), catalpa (*Catalpa* sp.), and fountaingrass (*Pennisetum setaceum*). Wildlife species expected to occur in this include similar species as in the developed/disturbed land cover type. Ruderal vegetation is widespread on the main campus.

Grasslands

The main campus includes non-native annual grassland, pasturelands, and common velvet grass meadow. These grassland types are described below.

Non-Native Annual Grassland

Non-native annual grasslands are composed of a dense to sparse cover of annual grasses. This community can be occupied by numerous species of annual forbs, especially in years of favorable rainfall. Germination occurs with the onset of late fall rains and growth, flowering, and the setting of seeds, which occurs from winter through spring. The plants are typically dead through the summer–fall dry season and persist as seeds (Holland 1986). Although somewhat rare in the main campus, non-native grassland is present at Cal Poly among the various pastures and agricultural areas, as well as parts of the West Campus subarea. This community differs from the pastures at Cal Poly due to the dominance of naturalized grass species and a lack of active plowing, seeding, and irrigation.

Pasturelands

Pasturelands are those areas that are managed by Cal Poly staff for the purpose of keeping livestock in fenced paddocks. The pasturelands vary in size and support a mix of bare dirt and non-native grasses. These areas are subject to grazing and trampling by livestock. The vegetative composition in the pastures varies over time depending on what species Cal Poly staff have seeded the area with, the amount of irrigation, and the intensity of use. Therefore, the pasture areas do not constitute a naturalized or native grassland community. Plant species observed in the pastures include, but were not limited to, softchess brome (*Bromus hordeaceus*), purple false brome (*Brachypodium distachyon*), filaree (*Erodium cicutarium*), cheeseweed (*Malva parviflora*), and tree tobacco (*Nicotiana glauca*).

Common Velvet Grass Meadow

This grassland community is dominated by velvet grass (*Holcus lanatus*), a non-native perennial species that has become naturalized in the wild and is commonly found in moist pastures and occasionally in wetland and riparian areas. In order for a plant community to qualify for this alliance, the community must include greater than 50-percent relative cover of velvet grass or sweet vernal grass (*Anthoxanthum odoratum*) (Sawyer et al. 2009). *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) refers to this community as Coastal Terrace Prairie. Due to its dominance by non-native species, the California Invasive Plant Council (Cal-IPC) considers sweet vernal grass and the community as a moderate threat to California's wildlands (Cal-IPC 2019). Velvet grass meadows occur in small patches among the non-native grasslands adjacent to pastures, reservoirs, and drainages in the main campus. This community also occurs on the northern flank of Shepard Reservoir.

Trees and Shrublands

The following tree- and shrub-dominated communities occur in the Master Plan Area.

Coyote Brush Scrub

The southwestern bank of Shepard Reservoir, the outer rim of Smith Reservoir, and several of the unnamed drainages include stands of coyote brush scrub. Coyote brush scrub is similar in definition to central coastal scrub (Holland 1986), and is a shrubland community dominated by coyote brush (*Baccharis pilularis*), a native pioneer species that commonly colonizes disturbed areas. It may also include mock heather (*Ericameria ericoides*), buckbrush (*Ceanothus cuneatus cuneatus*), California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), and other scrub species. This community is indicative of disturbed places that are in the process of regenerating.

Non-Native Woodland

Small stands of non-native trees have become naturalized near agricultural and pasturelands on the campus. One such stand is in a series of drainages that converge at the intersection of Slack Street and Grand Avenue at the Faculty and Staff Workforce Housing site. The vegetation in the drainages is dominated by non-native and moderately invasive trees including olive (*Olea europaea*), eucalyptus (*Eucalyptus* spp.), and beavertail cactus (*Opuntia ficus indica*). These species were historically planted near ranch homes and on pasturelands for shade and paddock delineation, suggesting that the non-native trees in the main campus were likely planted as part of Cal Poly's agricultural history. Because these species do not occur in the drainage due to the presence of water, the vegetation in the drainages does not constitute a riparian woodland. A few native coast live oak (*Quercus agrifolia*) trees and native shrubs, including silk tassel (*Garrya elliptica*) and poison oak (*Toxicodendron diversilobum*), occur in the understory.

Arroyo Willow Thickets

Arroyo willow thickets (*Salix lasiolepis* Shrubland) are similar in definition to central coast riparian scrub, which consists of scrubby streamside thickets that are dominated by any of several willow species, including arroyo willow (*Salix lasiolepis*) (Holland 1986). The thickets vary in density from partially open to impenetrable. The understory commonly supports species such as California blackberry (*Rubus ursinus*) and stinging nettle (*Urtica dioica*) in drier sites, or cattail and sedges in mesic (moist) sites. This community may develop through ecological succession into any of several riparian woodland or forest types, absent severe flooding disturbance. Arroyo willow thickets occur on many soil types including sand and gravel bars in areas close to groundwater or surface water. Arroyo willow thickets on the main campus are associated with the various waterways and reservoirs in the area; therefore, Figure 3.5-1 includes this community in the riparian corridor vegetation type.

Coast Live Oak Woodland

This woodland community features coast live oak as the dominant evergreen tree and include western sycamores (*Platanus racemosa*), arroyo willows, and/or several other tree species (Holland 1986; Sawyer et al. 2009). The canopy may be continuous or open; the shrub layer is typically poorly developed but may include species such as toyon (*Heteromeles arbutifolia*) and gooseberry (*Ribes* spp.). The herbaceous layer is dominated by native and non-native grasses and forbs. Coast live oak woodlands typically grow on north-facing slopes and shaded ravines (Holland 1986; Sawyer et al. 2009). Coast live oak woodlands are scattered in the Master Plan Area and are largely associated with the riparian corridors of Stenner Creek and Brizzolara Creek, tributaries to these creeks, and the Smith Reservoir drainage. Figure 3.5-1 includes this community in the riparian corridor mapping.

Riparian and Aquatic Habitats

The Master Plan Area includes portions of Brizzolara Creek and Stenner Creek; a variety of drainages, some of which are tributaries to the main creeks; three reservoirs; and numerous human-made ponds (SWCA 2015; USFWS 2019c). Collectively, these water features are referred to as waterways in this section. Many of the drainages are tributaries to the reservoirs and the reservoirs overflow into the creeks via the drainages. In some instances, this interconnection is enough to establish state and federal jurisdictions over the waterways. Figure 3.5-2 shows the locations of jurisdictional waters within the main campus of the Master Plan Area. The creeks, drainages, and reservoirs support a variety of habitats ranging from landscaped and ruderal vegetation to riparian scrubs and riparian woodlands. Many of these aquatic resources support suitable habitat for California red-legged frog (*Rana draytonii*) and South-Central California Coast steelhead (*Oncorhynchus mykiss*), both federally listed as threatened, and for western pond turtle (*Actinemys marmorata*), a species of special concern, and support suitable nesting habitat for several avian species, including raptors.

Brizzolara Creek

Brizzolara Creek flows from the hills northeast of the Master Plan Area to the southwest through the Master Plan Area. This creek forms the boundary between the East Campus and Academic Core subareas, on the south, and the North Campus subarea. At its intersection with Highland Drive, Brizzolara Creek makes an abrupt turn to the south and enters the West Campus subarea. An engineered fish ladder designed for steelhead passage is located at the creek's intersection with Highland Drive. Shortly after passing through the southeast corner of the West Campus subarea, Brizzolara Creek converges with Stenner Creek. Most of the Brizzolara Creek reach in these main campus subareas supports riparian scrub and woodlands including coyote brush scrub, coast live oak woodland, and arroyo willow thicket. Brizzolara Creek is federal waters subject to USACE jurisdiction, state waters subject to CDFW and RWQCB jurisdictions, and designated steelhead critical habitat under the ESA.

Stenner Creek

Stenner Creek flows from the northwest to the southeast through the West Campus subarea. Throughout its reach on the campus, Stenner Creek supports a riparian corridor that includes coast live oaks, arroyo willows, western sycamores, cottonwoods, and eucalyptus trees in the overstory. The understory supports native and non-native shrubs and vines, including coyote brush, California blackberry, stinging nettle, German ivy (*Delairea odorata*), periwinkle (*Vinca major*), and others. Stenner Creek is federal waters subject to USACE jurisdiction, state waters subject to CDFW and RWQCB jurisdictions, and listed as steelhead critical habitat under the ESA.

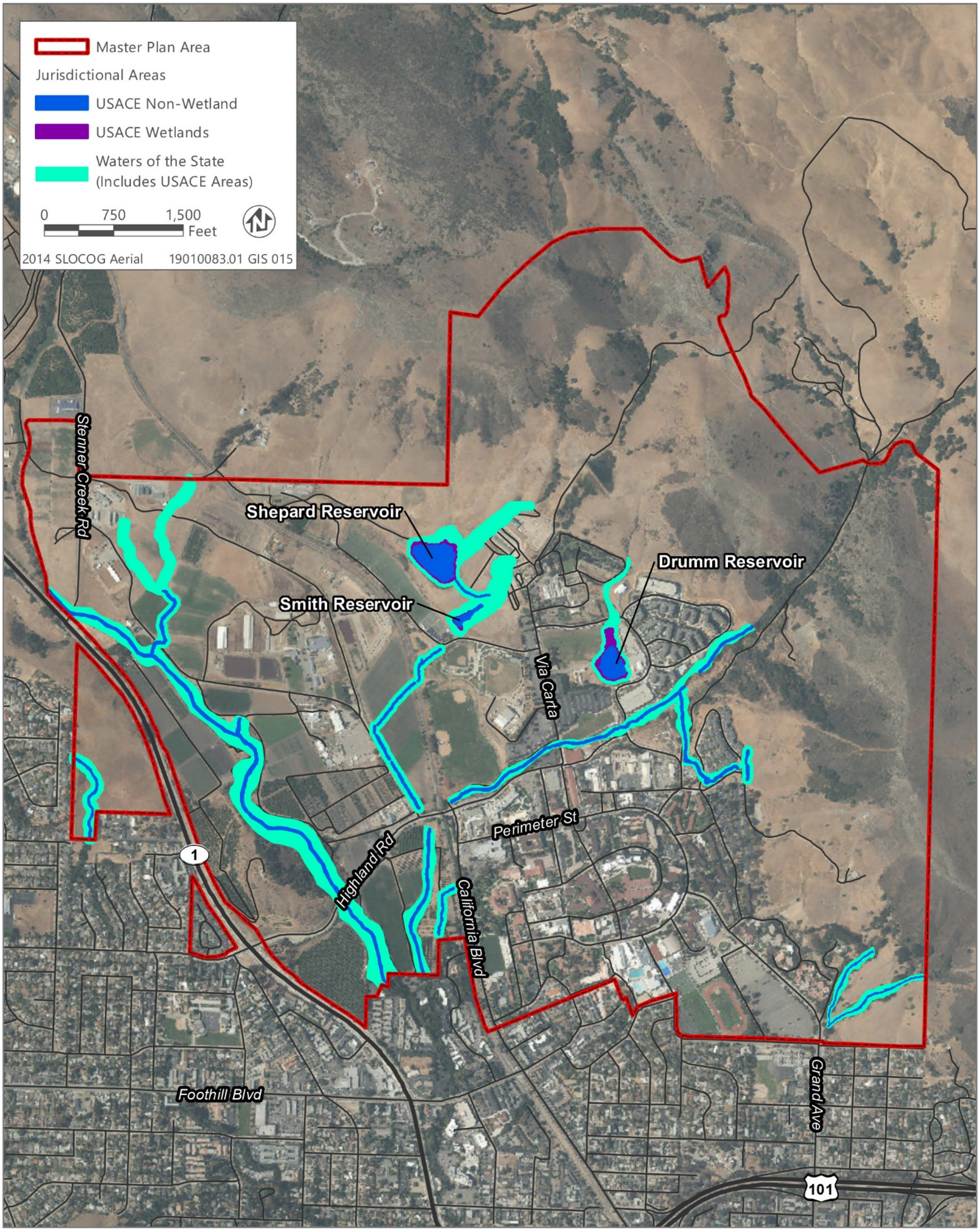
Other Aquatic Features within the Master Plan Area

The Master Plan Area contains reservoirs, wastewater retention ponds for agricultural uses, and settling basins for storm water use. These features are human-made; some have earthen bottoms and banks and support natural vegetation, while others are heavily managed and support minimal vegetation.

North Campus Subarea

The North Campus subarea includes portions of the Drumm Reservoir and its drainage, Smith Reservoir and its drainage, and Shepard Reservoir and its drainage. These reservoirs are waters of the United States subject to USACE jurisdiction. The drainages that feed the reservoirs, such as James Creek, which feeds Drumm Reservoir, lack ordinary high-water marks (OHWMs). Due to the lack of OHWMs, the drainages that feed the reservoirs are not within USACE jurisdiction (SWCA 2015). The three reservoirs and their associated drainages support bed and bank features; therefore, they are waters of the state subject to CDFW and RWQCB jurisdictions.

The reservoirs support open water habitat, freshwater marsh, and arroyo willow thicket. The reservoir drainages support non-native grasses, landscape trees, coast live oak woodland, and coyote brush scrub. The uplands surrounding the reservoirs and their drainages support a mix of ruderal vegetation, non-native grasslands, and velvet grass meadows. The reservoirs and ponds in the North Campus subarea provide suitable aquatic habitat for California red-legged frog and other aquatic species. The upland habitats surrounding the reservoirs and basins provide dispersal habitat for California red-legged frog.



Source: Data received from Cal Poly in 2019

Figure 3.5-2 Potential Jurisdictional Waters within the Master Plan Area

The North Campus subarea also contains wastewater retention ponds and storm water settling basins. Two wastewater retention ponds support the Swine Unit. California red-legged frog has been documented by Cal Poly staff in the Swine Unit wastewater retention ponds. These wastewater ponds are isolated from the nearby reservoir and drainages and are not considered to be waters of the United States or waters of the state (SWCA 2015). There are two settling basins in the southwest end of the Oppenheimer Family Equine Center and two settling basins that are adjacent to the sports fields. The northern settling basin is located between the railroad tracks and Sports Complex Road. It spills into a drainage that is connected to Brizzolara Creek. The southern settling basin is located just north of Brizzolara Creek, at the creek's intersection with Highland Drive. This settling basin receives runoff and includes an overflow inlet that directs flows to Brizzolara Creek.

<u>West Campus Subarea</u>

The West Campus subarea contains four wastewater retention ponds that are used by the Beef Cattle Evaluation Center (BCEC), the rodeo facility, and the Dairy Unit. These engineered wastewater retention ponds serve to capture wastewater from the adjacent facilities. In some cases, the facility managers pump the wastewater out of the ponds to irrigate adjacent pasturelands. These wastewater retention ponds are not jurisdictional features and are not expected to support sensitive aquatic species because of frequent ongoing pumping practices.

Unnamed Drainages

Numerous unnamed drainages traverse the campus and provide hydrologic connections between each other, the reservoirs, and creeks discussed above; these drainages are discussed below.

- A tributary to Brizzolara Creek flows northeast between the existing Cerro Vista student housing and the housing parking area. This drainage supports bed and bank features and is connected to Brizzolara Creek; therefore, the drainage is considered waters of the United States and waters of the state. The drainage supports a mix of landscaping, restored riparian vegetation, and ruderal vegetation.
- The pastureland in the southeastern corner of the East Campus subarea supports two disturbed drainages that are in the area proposed for the Faculty and Staff Workforce Housing project. The drainages have headwaters in the hills to the east, flow southwest through the pastures, and converge near the Slack Street and Grand Avenue intersection. Shortly downstream of the convergence, the combined channel directs flows into the municipal storm drain system. Once in the storm drain system, flows are directed to San Luis Obispo Creek via the underground culvert system managed by the City of San Luis Obispo. During a May 16, 2017, field visit with the RWQCB staff, the RWQCB asserted jurisdiction over the drainages (Dugas, pers. comm., 2017). During a May 25, 2017 pre-application meeting with USACE, USACE asserted jurisdiction over the two drainages because of the significant nexus with San Luis Obispo Creek (Dugas, pers. comm., 2017). During a June 7, 2017, field meeting, CDFW asserted jurisdiction over the drainages (Dugas, pers. comm., 2017).
- A small unnamed drainage that is hydrologically connected to Smith Reservoir (North Campus subarea) flows from east to west through the West Campus subarea, flows along Mount Bishop Road, and eventually connects to Brizzolara Creek at Highland Drive. This drainage supports OHWM features and provides a connection between two federal and state jurisdictional features (Smith Reservoir and Brizzolara Creek); therefore, this drainage is waters of the United States (SWCA 2015). A small detention basin that receives flows from the existing sports fields on Sports Complex Road (North Campus subarea) is hydrologically connected to the drainage and may be a state jurisdictional feature as well.

  Mount Bishop Road meanders through the central portion of the West Campus subarea and bisects the various agricultural fields. The Mount Bishop Road shoulder is largely ruderal; however, the drainage feature that originates at Smith Reservoir (see above bullet) occurs on the northern side of the road. The portion of the feature is indicative of a roadside ephemeral drainage. USACE has asserted jurisdiction over the entire drainage from Highland Drive to Smith Reservoir (SWCA 2015). The portion of the Mount Bishop Road drainage that is by the existing rodeo arenas was determined not to be jurisdictional (SWCA 2015).

- Two drainages flow from north to south adjacent to the existing corporate yard and skirt the eastern edge of the proposed BCEC Expansion area. These drainages converge just east of the proposed BCEC Expansion area and the combined drainage is a tributary to Stenner Creek. Upstream (north) of the convergence, the two drainages are non-jurisdictional agricultural ditches. Downstream of the convergence, the tributary to Stenner Creek is waters of the United States and waters of the state (SWCA 2015).
- The proposed Facilities Operations Complex site is adjacent to Brizzolara Creek and supports an unnamed jurisdictional drainage that is a tributary to Brizzolara Creek. The unnamed drainage does not support riparian vegetation but includes a defined bed and bank with connectivity to waters of the United States, and USACE has asserted jurisdiction over the drainage (SWCA 2015).
- The site of the proposed University-Based Retirement Community in the West Campus subarea (west of SR 1) includes a small drainage that flows through the southwestern corner of the campus. The seasonal drainage collects runoff from the area and the Ferrini Heights neighborhood located to the west and conveys collected flow in a southerly direction off-site toward Old Garden Creek, a tributary to Stenner Creek. The drainage is ephemeral and supports non-native annual grassland and freshwater marsh vegetation. Due to the presence of an OHWM, bed and bank features, and the connectivity with Old Garden Creek, the drainage is likely waters of the United States and waters of the state.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources addressed in this Draft EIR include those that are afforded special protection or consideration through the California Fish and Game Code (including but not limited to the CESA), the ESA, the CWA, the Porter-Cologne Act, and CEQA.

Special-Status Species

Plants and animals may be special-status species because of declining populations, vulnerability to habitat change, or restricted distributions. Special-status species include those species legally protected under the CESA, the ESA, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. In this document, special-status species are defined as the following:

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register for proposed species) or candidates for possible future listing as threatened or endangered under ESA (75 CFR 69222);
- Species listed or candidates for listing by the State of California as threatened or endangered under CESA (14 CCR Section 670.5);
- Animals fully protected under the California Fish and Game Code (Section 3511 for birds, Section 4700 for mammals, Section 5050 for reptiles and amphibians, and Section 5515 for fish);
- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code Section 1900 et seq.);
- Plants considered by CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks of 1A, presumed extinct in California and either rare or extinct elsewhere; 1B, considered rare or endangered in California and elsewhere; 2A, presumed extinct in California but common elsewhere; and 2B, considered rare or endangered in California but more common elsewhere). Note, that while these rankings do not afford the same type of legal protection as ESA or CESA, the uniqueness of these species requires special consideration under Section 15380 of the CEQA Guidelines;
- Animals identified by CDFW as species of special concern;
- Species considered locally significant, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or

- Species that otherwise meets the definition of rare or endangered under CEQA Section 15380.

A preliminary list of special-status plant and animal species with potential to occur in the main campus was developed based on the reconnaissance survey, and review of the existing data sources described previously.

Plants

The data review preliminarily identified 75 special-status plant species that could occur in or near the main campus (Appendix E). Table 1 of Appendix E summarizes the regulatory status, habitat associations, and potential for occurrence in the main campus for each special-status plant species evaluated during this analysis. Of these 75 plant species, six are known to occur in the Master Plan Area but are not expected to occur within the main campus due to lack of suitable soils, 17 have a moderate or high likelihood to occur in the main campus, and the remainder have a low (or no) potential and are not expected to occur. These determinations were based on the types, extent, and quality of habitats in the main campus determined during the reconnaissance-level field surveys; the proximity of the main campus to known occurrences of the species; and the regional distribution and abundance of the species. Table 3.5-1 lists the plants that may or are likely to occur within the study area and is a subset of Table 1 of Appendix D, which presents all of the special-status plant species evaluated.

Table 3.5-1 Special-Status Plants That May or Are Likely[1] to Occur Within the Study Area

Species	Legal Status[2] Federal/ State/CRPR
Marsh sandwort *Arenaria paludicola*	FE/SE/1B.1
Mile's milk-vetch *Astragalus didymocarpus* var. *milesianus*	--/--/1B.2
Coulter's saltbush *Atriplex coulteri*	--/--/1B.2
San Luis Obispo owl's clover *Castilleja densiflora* ssp. *obispoensis*	--/--/1B.2
Dwarf calycadenia *Calycadenia villosa*	--/--/1B.1
San Luis Obispo sedge *Carex obispoensis*	--/--/1B.2
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	--/--/1B.1
San Luis Obispo fountain thistle [=Chorro Creek Bog Thistle] *Cirsium fontinale* var. *obispoense*	FE/SE/1B.2
La Graciosa thistle *Cirsium scariosum* var. *loncholepsis*	FE/ST/1B.1
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	--/--/1B.1
San Joaquin spearscale *Extriplex joaquiniana*	--/--/1B.2
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	--/--/1B.1
Jones's layia *Layia jonesii*	--/--/1B.2
Spreading navarretia *Navarretia fossalis*	FT/--/1B.1
Shining navarretia *Navarretia nigelliformis* ssp. *radians*	--/--/1B.2

Species	Legal Status[2] Federal/ State/CRPR
Adobe sanicle *Sanicula maritima*	--/SR/1B.1
Saline clover *Trifolium hydrophilum*	--/--/1B.2

Source: Data compiled by Ascent Environmental in 2019

[1] Potential for Occurrence Definitions

May occur: Suitable habitat is available within the Master Plan Area; however, there are little to no other indicators that the species might be present.

Likely to occur: All of the species' life history requirements can be met by habitat present on the site, and populations/occurrences are known to occur in the immediate vicinity.

[2] Legal Status Definitions

Federal:

FE Endangered (legally protected by ESA)

FT Threatened (legally protected by ESA)

State:

SE Endangered (legally protected by CESA)

ST Threatened (legally protected by CESA)

SR Rare (legally protected by the California Native Plant Protection Act)

California Rare Plant Ranks (CRPRs):

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Threat Ranks:

0.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)

0.2 Moderately threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat)

0.3 Not very threatened in California (less than 20% of occurrences threatened; low degree and immediacy of threat or not current threats known)

Wildlife and Fish

The data review preliminarily identified 44 special-status wildlife and fish species that could occur in or near the main campus (Appendix D). Table 2 of Appendix D summarizes the regulatory status, habitat associations, and potential for occurrence in the main campus for each special-status wildlife and fish species evaluated during this analysis. Of these 44 animal species, seven are known to occur in the Master Plan Area, 15 have a moderate or high likelihood to occur in the main campus area, and the remainder have a low (or no) potential and are not expected to occur in the main campus. These determinations were based on the types, extent, and quality of habitats in the main campus determined during the reconnaissance-level field surveys; the proximity of the main campus to known occurrences of the species; and the regional distribution and abundance of the species. Table 3.5-2 lists wildlife species known or with potential to occur within the study area and is a subset of Table 2 of Appendix D, which includes all of the special-status wildlife species evaluated.

Table 3.5-2 Special-Status Wildlife Known or With Potential to Occur Within the Study Area

Species	Legal Status[2] (Federal/State)
Monarch butterfly *Danaus plexippus*	--/SA
South-Central California Coast steelhead DPS *Oncorhynchus mykiss*	FT/SSC
California red-legged frog *Rana draytonii*	FT/SSC
Coast Range newt *Taricha torosa torosa*	--/SSC
Western pond turtle *Actinemys marmorata*	--/SSC
Tricolored blackbird *Agelaius tricolor*	--/SE, SSC
Grasshopper sparrow *Ammodramus savannarum*	--/SSC
Burrowing owl *Athene cunicularia*	--/SSC
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/SE
White-tailed kite *Elanus leucurus*	--/FP
Least Bell's vireo *Vireo bellii pusillus*	FE/SE
Loggerhead shrike *Lanius ludovicianua*	--/SSC
Purple martin *Progne subis*	--/SSC
Pallid bat *Antrozous pallidus*	--/SSC
Ringtail *Bassariscus astutus*	--/FP
Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC
Monterey dusky-footed woodrat *Neotoma fuscipes annectens*	--/SSC
American badger *Taxidea taxus*	--/SSC

Sources: CNDDB 2019; eBird 2019; USFWS 2019a; compiled by Ascent Environmental in 2019

[1] Legal Status Definitions

Federal:
FE Endangered (legally protected)
FT Threatened (legally protected)
PCH
State:
FP Fully protected (legally protected)
SA Special Animal List (no formal protection other than CEQA consideration).
SSC Species of special concern (no formal protection other than CEQA consideration)
SE Endangered (legally protected)

Sensitive Natural Communities and Habitats

The land cover types present in the main campus are described in the "Vegetation and Habitat Types" section, above. Sensitive natural communities and habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the CWA, and the state's Porter-Cologne Act. Sensitive natural habitat may be of special concern to agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. Sensitive natural communities are those native plant communities defined by CDFW as having limited distribution statewide or within a county or region and that are often vulnerable to environmental effects of projects (CDFW 2018). In addition to habitats officially identified by CDFW as sensitive natural communities or meeting the definition of waters of the United States, other sensitive habitats include riparian habitats, oak woodlands, chaparral, and coastal sage scrub. The following briefly summarizes sensitive habitats and natural communities in the main campus.

Arroyo Willow Thicket

Arroyo willow thicket is designated by CDFW as a sensitive natural community. Arroyo willow thickets in the Master Plan Area are associated with various waterways and reservoirs in the main campus.

Riparian Woodland

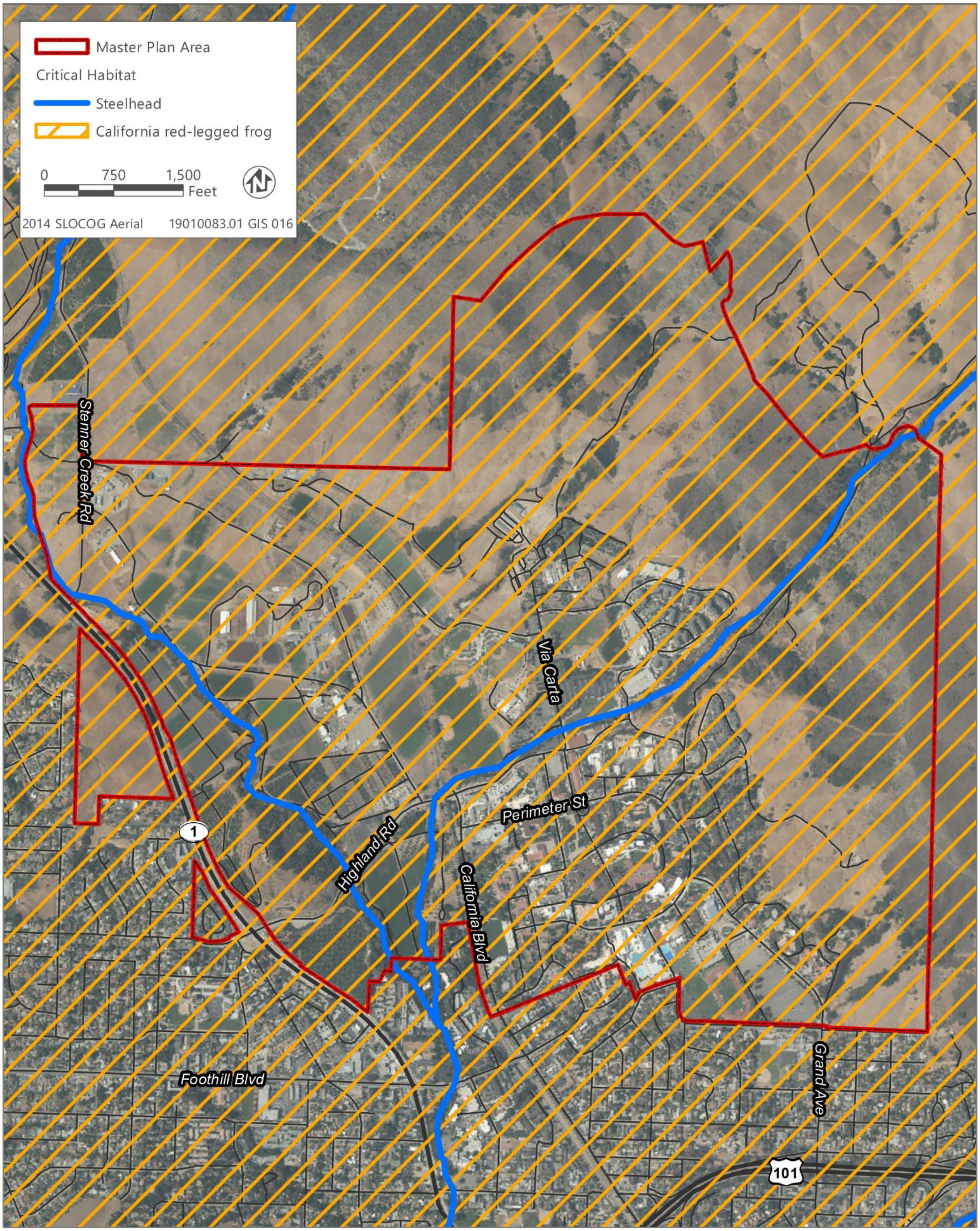
Riparian woodland is afforded specific consideration under CEQA and by CDFW; this habitat is present within the main campus along waterways and reservoirs. Riparian habitats located near rivers, streams, and lakes are subject to regulation under Section 1602 of the California Fish and Game Code, even if they are not included on CDFW's list of special-status natural communities, and riparian habitats often support high wildlife species diversity and abundance relative to surrounding habitats.

Wetlands and Other Waters of the United States and Waters of the State

Wetlands, streams, drainages, and associated riparian habitat in the Master Plan Area are considered sensitive habitats. Several of these waterways in the Master Plan Area are considered waters of the United States, meaning they are regulated by USACE under Section 404 of the CWA, and waters of the state regulated by the RWQCB under the Porter-Cologne Act. Some of these features are also regulated by CDFW under Section 1600 et seq. of the California Fish and Game Code. Specifically, CDFW regulates activities affecting the bed, channel, or bank of any river, stream, or lake that supports wildlife resources. As discussed previously, jurisdictional wetlands and other waters in the Master Plan Area include Brizzolara Creek, Stenner Creek, and several unnamed drainages.

Designated Critical Habitat

The entire Master Plan Area contains designated critical habitat for California red-legged frog, and Stenner Creek and Brizzolara Creek are designated critical habitat streams for steelhead - South-Central California Coast Distinct Population Segment (DPS). Figure 3.5-3 shows the extent of critical habitat in the Master Plan Area. California red-legged frog critical habitat unit SLO-3 includes approximately 116,517 acres in western San Luis Obispo County (USFWS 2019b). Cal Poly is in the southeastern portion of SLO-3. Stenner Creek and Brizzolara Creek are designated critical habitat areas for the South-Central California Coast DPS of steelhead (NMFS 2005).



Source: Data received from Cal Poly in 2019

Figure 3.5-3 Critical Habitat

3.5.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

This impact analysis is based on data collected during the reconnaissance survey conducted on June 26, 2019, and review of the existing data sources described previously. To evaluate the potential impacts of the 2035 Master Plan on biological resources, the types, extent, and quality of biological resources that could be directly or indirectly affected were considered in relation to the proposed construction and operation of facilities within the Master Plan Area and any policies and programs related to the protection of biological resources.

Analysis of potential impacts of the 2035 Master Plan on biological resources focused on the campus areas where future facilities would be developed, expanded, or renovated (i.e., Academic Core, North Campus, East Campus, and West Campus subareas). Potential impacts were initially identified by overlaying GIS layers of project components on land cover maps of the project site and maps of sensitive biological resources. Any natural community and wildlife habitat that overlapped with an area of proposed modification was considered to be directly affected during project construction. Short-term construction impacts would occur where natural vegetation would be removed to construct new features and facilities or modify existing features. Construction-related impacts could affect biological resources through storm water runoff, erosion, and the introduction of invasive or non-native species. Long-term impacts on biological resources could occur in or adjacent to habitats that would experience a permanent conversion in land use and cover (i.e., conversion of natural vegetation to paved areas, other facilities, and landscaping) or an increase in disturbance from long-term operations/uses as a result of the 2035 Master Plan.

Section 3.5.2, "Environmental Setting," addresses the special-status plant and animal species evaluated in this analysis, and Tables 1 and 2 in Appendix D summarize the potential for each of these species to occur in the Master Plan Area.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considering continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. They are organized by topic heading in the Master Plan as General Principle, Academic Mission and Learn by Doing, Design Character, Implementation, Implementation Program (IP), Other Recommendation (OR), Sustainability and Environmental Stewardship (S), Transportation and Circulation, or Residential Community and University Life. The following principles are considered relevant to the evaluation of biological resources impacts associated with implementation of the 2035 Master Plan:

- IP 9: A trail plan should be developed to provide access to Cal Poly's natural resources and open spaces where appropriate considering factors such as safety, avoidance of degradation of the resources and interference with educational priorities. Such a plan should address design, management and signage to addressing appropriate use and signage, including possible links between off campus public lands.
- OR 17: Cal Poly should be the model for Low Impact Design principles.
- S 02: Cal Poly should preserve and enhance the viability of agriculture and natural habitat systems on its holdings by providing adequate land area including appropriate buffers, connectivity or corridors between related natural communities, and linear continuity along streams.
- S 03: Impacts to environmentally sensitive areas should be avoided; environmentally degraded areas should be enhanced or restored where practical.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the project would normally have a significant adverse effect related to biological resources if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

ISSUES NOT DISCUSSED FURTHER

Certain Special-Status Plants and Wildlife

Section 3.5.2, "Environmental Setting," discusses the special-status plant and animal species evaluated in this analysis and summarizes the potential for each of these species to occur in the Master Plan Area. Those plant and animal species not expected to regularly occur, or with a low probability to occur (because of a lack of suitable habitat, existing disturbance levels, or lack of occurrence records), are not addressed further in the impact analysis. Implementation of the 2035 Master Plan is not expected to considerably affect those species.

Conflict with Local Policies or Ordinances Related to the Protection of Biological Resources

Because Cal Poly is a state university, it is not subject to local plans, policies, or regulations. Therefore, the following impact analysis does not evaluate potential conflicts with local plans, policies, or regulations.

Conflict with Adopted Habitat Conservation Plan or Natural Community Conservation Plan

There are no adopted HCPs or NCCPs that apply to the Master Plan Area. The nearest adopted HCP/NCCP to the Master Plan Area is the Northeastern San Luis Obispo County NCCP/HCP, which is located further to the east of Cal Poly. Therefore, the following impact analysis does not evaluate potential conflicts with adopted conservation plans.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Have a Substantial Adverse Effect, Either Directly or Through Habitat Modifications, on Special-Status Plants

Implementation of the 2035 Master Plan could result in conversion of undeveloped habitats that may provide marginally suitable habitat for several special-status plants. Removal of these undeveloped habitats could result in loss of special-status plants if they are present. Loss of special-status plants would be a **significant** impact.

Seventeen special-status plant species have the potential to occur within the Master Plan Area (see Table 3.5-1). Proposed projects under the 2035 Master Plan, such as the University-Based Retirement Community, Faculty and Staff Workforce Housing, Facility Operations Complex/interim surface parking lot, the expansion or improvement of the existing trail system, proposed informal recreation areas, and the Water Reclamation Facility (WRF) (including proposed water storage ponds), are proposed or include components in areas that may provide suitable habitat for special-status plant species. Construction activities, such as conversion of undeveloped ruderal grassland, pasture, riparian corridors, under the 2035 Master Plan could result in the loss of these special-status plant species if they are present. Plants could be directly removed, damaged, including being broken, crushed, or buried. Damaged plants may experience altered growth and development, or reduced or eliminated seed-set and reproduction, and mortality of individuals or local populations could eventually result.

The expansion or improvement of the existing trail in conjunction with the planned increase in student body would likely increase the amount of use the trail receives. The trail near Brizzolara Creek and other parts of Poly Canyon (which generally extends from the northeast corner of the Academic Core, following the upper stretches of Brizzolara Creek) supports natural vegetation types, including serpentine soils (Cal Poly 2019). The existing trail is near several sensitive resource occurrences. CNDDB documents occurrences of California red-legged frog, Coast Range newt (*Taricha torosa torosa*), Jones's layia, San Luis Obispo owl's-clover, most beautiful jewelflower (*Streptanthus albidus* ssp. *peramoenus*), mouse-gray dudleya (*Dudleya abramsii* ssp. *murina*), Brewer's spineflower (*Chorizanthe breweri*), Eastwood's larkspur (*Delphinium parryi* ssp. *eastwoodiae*), and San Luis mariposa lily (*Calochortus obispoensis*) in the Poly Canyon area. Ongoing and increased use of the existing trail could affect the sensitive species occurrences and habitat. Adverse effects could result if trail use or maintenance required grading. The grading could physically remove the resources, alter drainage patterns that support the resources, or provide an avenue for invasive weeds to spread and alter the habitats that support the resources. Indirect effects of ongoing trail use including trampling or other degradation of adjacent habitats could occur if trail users walked off-trail or conducted other activities that could disturb habitat, such as creating increased dust and leaving litter behind. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.5-1a: Conduct Special-Status Plant Surveys

Prior to approval of specific projects under the 2035 Master Plan, Cal Poly shall have a qualified botanist (i.e., a professional biologist with expertise in native and naturalized plants found in California who is able to use appropriate field survey methods and protocols that satisfy documentation and assessment requirements) evaluate the potential for special-status plant habitat at the proposed project sites containing undeveloped land cover types as shown in Figure 3.5-1, "Land Cover." Should suitable habitat for any of the species listed in Table 3.5-3 be identified, the qualified botanist, at Cal Poly's direction, shall conduct protocol-level surveys for the potentially occurring special-status plants that could be removed or disturbed by project activities during the blooming period for the plant(s) that could be present on-site. Protocol-level surveys shall be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009). Concurrent with the special-status plant survey, the botanist shall document non-native invasive plants within the project areas and provide a separate report with the location and extent of non-natives within the project area to Cal Poly. If special-status plants are not found, the botanist shall document the findings in a letter report to CDFW and further mitigation shall not be required.

Table 3.5-3 Normal Blooming Period for Special-Status Plants with Potential to Occur within the Main Campus

Species	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Marsh sandwort *Arenaria paludicola*									
Mile's milk-vetch *Astragalus didymocarpus* var. *milesianus*									
Coulter's saltbush *Atriplex coulteri*									
San Luis Obispo owl's clover *Castilleja densiflora* ssp. *obispoensis*									

Species	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Dwarf calycadenia *Calycadenia villosa*									
San Luis Obispo sedge *Carex obispoensis*									
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*									
San Luis Obispo fountain thistle [=Chorro Creek Bog Thistle] *Cirsium fontinale* var. *obispoense*									
La Graciosa thistle *Cirsium scariosum* var. *loncholepsis*									
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*									
San Joaquin spearscale *Extriplex joaquiniana*									
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*									
Jones's layia *Layia jonesii*									
Spreading navarretia *Navarretia fossalis*									
Shining navarretia *Navarretia nigelliformis* ssp. *radians*									
Adobe sanicle *Sanicula maritima*									
Saline clover *Trifolium hydrophilum*									

Source: Data compiled by Ascent Environmental in 2019

Mitigation Measure 3.5-1b: Conduct Special-Status Plant Avoidance

If special-status plant species are found on a particular project site and are located outside of the permanent footprint of any proposed structures/site features and can be avoided, Cal Poly shall avoid and protect these species by establishing a no-disturbance buffer around the area occupied by special-status plants and marking the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway); exceptions to this requirement are listed later in this measure. The no-disturbance buffers shall generally be a minimum of 40 feet from special-status plants, but the size and shape of the buffer zone may be adjusted if a qualified botanist determines that a smaller buffer is sufficient to avoid killing or damaging the plants or that a larger buffer is necessary to sufficiently protect plants from the proposed activity. The appropriate buffer size shall be determined based on plant phenology at the time of project initiation (e.g., whether the plants are in a dormant, vegetative, or flowering state), the individual species' vulnerability to the activity being conducted, and environmental conditions and terrain. Consideration of factors such as site hydrology, changes in light, edge effects, and potential introduction of invasive plants and noxious weeds may inform the determination of buffer width. If a no-disturbance buffer is reduced below 40 feet from a special-status plant, a qualified botanist shall provide a site- and/or activity-specific explanation with the biological technical justification for the buffer reduction, which shall be included in a memo to CDFW and Cal Poly.

Mitigation Measure 3.5-1c: Special-Status Plant Impact Minimization and Compensation Measures

If special-status plants are found during rare plant surveys and cannot be avoided, Cal Poly shall consult with CDFW and USFWS, as appropriate depending on species status, to determine the appropriate action(s) to achieve no net loss of occupied habitat or individuals. Mitigation measures may include, but are not limited to, preserving and enhancing existing populations, creating off-site populations on mitigation sites through seed collection or transplantation at a 3:1 ratio, and restoring or creating suitable habitat in sufficient quantities which would collectively achieve no net loss of occupied habitat or individuals. Potential mitigation sites could include suitable transplant locations within or outside of the campus. Cal Poly shall develop and implement a site-specific mitigation strategy describing how unavoidable losses of special-status plants shall be compensated consistent with this mitigation measure and the no net loss standard. Success criteria for preserved and compensatory populations shall include:

a) The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat.

b) Compensatory and preserved populations shall be self-producing. Populations shall be considered self-producing when:

   i) plants reestablish annually for a minimum of 5 years with no human intervention such as supplemental seeding; and

   ii) reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the project-specific mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria consistent with those listed above and other details, as appropriate to target the preservation of long-term viable populations.

Mitigation Measure 3.5-1d: 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).

Mitigation Measure 3.5-1e: Prepare Trail Management Plan

Prior to improving existing Cal Poly trails or constructing new trails in Cal Poly's natural lands, Cal Poly shall prepare a Trail Plan as described in 2035 Master Plan Principle IP 9. The Trail Plan shall emphasize the use of existing trails in the trail system, identify all sensitive resources within and adjacent to the trail(s) alignment(s), and ensure that the trail alignments do not necessitate the removal of or otherwise adversely affect the sensitive resources. If the Trail Plan includes the construction of new trails, the new trail alignments shall be surveyed for sensitive biological resources before trail design. The new trail alignments shall be designed to avoid or minimize direct and indirect impacts on any identified sensitive resources. The construction of new trails shall minimize the number of creek crossings in the trail system. If the construction of new trails or improvement of existing trails includes the installation of pedestrian bridges over Brizzolara Creek or other waterways, Cal Poly shall obtain the necessary permits from USACE, USFWS, CDFW, and/or RWQCB, as necessary. The Trail Plan shall include the following elements:

a) Installation of interpretive signage to inform trail users of the presence of sensitive resources along the trails and identify appropriate trail use conduct.

b) Identification of the department and/or individuals responsible for implementing all aspects of the trail plan.

c) Provision of adequate buffers from waterways, seeps, springs, and other sensitive resources.

d) Use of natural infiltration and best management practices for storm water management. Designs should focus on the use of natural dispersed infiltration systems, such as vegetated swales, rather than engineered systems, such as storm drains and catch basins, to the maximum extent feasible.

e) Prohibition of public motor vehicle use of the trails.

f) Identification of trails suitable for bicycle use and those for which bicycle use is prohibited.

g) A trail decommissioning program to restore native habitats in trail sections that are no longer in use.

h) A trail monitoring program.

Significance after Mitigation

Implementation of Mitigation Measures 3.5-1a through 3.5-1e requires floristic surveys to determine if suitable habitat for special-status plants are present in proposed development areas; avoidance of special-status plants outside of the permanent footprint of 2035 Master Plan projects; consultation with CDFW and USFWS (depending on species status) for any special-status plant that cannot be avoided; mitigation for the loss of special-status plants with a performance standard that achieves no net loss of plants and occupied habitat; creation of a long-term management plan to manage the preserve or compensatory populations; and environmental monitoring to ensure all requirements of environmental mitigation are being met. For trails specifically, mitigation requires preparation of a Trail Management Plan that would identify sensitive resources, including special-status plants, emphasize the use of existing trails, and ensure that the trail alignments do not affect sensitive resources and would be done in compliance with the requirements of USACE, USFWS, CDFW, and/or RWQCB as necessary. Implementation of these mitigation measures would avoid, minimize, and compensate for adverse effects such that impacts on special-status plants would be reduced to a **less-than-significant** level.

Impact 3.5-2: Have a Substantial Adverse Effect, Either Directly or through Habitat Modifications, on Special-Status Wildlife Species, Fish Species, or Habitats

Implementation of the 2035 Master Plan could result in the disturbance or conversion of habitats occupied by or suitable for several special-status wildlife species. Disturbance or loss of these habitats could result in loss of special-status wildlife if they are present. Loss of special-status wildlife or their habitat would be a **significant** impact.

Five special-status fish and wildlife species are known to occur within the Master Plan Area, including monarch butterfly, California red-legged frog, steelhead – south-central California coast DPS, Coast Range newt, and tricolored blackbird. An additional twelve wildlife species have a moderate to high potential to occur within the Master Plan Area, including western pond turtle, special-status birds (grasshopper sparrow, burrowing owl, western yellow-billed cuckoo, white-tailed kite, least Bell's vireo, loggerhead shrike, and purple martin) pallid bat, Townsend's big-eared bath, Monterey dusky-footed woodrat, and American badger. Construction activities within occupied habitat for these species, or conversion of undeveloped habitats, under the 2035 Master Plan could result in the loss of their habitat or loss of these special-status fish and wildlife species if they are present. These species could be killed during construction activities or their habitat substantially disturbed such that it impairs the habitat functions required by these special-status wildlife species. The following discusses these potential effects for each special-status wildlife species known or with potential to occur in the main campus.

Monarch Butterfly

Landcover types that may provide suitable wintering habitat for monarch butterfly are the riparian areas, coast live oak woodland, and non-native woodland that contain eucalyptus tree stands. These land cover types are shown in Figure 3.5-1, "Land Cover." Some of the projects proposed under the 2035 Master Plan are sited among or adjacent to riparian areas and/or non-native woodlands that could provide suitable overwintering habitat for monarch butterflies. These projects include the Faculty and Staff Workforce Housing, Farm Shop, and the Facilities Operations Complex/interim surface parking lot. Overwintering monarch butterflies have not been documented in these project areas and the woodlands are not known monarch overwintering sites. However, the riparian areas and woodlands could support overwintering monarchs in the future and there is a CNDDB record of overwintering monarch butterflies occurring approximately 630 feet west of the proposed Facilities Operations Complex. This CNDDB overwintering record has been monitored sporadically since 2003, and the numbers of observed monarch butterflies have fluctuated from 0 to 300. However, when monarch clusters have been observed, they were always within eucalyptus trees present within the Stenner Creek riparian area. Typically, when monarch overwintering takes place, the monarch butterflies may remain in the area from early November to early March, but this is dependent on weather and site conditions. Monarch butterflies were observed within the Faculty and Staff Workforce Housing and Farm Shop on June 26, 2019. If construction activities of these projects require removal of all or parts of eucalyptus trees and woodlands, and monarchs were present during the activities, overwintering monarch butterflies could be affected. Direct adverse impacts could include mortality of overwintering monarch butterflies and construction-generated noise that could cause the overwintering monarchs to abandon the site; indirect adverse impacts could include habitat alteration that makes the site unsuitable. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.5-2a: Conduct Surveys for Areas with Significant Potential for Overwintering Monarch Butterfly Sites

1. Cal Poly shall retain a monarch butterfly habitat specialist to conduct surveys in riparian, live oak woodland, and non-native oak woodland habitat and identify areas with significant potential for overwintering monarch butterflies. The monarch butterfly habitat specialist shall provide Cal Poly with a report summarizing the result of the surveys, including a map of areas with significant potential for overwintering monarch butterflies. Cal Poly shall use the report to identify overwintering sites that are within 300 feet of any proposed Master Plan project. If no projects are within 300 feet of identified habitat, no further mitigation is required. If projects are identified within 300 feet, then the following measure shall apply.
2. Preconstruction surveys shall be conducted for potential overwintering monarch butterfly sites within 300 feet of any proposed 2035 Master Plan project construction areas. Surveys for overwintering aggregations of monarch butterflies shall be conducted over the winter season (November 1 to first week of March) before construction activities within 300 feet of the potential butterfly overwintering zone. A minimum of two surveys shall be conducted at least one month (30 days) apart within the monarch butterfly wintering season (November 1 to first week of March). Surveys shall follow survey methods specified by the Xerces Society for Invertebrate Conservation (Xerces 2011). If no overwintering monarch butterflies are found, no further mitigation is required. If overwintering monarch butterflies are found, then the following measures shall be implemented.

Mitigation Measure 3.5-2b: Implement Avoidance of Overwintering Monarch Butterfly and Protection of Active Overwintering Monarch Butterfly Sites

Construction activities in and around butterfly overwintering sites identified pursuant to Mitigation Measure 3.5-2a shall start outside of the overwintering season (overwintering season is typically between November 1 and first week of March), to the greatest extent feasible, to avoid potential impacts on monarch butterfly overwintering habitat. However, when it is not feasible to avoid the overwintering season and construction activities take place during this time, the following measures shall apply.

If an active overwintering site is located, work activities shall be delayed within 300 feet of the site location until avoidance measures have been implemented. Appropriate avoidance measures shall include the following measures (which may be modified as a result of consultation with CDFW to provide equally effective measures):

a) If the qualified wildlife biologist determines that construction activities would not affect an active overwintering site, activities shall proceed without restriction.

b) If the wildlife biologist determines there is a potential to affect an active overwintering site, a no-disturbance buffer shall be established around the overwintering site to avoid disturbance or destruction. The extent of the no-disturbance buffers shall be determined by the qualified wildlife biologist familiar and in consultation with CDFW. Buffers shall be maintained until March 7 or until the qualified biologist determines that the monarch butterflies have left the wintering site.

c) Throughout the year, Cal Poly shall avoid removing or trimming trees utilized by monarch butterflies or documented as active within the last 3 years pursuant to Mitigation Measure 3.5-2a, as well as trees adjacent to the documented active winter roost areas to prevent adverse indirect changes to the humidity, wind exposure, and temperature within the immediate vicinity of the roost site, unless Cal Poly consults with a monarch butterfly habitat specialist to identify appropriate variances to this measure. Any routine tree trimming shall be done between April and October to eliminate the risk of disturbance to overwintering monarch colonies during the core overwintering/clustering period and shall be conducted following the Management Guidelines for Monarch Butterfly Overwintering Habitat (Xerces 2017) and under the supervision of the monarch habitat specialist. This mitigation measure does not apply to removal or trimming of hazard trees or branches or management of the wintering site for the benefit of monarch butterfly.

<u>Significance after Mitigation</u>

Implementation of Mitigation Measure 3.5-2a requires surveys to identify overwintering monarch butterfly sites. Mitigation Measure 3.5-2b requires the avoidance of the overwintering site by delaying construction within 300 feet of the site and consultation with CDFW, and it requires Cal Poly to avoid removing or trimming trees utilized by overwintering monarch butterflies or adjacent to the winter roost unless consultation with a monarch butterfly habitat specialist takes place. By implementing these measures, potential impacts on overwintering monarch butterflies would be reduced to a **less-than-significant** level.

California Red-Legged Frog

Presence and/or potential habitat for California red-legged frog has been identified within the Master Plan Area. One occurrence of California red-legged frog was documented in the Swine Unit wastewater basin in 2011 and the CNDDB contains occurrences of California red-legged frog within Brizzolara Creek (CNDDB 2019). California red-legged frogs prefer aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths of at least 2 to 3 feet, and the presence of sturdy underwater supports such as cattails. During periods of wet weather, some individuals may make overland excursions through upland habitats. During dry periods, California red-legged frogs are rarely encountered far from water. California red-legged frog may use upland shelter habitat under logs, in small mammal burrows, or in soil cracks, provided ample moisture is available in the shelter area (USFWS 2002).

Shepard Reservoir contains water most of the year; therefore, it provides suitable breeding aquatic habitat and its drainage provides suitable upland shelter habitat for California red-legged frog. Smith Reservoir has been dry for the last several years and is typically dry most of the year during normal rainfall years; as such, it provides suitable non-breeding aquatic habitat. Neither of these reservoirs are known to support California red-legged frogs. The Swine Unit ponds are located approximately 1,400 feet northwest of Shepard Reservoir, which is within the dispersal distance for California red-legged frog.

Brizzolara Creek, the drainages, Smith Reservoir, the Swine Unit ponds, and the detention ponds at the Union Pacific Railroad are ephemeral and can be dry during normal rainfall years. In addition, there is an abundance of bull frogs (*Lithobates catesbeianus*), which prey on California red-legged frog, in the reservoirs. Due to the ephemeral nature of the water features and the presence of bull frogs, it is unlikely that California red-legged frog would breed in these features. However, considering the Cal Poly staff's documented observation of California red-legged frog at the Swine Unit wastewater retention ponds and the presence of year-round water in Shepard Reservoir, the presence of this species in the reservoirs and the drainages when water is present cannot be ruled out. The upland pastures surrounding the reservoirs and drainages are heavily used for horses and other livestock and do not support suitable upland shelter refugia (dense vegetation, moist soils, or debris that maintain moist conditions). Therefore, California red-legged frog and other amphibians are not expected to utilize the upland pastures for shelter during the dry season. If California red-legged frogs were present in the area during the dry season, they would remain in the wetted or moist portions of the reservoir(s) and drainages.

Construction of the proposed sports field between Shepard and Smith Reservoirs, the California Boulevard extension, and the Village Drive extension shall require grading and construction activities in the upland areas adjacent to the reservoirs and adjacent to or in Brizzolara Creek. Similarly, any proposed Brizzolara Creek trail improvements, or repairs would occur within the riparian area, a known occurrence area for California red-legged frog.

The proposed University-Based Retirement Community supports an unnamed ephemeral drainage that is a tributary to Old Garden Creek. This drainage is fed by runoff from the residential area and does not support suitable aquatic breeding habitat for California red-legged frog.

The proposed Faculty and Staff Workforce Housing site supports pastureland and two ephemeral drainages with dense non-native riparian woodland vegetation. The ephemeral drainage features within the Faculty and Staff Workforce Housing area provide poor quality habitat for California red-legged frog breeding and foraging due to the steep banks and lack of perennial flows, deep pool habitat, and overhanging riparian vegetation and protective cover (Dugas, pers. comm., 2017). There are limited opportunities for upstream California red-legged frog dispersal within the drainages and the pasture (upland) areas may provide marginally suitable dispersal habitat for California red-legged frog, with increased potential during favorable conditions (i.e., wet conditions). Though a majority of the habitat is considered poor quality for California red-legged frog breeding and foraging, there is low potential for upland dispersal of California red-legged frog through the Faculty and Staff Workforce Housing project area, particularly during wet conditions (Dugas, pers. comm., 2017).

The Agricultural Facility Redevelopment at the existing rodeo area supports two wastewater detention ponds that support California red-legged frog non-breeding aquatic habitat. These wastewater ponds occasionally contain water into the late spring and early summer months; therefore, the wastewater ponds may provide summer (dry season) shelter habitat for California red-legged frog.

Development of the WRF may require crossing campus drainages and creeks, expanding existing reservoirs, and/or creating new reservoirs in habitats that have the potential to support California red-legged frog. The perennial reservoirs that could be expanded provide suitable California red-legged frog breeding and summer shelter habitat. Some of the campus ephemeral drainages may support suitable summer habitat during years of average or greater precipitation. If the perennial aquatic sites were dewatered and California red-legged frog were present during the dewatering, the individuals could be exposed and subject to predation and death.

Two of the proposed water reclamation ponds occur within a seasonal drainage that provides suitable non-breeding habitat and may provide suitable dispersal habitat for California red-legged frog. The irrigated pasture where these two proposed water reclamation ponds would be located provide low quality upland habitat for the frog since without irrigation the area would be dry and would not provide suitable moist refugia habitat.

The Farm Shop Storage Building Project site has been subject to site-specific studies to determine the presence or absence of California red-legged frogs. In support of this project, the Federal Emergency Management Agency (FEMA) had eight protocol surveys conducted within a 1-mile radius of the existing Farm Shop (West Campus subarea). No California red-legged frogs were observed during the FEMA surveys (FEMA 2007).

If initial grading of these projects occurred in the wet season and if California red-legged frog were occupying the reservoir(s), drainages, or creek, the individuals could disperse through the construction areas. If this dispersal were to occur when construction was underway, the individual(s) could be crushed or otherwise adversely affected by the construction equipment.

Alternatively, expansion of existing reservoirs or the creation of new reservoirs would increase the quantity of aquatic habitat that could be suitable for California red-legged frog use. Increasing aquatic California red-legged frog aquatic habitat on the campus could be a beneficial impact.

Because the reservoirs on the main campus have been determined to be waters of the United States, Cal Poly would need to coordinate with USACE to modify the reservoirs, potentially creating a federal nexus for the project. If a federal nexus is available through USACE CWA permitting, USACE may consult with USFWS via Section 7 of the ESA to obtain a Biological Opinion and Incidental Take Statement (ITS) for the WRF project. If a federal nexus is not available, Cal Poly may consult directly with USFWS under Section 10 of the ESA, to obtain an Incidental Take Permit (ITP). Section 10 consultation may require Cal Poly to prepare and implement an HCP.

Implementation of projects proposed under the 2035 Master Plan could result in removal or modification of habitat that could substantially affect California red-legged frog. This impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 3.5-2h: Conduct Environmental Monitoring

During construction of future development that would directly affect reservoirs, ponds, or drainages or that would result in land disturbance within California red-legged frog critical habitat as defined by Mitigation Measure 3.5-2c, implement Mitigation Measure 3.5-1d, described above.

Mitigation Measure 3.5-2i: Prepare Trail Management Plan

Prior to improvements that would directly affect drainages or riparian habitat or that would result in land disturbance within California red-legged frog habitat as defined by Mitigation Measure 3.5-2c, implement Mitigation Measure 3.5-1e, described above.

Significance after Mitigation

With implementation of Mitigation Measure 3.5-2c, which requires California red-legged frog habitat assessment, Mitigation Measure 3.5-2d, which requires consultation with resource agencies, Mitigation Measure 3.5-2e, which requires avoiding the California red-legged frog wet season, Mitigation Measure 3.5-2f, which requires pre-construction surveys before project implementation, Mitigation Measure 3.5-2g, which requires the implementation of waterway protection measures, Mitigation Measure 3.5-2h, which requires environmental monitoring, and Mitigation Measure 3.5-2i, which identifies development of the Trail Management Plan to identify and protect natural resources, potential impacts on California red-legged frog and California red-legged frog critical habitat would be avoided or reduced to **less than significant**.

Steelhead

Steelhead can occur in the Master Plan Area throughout the Brizzolara Creek and Stenner Creek channels. The South-central California Coast Steelhead DPS occurs within both Brizzolara Creek and Stenner Creek. These two streams are also designated critical habitat for the species.

Brizzolara Creek currently includes seven crossings, and the 2035 Master Plan proposes one additional crossing and improvements to others. The existing crossing at East Creek Road and Highland Drive would likely require substantial improvements to implement the 2035 Master Plan goal of extending California Boulevard into the North Campus subarea. The East Creek Road crossing currently has a fish ladder to facilitate aquatic species movement into the upper reaches of Brizzolara Creek. The proposed new crossing would be for pedestrians and bicycles and would be located just upstream of the East Creek Road crossing at California Boulevard and Highland Drive.

Installation of these structures has the potential to adversely affect steelhead and steelhead critical habitat. Adverse effects can occur both during construction and operation. If construction is undertaken while water is present, it would require dewatering and potential capture and relocation of individual steelhead. The loss of aquatic habitat would be confined to discrete sections of the creek and would be temporary because the affected workspace would be re-watered upon project completion. If steelhead are present, they would need to be captured and relocated, which could harm the individual(s) or make them susceptible to depredation. Because the creek is ephemeral and frequently dry, these potential impacts can be avoided by constructing the crossing(s) when the creek is dry.

Constructing the crossings while the creek is dry minimizes but does not avoid all impacts. Work in the creek bed could temporarily deplete the aquatic insect population in the area resulting in reduced feeding opportunities for steelhead when water returns to the site. Installation of the crossings could result in the loss of streamside vegetation which is important for microclimate stabilization. Construction work in the creek could alter water quality by temporarily increasing the potential for sedimentation and turbidity when water returns to the site after construction. High turbidity can affect aquatic habitats downstream of the project area. After construction, the channel morphology may be different than before construction causing changes in hydraulic conditions. These changes could create barriers to steelhead passage. The crossing(s) must be designed so as to avoid adverse effects to steelhead and steelhead critical habitat.

Development of the new WRF would require installation of new or modified underground wastewater conveyance infrastructure, including pipelines and pump stations throughout the main campus. The exact locations of these facilities have not been determined. It is possible that project design would require infrastructure to cross Stenner and Brizzolara Creeks. Trenching activities could result in sediment loading, vegetation removal, and modification of the local topography in the affected area. Placement of fill or sediment in the waterways can cause increased turbidity at and downstream from the crossing. Removal of vegetation from the waterways can result in a change in microclimate and erosion at the crossing location. In addition, if trenching were to occur during periods of flow, the work area would need to be dewatered prior to trenching. If steelhead were present during the dewatering process, the individuals would be subject to stranding and thus would need to be captured and relocated outside of the work area. Capture and relocation of steelhead can injure individual(s) and would be considered take of the species.

Development of the WRF includes expanding the campus's existing reservoir system and/or creating new reservoirs to provide approximately an additional 100 acre-feet of storage. The reservoir system may include impoundments of natural waterways tributary to Stenner Creek and Brizzolara Creek. Expanding storage capacity of the reservoir system could reduce the surface water available for the steelhead habitat in Stenner and Brizzolara Creeks.

Construction activities such as demolition of existing structures, new construction, or expansion of existing features within the creeks, riparian corridors, or adjacent to the riparian corridors under the 2035 Master Plan could result in degradation or loss of these habitats and reduction of steelhead survival. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.5-2j: Conduct Steelhead Impact Avoidance

As part of future design and planning of 2035 Master Plan projects that require work in Stenner Creek or Brizzolara Creek, their tributaries, or their riparian areas, all such work shall be conducted between June 15 and October 15 or as approved by a qualified biologist in coordination as required with USACE, NMFS, and CDFW.

Mitigation Measure 3.5-2k: Conduct Steelhead Consultation

Prior to implementation of 2035 Master Plan projects that require work in Stenner Creek, Brizzolara Creek, their tributaries, or riparian areas, Cal Poly shall coordinate with CDFW through the 1602 permitting process, and with USACE during the CWA Section 404 permitting to consult with NMFS regarding the potential for the project to result in take of steelhead and/or steelhead critical habitat. If USACE, in consultation with NMFS, determines that the project may affect or result in take of steelhead or result in the detrimental modification of critical habitat, NMFS 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 restoration, habitat compensation to ensure no net loss of habitat, and monitoring. Cal Poly shall reference and include the *Guidelines for Salmonid Passage at Stream Crossings* (NMFS 2001), or as updated by NMFS, in all future bridge/crossing designs over Stenner Creek and Brizzolara Creek. Any new crossings shall not create new barriers to fish passage into the upper reaches of the creeks.

If USACE declines to take jurisdiction over the project, thus removing a federal nexus from the project, Cal Poly shall consult directly with NMFS pursuant to Section 10 of the ESA. If NMFS determines that the project may affect or result in take of steelhead 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.

Mitigation Measure 3.5-2l: Protect Steelhead Habitat through Implementation of Waterway Protection Measures

Prior to implementation of 2035 Master Plan projects that require work in Stenner Creek, Brizzolara Creek, their tributaries, or riparian areas, implement Mitigation Measure 3.5-3a through 3.5-3d, described below. Because mitigation for degradation or loss of riparian habitat and other sensitive natural communities would also minimize potential impacts on steelhead, those measures are recommended for this impact.

Mitigation Measure 3.5-2m: Conduct Environmental Monitoring

During implementation of 2035 Master Plan projects that require work in Stenner Creek, Brizzolara Creek, their tributaries, or riparian areas, implement Mitigation Measure 3.5-1d, described above.

Mitigation Measure 3.5-2n: Prepare Trail Management Plan

Prior to improvements that would directly affect Stenner Creek, Brizzolara Creek, their tributaries, or riparian areas or that would result in disturbance to steelhead habitat, Implement Mitigation Measure 3.5-1e, described above.

Significance after Mitigation

Implementation of Mitigation Measure 3.5-2j, which requires steelhead impact avoidance by allowing construction activities occur only during the dry season when water is absent from the creeks and their tributaries, Mitigation Measure 3.5-2k, which requires consultation with CDFW and NMFS, Mitigation Measure 3.5-2l, which requires implementation of water-quality protection measures to prevent construction activities from generating silt discharge into the creeks or their tributaries, Mitigation Measure 3.5-2m, which requires environmental monitoring for steelhead for projects that require work in creeks, tributaries, or their riparian areas, and Mitigation Measure 3.5-2n, which identifies the preparation of the Trail Management Plan to identify and protect natural resources within the trail system, would reduce impacts on steelhead to a **less-than-significant** level.

Ringtail

Ringtail is nocturnal and arboreal and therefore is rarely seen by people. Favored habitat consist of areas with many rock outcroppings or cliffs and large trees in riparian habitat that have cavities. Ringtails are adept climbers and avoid moving through open grasslands, where they would have difficulty escaping predators. During the day, ringtails sleep in dens such as tree hollows, rock crevices, and abandoned burrows created by other animals. A single ringtail will use several dens and move between them regularly.

Old trees within the Faculty and Staff Workforce Housing site and trees within the riparian habitat provide suitable denning habitat for this species. If ringtails use any of these areas for denning, construction activities could result in direct and indirect effects on the species. Direct effects could include physically crushing individuals and/or entrapping individuals in trenches or other excavations. Indirect impacts may include displacing individuals from their dens and leaving them vulnerable to predation or exposure. Because ringtails maintain multiple dens, the loss of a single den site may be a negligible impact. However, the loss of a natal or maternity den or mortality of a ringtail would be a **significant** impact.

Mitigation Measures

Mitigation Measure 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.

Mitigation Measure 3.5-2p: Conduct Environmental Monitoring

During implementation of 2035 Master Plan projects that require work in riparian corridors where ringtail occupied habitat has been identified, implement Mitigation Measure 3.5-1d, described above.

<u>Significance after Mitigation</u>

Mitigation Measures 3.5-2o and 3.5-2p require surveys to identify ringtail dens, buffers and maternity season avoidance around construction/disturbance areas and environmental monitoring to ensure that mitigation measures are implemented. Implementation of these measures would avoid or minimize adverse effects such that impacts on ringtail would be reduced to a **less-than-significant** level.

Monterey Dusky-Footed Woodrat

Riparian corridors, California sagebrush scrub, coast live oak woodland, and non-native woodland habitat, as shown in Figure 3.5-1, "Land Cover," provide suitable habitat for Monterey dusky-footed woodrat. Several woodrat (*Neotoma* sp.) houses (middens) were observed in the understory of the ornamental plantings lining the ephemeral drainages during surveys of the Faculty and Staff Workforce Housing site (Dugas, pers. comm., 2017). Woodrats cannot be identified to the subspecies level without trapping. Therefore, observed middens on the Workforce Housing project site and in riparian habitat in the main campus have potential to be occupied by the special-status Monterey dusky-footed woodrat or common dusky-footed woodrat (Dugas, pers. comm., 2017).

Construction activities could result in direct and indirect effects to Monterey dusky-footed woodrats. Direct effects could include physically crushing individuals and/or entrapping individuals in trenches or other excavations. Indirect impacts could include displacing individuals from their middens and leaving them vulnerable to predation or exposure. Demolition of existing structures, grading, and construction of new workforce housing facilities could destroy middens or remove midden material from these areas. In addition, woodrat middens are sometimes used as refugia by other special-status wildlife such as Coast Range newts, and California red-legged frogs. Direct loss of dusky-footed woodrats from construction activity and indirect effects to the species through habitat loss would be a significant impact.

Mitigation Measures

Mitigation Measure 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.

Mitigation Measure 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 3.5-1d, described above.

Significance after Mitigation

Mitigation Measures 3.5-2q and 3.5-2r require surveys to identify woodrat middens, buffers and maternity season avoidance around middens outside areas of direct effects, clearing and relocation of middens away from construction/disturbance areas for those middens that cannot be avoided, and environmental monitoring to ensure mitigation measures are implemented. Implementation of these measures would avoid, minimize, and compensate for adverse effects such that impacts on Monterey dusky-footed woodrat would be reduced to a **less-than-significant** level.

American Badger

Non-native annual grassland, as shown in Figure 3.5-1, “Land Cover,” provides suitable habitat for American badger. The proposed University-Based Retirement Community site and the proposed WRF site (including proposed water storage ponds) are within or have components in areas that may provide suitable habitat for American badger. Construction activities such as demolition of existing structures, grading, and new construction could result in the entombment, injury, or mortality of American badgers if they were to be present. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.5-2s: Conduct American Badger Surveys and Avoidance

For projects within undeveloped grassland habitat and before ground-disturbing activities, a qualified biologist shall conduct a preconstruction survey for American badger dens. The American badger survey shall be conducted no more than 2 weeks prior to construction. If the survey results are negative (i.e., no active badger dens observed), no additional mitigation is required. If the results are positive (American badger dens are observed), the biologist shall contact Cal Poly within 24 hours and work in the area shall be delayed until Cal Poly’s biologist has made one of the following determinations:

a) If the biologist determines that dens may be active, the biologist shall install a game camera for 3 days and 3 nights to determine if the den is in use. If the biologist determines that the den is a maternity den, construction activities shall be delayed during the maternity season (February to August), or until the badgers leave the den on their own accord or the biologist determines that the den is no longer in use. If the game camera does not capture an individual entering/exiting the den, the den can be excavated as described below. If the camera captures badger use of the den, the biologist shall install a one-way door in the den opening and continue use of the game camera. Once the camera captures the individual exiting the one-way door, the den can be excavated as described below.

b) If the biologist determines that potential dens are inactive, the biologist shall excavate the dens with hand tools to prevent badgers from reusing them.

Significance after Mitigation

Mitigation Measure 3.5-2s requires surveys for American badger to identify active burrows, buffers around active burrows, avoidance of maternity season, and excavation of inactive burrows to prevent reuse within construction areas. Implementation of these measures would avoid, minimize, and compensate for adverse effects such that impacts on American badger would be reduced to a **less-than-significant** level.

Western Pond Turtle and Coast Range Newt

Western pond turtles inhabit quiet waters of ponds, small lakes, streams, and marshes, and require basking sites, such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Coast Range newts typically occur in ponds, reservoirs, and slow-moving streams. Western pond turtle and Coast Range newt are known to occupy a variety of aquatic habitats in and adjacent to the Master Plan Area, including Brizzolara Creek, Miossi Creek, Camp San Luis Obispo, Dairy Creek, and Stenner Creek. The Master Plan Area reservoirs also support suitable habitat for these species. Expansion of the reservoirs would likely require dewatering of the aquatic sites, which could adversely affect these species. The pasture and non-native grassland areas with a southern sun exposure also provide suitable nesting habitat for western pond turtle. Adverse impacts from development projects under the 2035 Master Plan could include disturbance by project personnel; stranding during dewatering; and trampling or crushing of individuals, egg masses, or nests by equipment. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.5-2t: Conduct Western Pond Turtle and Coast Range Newt Surveys and Relocation

To minimize adverse effects on western pond turtle and Coast Range newt during any projects that requires dewatering, dredging, fill of an aquatic site (e.g., a reservoir, pond, settling pond, or drainage), or the grading (during construction of new facilities) of inactive pasturelands or non-native grassland with a southern sun exposure within 500 feet of any of these aquatic habitats, Cal Poly shall retain a qualified biologist to survey for western pond turtle and Coast Range newt within 2 weeks of project activities. If no western pond turtle, Coast Range newt, or their eggs or nests are observed, no further mitigation is required. If western pond turtle, Coast Range newt, their eggs or nests are found then the following shall be conducted:

a) Cal Poly shall retain a qualified biologist to capture and relocate western pond turtle and Coast Range newt adults and juveniles. Capture and relocation efforts must be conducted using visual survey and hand capture techniques. Any captured western pond turtles and Coast Range newts must be relocated to a nearby aquatic site that shall not be affected by project activities.

b) If newt egg masses and/or larvae, or western pond turtle nests are identified, construction shall be delayed until the eggs have hatched and individuals are capable of vacating the site or being relocated. Because of the delicate nature of newt egg masses/larvae and habitat requirements of western pond turtle nests, delaying construction is the only viable method to protect the resource.

Significance after Mitigation

Mitigation Measure 3.5-2t requires surveys for western pond turtle and Coast Range newt to identify occupied aquatic and upland habitat, avoiding eggs and nests of these species by delaying construction, and relocating individuals outside of the work areas. Implementation of these measures would avoid, minimize, and compensate for adverse effects such that impacts on western pond turtles and Coast Range newt would be reduced to a **less-than-significant** level.

Special-Status Birds

Construction activities associated with implementation of the 2035 Master Plan, such as demolition of existing structures, new construction, grading, vegetation removal, ground disturbance, use of construction vehicles, and general presence of active construction crews, could disturb nesting special-status birds including tricolored blackbird, grasshopper sparrow, burrowing owl, western yellow-billed cuckoo, white-tailed kite, least Bell's vireo, loggerhead shrike, and purple martin, potentially resulting in nest abandonment or failure, and mortality of chicks and eggs. The following discusses these potential effects for each special-status bird species known or with potential to occur in the main campus.

Tricolored Blackbird

Potentially suitable nesting habitat for tricolored blackbird is present within the riparian vegetation along the Master Plan Area reservoirs and creeks, and suitable foraging habitat is present within the grassland habitat. The nearest recorded nesting colony is approximately 1.7 miles north of the main campus (CNDDB 2019). During the June 26, 2019 field survey, a small flock of tricolored blackbirds was observed foraging in the fields where two of the proposed WRF water storage ponds would be located. Proposed conversion of agricultural fields and ruderal grasslands to urban uses could result in loss of suitable breeding and foraging habitat for this species. While suitable foraging habitat may be lost through conversion, the loss would not be substantial because the habitat planned for conversion is marginal and sparse and the loss would not substantially diminish the quality of other foraging habitat within and adjacent to the Master Plan Area. Tricolored blackbirds are threatened by direct loss of colonies from harvesting of grain fields before chicks have fledged. Therefore, loss of tricolored blackbird breeding colonies or breeding habitat could result from the project and would be a **significant** impact.

Burrowing Owl, Grasshopper Sparrow, and Loggerhead Shrike

Suitable nesting habitat for burrowing owl, grasshopper sparrow, and loggerhead shrike is present within non-native annual grassland, agricultural land, and pastureland as shown in Figure 3.5-1, "Land Cover," in the main campus. Proposed conversion of agricultural fields and grasslands to urban uses could result in loss of suitable breeding and foraging habitat for these species. While suitable foraging habitat may be lost through conversion, the loss would not be substantial because the habitat planned for conversion is marginal and sparse and the loss would not substantially diminish the quality of other foraging habitat within and adjacent to the Master Plan Area. Loss of active nests or breeding habitat for these species, however, could occur with site preparation and project construction and would be a **significant** impact.

Western Yellow-Billed Cuckoo, White-Tailed Kite, Least Bell's Vireo, and Purple Martin

Potentially suitable nesting habitat for these species is present in mature trees (yellow-billed cuckoo, white-tailed kite, purple martin), large shrubs with horizontal branches or vertical forks to support a nest structure (yellow-billed cuckoo), and patches of dense shrub vegetation (least Bell's vireo) within riparian corridors. In addition to riparian corridors, mature/large trees in non-native woodland and large ornamental/landscaping trees in developed areas may also support nesting white-tailed kite and purple martin. Purple martin additionally uses buildings, bridges, and other structures that provide cavities for nesting. All proposed 2035 Master Plan projects that involve removal or disturbance of these potentially suitable nesting habitats (including demolition of structures that could support nesting purple martins) during the nesting season (typically February 1 through September 15) have the potential to disturb nesting birds. Direct impacts on nesting birds may include physical removal of active nests resulting in the destruction of the nest, eggs, and/or chicks. Indirect impacts could result from noise disturbance that may prompt an adult bird to abandon the nest. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 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:

   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.

Mitigation Measure 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 3.5-1d, described above.

Significance after Mitigation

Mitigation Measure 3.5-2u requires that construction-related vegetation removal occur during the nonbreeding season. If that is not possible, the measure calls for habitat assessment, consultation with resource agencies if suitable breeding habitat is identified, and mitigation for loss or disturbance of that habitat. The measure requires surveys for special-status birds, establishment of buffers around nest sites to avoid disturbance, and maintenance of buffers until young have fledged and the nests are no longer active. Mitigation Measure 3.5-2v requires monitoring to ensure the mitigation is carried out and nests are protected. Implementation of this measure would avoid, minimize, and compensate for adverse effects such that impacts on special-status birds would be reduced to a **less-than-significant** level.

Bats

Low-use agricultural structures and livestock shelters in the BCEC, rodeo facility, and Farm Shop have the potential to support roosting bat species, including pallid bat. Pallid bats use a variety of habitats to roost, including caves, crevices, mines, hollow trees, and farm buildings. Potentially suitable roosting habitat such as large trees and buildings are present within the Master Plan Area. Bats may roost in trees and structures during the daylight hours. Tree and structure removal could result in the loss of pallid bat roosts and individuals. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 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.

Mitigation Measure 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 3.5-1d.

Significance after Mitigation

Mitigation Measure 3.5-2w and Mitigation Measure3.5-2x require surveys for bats and, if found, avoidance of roosts and protection from construction activities by creation of no-disturbance buffer and environmental monitoring. Implementation of this measure would avoid, minimize, and compensate for adverse effects such that impacts on bats would be reduced to a **less-than-significant** level.

Impact Summary

Implementation of Mitigation Measures 3.5-2a through 3.5-2x would reduce impacts on special-status wildlife to a **less-than-significant** level as described above.

Impact 3.5-3: Result in Degradation or Loss of Riparian Habitat or Other Sensitive Natural Communities

Implementation of the 2035 Master Plan could result in the degradation or loss of arroyo willow tickets and riparian woodland. Degradation or loss of these riparian habitats would be a **significant** impact.

Portions of the creeks, drainages, reservoirs, and ponds in the main campus support arroyo willow thickets and riparian woodland. Arroyo willow thickets are designated as a sensitive natural community and riparian woodland is of special concern. Construction activities such as demolition of existing structures, new construction, expansion of existing features and trail management within these habitats could result in degradation (including introduction and spread of invasive species) or loss of these habitats. Riparian habitats could be directly removed, and construction in or adjacent to these habitats may degrade them by altering the natural flow of water into or out of these areas. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.5-3a: Avoid and Protect Brizzolara and Stenner Creeks

For projects in the vicinity of Brizzolara and Stenner Creeks, a 50-foot buffer from the outer extent of the top-of-bank or outer extent of riparian vegetation, whichever is greater, shall be established unless a qualified biologist determines, based on site-specific conditions, that a larger or smaller buffer would be sufficient to avoid impacts on arroyo willow thickets or riparian woodland. Development of new parking areas and buildings within this buffer shall be prohibited.

If projects require work within the creeks or within the riparian area of the creeks, Cal Poly shall implement Mitigation Measures 3.5-2c through 3.5-2j, 3.5-2n, and 3.5-4.

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 3.5-3e: Minimize Ground Disturbance in Sensitive Natural Community Areas

For projects that require the demolition of existing structures and vegetation removal within sensitive natural communities, Cal Poly shall require that ground disturbance, vegetation removal, and tree removal is limited to that necessary for construction, especially in sensitive natural communities and riparian areas.

Mitigation Measure 3.5-3f: Mitigate for the Loss of Sensitive Natural Communities

If loss of sensitive natural communities would not be otherwise mitigated by the proposed projects (i.e., the sensitive natural community is recognized as sensitive, but not protected pursuant to other regulations or policies), then additional actions shall be implemented based on site- and project-specific impacts in order to ensure no net loss of habitat function or acreage. Such actions may include creating, restoring, and/or preserving in perpetuity in-kind communities at a sufficient ratio to achieve no net loss of habitat function or acreage. If habitat enhancement or creation takes place, Cal Poly shall develop and implement a monitoring and management plan to assess the effectiveness of the mitigation. If monitoring indicates that the actions have not adequately mitigated for the project's impacts, Cal Poly shall implement further remedial actions, restoration, and other activities to reach a no net loss of habitat function or acreage.

Mitigation Measure 3.5-3g: Avoid Planting Invasive Plants

Project landscaping shall not utilize any species included on the most recent Cal-IPC Inventory.

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 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.

Mitigation Measure 3.5-3k: Prepare Trail Management Plan

Implement Mitigation Measure 3.5-1e, described above.

Significance after Mitigation

Implementation of Mitigation Measure 3.5-3a avoids and protects Brizzolara and Stenner Creeks by requiring the incorporation of a 50-foot buffer from the top of bank or outer extent of riparian area, Mitigation Measure 3.5-3b requires the incorporation of LID principles to all projects located within 100 feet of the creeks, Mitigation Measure 3.5-3C requires the installation of exclusion fencing for projects that do not require crossing the waterways, Mitigation Measure 3.5-3d requires that all project plans map and protect waterways and riparian areas and project staging areas need to be located at a minimum of 100 feet outside of the top of bank of the waterways or riparian areas, Mitigation Measure 3.5-3e requires the minimization of ground disturbance in sensitive natural community areas, Mitigation Measure 3.5-3f requires the compensation for the loss of sensitive natural communities at a sufficient ratio to ensure a no net loss of habitat function or acreage, Mitigation Measure 3.5-3g requires that all 2035 Master Plan projects do not plant invasive plant species, Mitigation Measure 3.5i requires the usage of certified weed-free construction materials, Mitigation Measure 3.5-3j requires the treatment of invasive plant infestations within construction areas to prevent spreading them, and Mitigation Measure 3.5-3k identifies the need to develop the Trail Management Plan to identify and protect natural resources within the trail system and thus impacts on sensitive habitats would be reduced to a **less-than-significant** level.

Impact 3.5-4: Result in Degradation or Loss of State or Federally Protected Wetlands

Development of new facilities, and construction associated with improvements to existing facilities, under the 2035 Master Plan could remove wetland vegetation, alter wetland hydrology or topography, and impair wetland functions in some locations. These disturbances could result in temporary or permanent degradation or loss of waters of the United States, waters of the state, and their habitat functions and values. The degradation or loss of state or federally protected wetlands would be a **significant** impact.

The main campus contains several wetlands and other waters of the United States and waters of the state, primarily in the East Campus, North Campus, and West Campus subareas. Potential effects of future development projects and land uses under the 2035 Master Plan are discussed below.

In the East Campus subarea, the pastureland in the proposed Faculty and Staff Workforce Housing site includes two ephemeral drainages that the RWQCB, USACE, and CDFW have determined to be jurisdictional under the CWA, the Porter Cologne Act, and Section 1602 of the California Fish and Game Code (Dugas, pers. comm., 2017). If the proposed Faculty and Staff Workforce Housing project includes road crossings, pedestrian/bicycle crossings, or utility crossings through these drainages, installation of the crossings has the potential to place fill in the drainages or alter flows within the drainages. Installation of the crossings would likely cause temporary disturbances to the drainages such as vegetation removal and have the potential to result in permanent disturbances such as redirecting flows and/or placement of fill in the jurisdictional boundaries of the drainages. Such activities would trigger the need for RWQCB, USACE, and CDFW permitting for the crossings.

The North Campus subarea includes portions of Brizzolara Creek, Drumm Reservoir, Smith Reservoir, Shepard Reservoir, an engineered drainage that connects Smith and Shepard Reservoirs, and a drainage at Sports Complex Road that have been determined to be waters of the United States (SWCA 2015). Brizzolara Creek currently includes seven crossings, and the 2035 Master Plan proposes one additional crossing and improvements to others. The existing crossings include a pedestrian pathway at Village Drive Parking Structure (Building 271), the Village Drive vehicle crossing, the Feed Mill Walkway crossing at Village Drive, the Via Carta vehicle crossing, a pedestrian crossing at Via Carta, a pedestrian crossing at the University Drive parking area, and an unimproved drive at Highland Drive and East Creek Road. The 2035 Master Plan proposes to add one new pedestrian crossing at the existing parking area located at the Highland Drive and East Creek Road intersection. Improvements to the existing crossings and construction of the new crossing could adversely affect the Brizzolara Creek habitat functions and values resulting from a decrease in riparian vegetation and an increase bridge structure area over the creek. With inclusion of 2035 Master Plan Principles S 02 and S 03, the intent of the 2035 Master Plan is to utilize the existing crossings with minimal improvements to the crossings, thus minimizing impacts on jurisdictional waters.

The proposed extension of California Boulevard to the north would likely require the replacement of the existing Brizzolara Creek crossing at East Creek Road. Replacement of the existing crossing at East Creek Road may require the removal of riparian vegetation, alteration of existing creek flows, and/or fill within the jurisdictional boundaries of Brizzolara Creek.

The proposed Village Drive extension to Mount Bishop Road and the proposed new sports fields adjacent to the existing baseball fields would be located near the jurisdictional drainage at Sports Complex Road. If the proposed Village Drive extension and/or new sports fields were built in such a manner that crossed or otherwise required the drainage to be altered, there would likely be temporary and permanent impacts on the jurisdictional feature. Implementation of 2035 Master Plan Principles S 02 and S 03 would serve to avoid or minimize this potential impact.

The 2035 Master Plan includes the development of a new parking structure at the intersection of East Creek Road and Highland Drive. An existing storm water basin is in the general area of the proposed parking structure. The storm water basin includes a drain and underground pipe that directs excess flows from the basin to the underground reach of Brizzolara Creek. The underground hydrologic connection between the basin and Brizzolara Creek may establish a significant nexus to Brizzolara Creek, thus making the basin a jurisdictional feature. Construction of the parking structure could result in direct fill of the potentially jurisdictional storm water basin.

The 2035 Master Plan also includes the development of the proposed University-Based Retirement Community site in the portion of the West Campus subarea extending west of SR 1. The site includes an ephemeral drainage that is tributary to Old Garden Creek and may therefore be jurisdictional waters of the United States and waters of the state. If development of the proposed University-Based Retirement Community includes a crossing through the drainage, the crossing could require placement of fill in, or other alterations to, the drainage, which would likely result in temporary and permanent impacts on potentially jurisdictional waters. Implementation of Master Plan Principles S 02 and S 03 would serve to avoid or minimize this potential impact.

Development of the WRF may include expanding one of Cal Poly's existing reservoirs, creating two small "tailwater" reservoirs, and installing underground infrastructure under jurisdictional waterways. Smith, Drumm, Shepard, and Indonesian Reservoirs (located within or just north of the Master Plan Area) are waters of the United States and waters of the state (SWCA 2015). Expansion of any of these reservoirs would result in direct impacts on the jurisdictional waters, which could include placement of fill in the reservoirs, alterations of flow into or out of the reservoirs, and the temporary loss (during construction) of the functions and services that the reservoirs provide. Alternatively, expansion of the reservoirs could result in an increase of jurisdictional area and associated aquatic habitat, which could be a beneficial impact.

If expansion of the existing reservoirs would not provide adequate infrastructure to support the WRF, Cal Poly may develop new reservoirs. The number and locations of any new reservoir(s) has not been determined. However, it is likely they would be excavated as impoundments within existing campus waterways. Most of the existing waterways on the campus support bed and bank features and are likely waters of the state. Several of the waterways have been determined to be waters of the United States. Excavating impoundments in the campus waterways is likely to result in alterations to the waterways that would be subject to California Fish and Game Code Section 1602, CWA Section 404, and CWA Section 401 permitting.

Installation of the underground infrastructure associated with the proposed WRF may require crossing jurisdictional waters. If the waterways were trenched through, the trenching activities would result in placing fill in the jurisdictional features and other alterations to the jurisdictional features. Placement of fill or sediment in the waterways can cause increased turbidity at and downflow from the crossing. Removal of vegetation from the waterways can result in a change of microclimate and erosion at the crossing location.

Development of new facilities, and construction associated with improvements to existing facilities, under the 2035 Master Plan could remove wetland vegetation, alter wetland hydrology or topography, and impair wetland functions in some locations. These disturbances could result in temporary or permanent degradation or loss of waters of the United States, waters of the state, and their habitat functions and values. The degradation or loss of state or federally protected wetlands would be a **significant** impact.

Mitigation Measures

Mitigation Measure 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 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.

<u>Significance after Mitigation</u>

Mitigation Measure 3.5-4 would require that wetlands and other waters of the United States and waters of the state be avoided to the extent feasible and that unavoidable losses of wetlands be compensated for in a manner that results in no net loss of wetland functions and values, thus reducing the significant impacts on state and federally protected wetlands to a **less-than-significant** level.

Impact 3.5-5: Interfere with Important Wildlife Movement Corridors and Nursery Sites

Implementation of the 2035 Master Plan projects could result in encroachment into Brizzolara Creek, Stenner Creek, and other drainage riparian corridors, which provide suitable wildlife movement corridors and nursery sites for some species within the Master Plan Area. Removal and/or encroachment of these corridors and/or nursery sites could interfere with important wildlife movements and reproduction. Degradation or loss of important wildlife movement corridors or nursery sites would be a **significant** impact.

The 2035 Master Plan includes the demolition of existing buildings and parking areas within 20 feet of Brizzolara Creek and the construction of new buildings within approximately 70 feet of the creek. With respect to near-term projects, several near-term projects, including the proposed student housing for freshmen and upper division students and the proposed Facilities Operations Complex/interim surface parking lot, are located adjacent to Brizzolara Creek. In addition, the proposed Farm Shop site is located adjacent to Stenner Creek, and the proposed Faculty and Staff Workforce Housing and University-Based Retirement Community sites are within riparian corridors associated with unnamed drainages. Demolition of existing facilities and construction of new facilities near creeks and drainages have the potential to degrade or impede their use for nursery sites and can affect wildlife movement from Cuesta Ridge through the campus and the city of San Luis Obispo to the Trish Hills. Brizzolara Creek and Stenner Creek provide suitable movement and breeding habitat for steelhead. Demolition of existing facilities and construction of new facilities near Brizzolara and Stenner Creeks have the potential to affect or impede steelhead and other fish species movements or breeding, depending on when construction activities would take place. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.5-5a: Avoid and Protect Brizzolara and Stenner Creeks

Implement Mitigation Measure 3.5-3a, described above.

Mitigation Measure 3.5-5b: Implement Low-Impact Development Principles

Implement Mitigation Measure 3.5-3b, described above.

Mitigation Measure 3.5-5c: Install Exclusion Fencing

Implement Mitigation Measure 3.5-3c, described above.

Mitigation Measure 3.5-5d: Map and Protect Waterways and Riparian Areas

Implement Mitigation Measure 3.5-3d, described above.

Significance after Mitigation

Implementation of Mitigation Measure 3.5-5a avoids and protects Brizzolara and Stenner Creeks by requiring the incorporation of a 50-foot buffer from the top of bank or outer extent of riparian area, Mitigation Measure 3.5-5b requires the incorporation of LID principles to all project designs located within 100 feet of the creeks, Mitigation Measure 3.5-5c requires the installation of exclusion fencing for projects that do not require crossing the waterways, Mitigation Measure 3.5-5d require that all project plans map and protect waterways and riparian areas and project staging areas need to be located at a minimum of 100 feet outside of the top of bank of the waterways or riparian areas thus reducing the significant impacts on wildlife movement corridors and/or nursery sites to a **less-than-significant** level.

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3.6 ENERGY

This section evaluates whether implementation of the 2035 Master Plan would result in inefficient, wasteful, and unnecessary consumption of energy. The capacity of existing and proposed infrastructure to serve the project is evaluated in Section 3.14, "Utilities and Service Systems." Detailed calculations and results can be found in Appendix C.

No comments regarding energy use were received in response to the Notice of Preparation (NOP).

3.6.1 Regulatory Setting

FEDERAL

Energy Policy and Conservation Act, and CAFE Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with the CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the country. The U.S. Environmental Protection Agency calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. Based on information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 and 2005

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally-fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs. The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The Energy Independence and Security Act of 2007 increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly fivefold increase over current levels; and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

By addressing renewable fuels and the CAFE standards, the Energy Independence and Security Act of 2007 builds upon progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

STATE

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission regulates privately owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Action Plan

CEC is responsible for preparing the state energy plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 2003 California Energy Action Plan (2008 update). The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban design that reduces vehicle miles traveled (VMT) and accommodates pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), CEC and the California Air Resources Board (CARB) prepared and adopted a joint agency report in 2003, *Reducing California's Petroleum Dependence*. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT (CEC and CARB 2003). A performance-based goal of AB 2076 was to reduce petroleum demand to 15 percent below 2003 demand by 2030.

Integrated Energy Policy Report

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required CEC to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety" (PRC Section 25301[a]). This work culminated in the Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every 2 years and an update every other year. The most recent IEPR was adopted March 16, 2018. The 2017 IEPR provides a summary of priority energy issues currently facing the state, outlining strategies and recommendations to further the state's goal of ensuring reliable, affordable, and environmentally-responsible energy sources. Energy topics covered in the report include progress toward statewide renewable energy targets and issues facing future renewable development; efforts to increase energy efficiency in existing and new buildings; progress by utilities in achieving energy efficiency targets and potential; improving coordination among the state's energy agencies; streamlining power plant licensing processes; results of preliminary forecasts of electricity, natural gas, and transportation fuel supply and demand; future energy infrastructure needs; the need for research and development efforts to statewide energy policies; and issues facing California's nuclear power plants.

Renewables Portfolio Standard

The state passed legislation referred to as the Renewables Portfolio Standard (RPS) that requires increasing use of renewable energy to produce electricity for consumers. California utilities are required to generate 33 percent of their electricity from renewables by 2020 (SB X1-2 of 2011); 52 percent by 2027 (SB 100 of 2018); 60 percent by 2030 (also SB 100 of 2018); and 100 percent by 2045 (also SB 100 of 2018). More detail about these regulations is provided in Section 3.8, "Greenhouse Gas Emissions."

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030. It also establishes energy efficiency targets that achieve statewide, cumulative doubling of the energy efficiency savings in electricity and natural gas end uses by the end of 2030.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statues of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce greenhouse gas (GHG) emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

California Building Energy Efficiency Standards (Title 24, Part 6)

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Code was established by CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and to provide energy efficiency standards for residential and nonresidential buildings. CEC updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions.

The 2019 California Energy Code was adopted by CEC on May 9, 2018 and will apply to projects constructed after January 1, 2020. The 2019 California Energy Code is designed to move the state closer to its zero-net energy (ZNE) goals for new residential development. It does so by requiring all new residences to install enough renewable energy to offset all the electricity needs of each residential unit (CCR, Title 24, Part 6, Section 150.1[c]4). CEC estimates that the combination of mandatory on-site renewable energy and prescriptively-required energy efficiency standards will result in a 53-percent reduction in new residential construction as compared to the 2016 California Energy Code. Nonresidential buildings are anticipated to reduce energy consumption by 30 percent as compared to the 2016 California Energy Code primarily through prescriptive requirements for high-efficiency lighting (CEC 2018). The Energy Code is enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary due to local climatologic, geologic, or topographic conditions, provided that these standards exceed those provided in the California Energy Code.

Assembly Bill 32, Senate Bill 32, and Climate Change Scoping Plan and Update

In December 2008, CARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) of carbon dioxide equivalent (CO_2e) emissions, or approximately 21.7 percent from the state's projected 2020 emission level of 545 $MMTCO_2e$ under a business-as-usual scenario (this is a reduction of 47 $MMTCO_2e$, or almost 10 percent, from 2008 emissions). In May 2014, CARB released and has since adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate progress that has been made between 2000 and 2012 (CARB 2014). According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 (CARB 2014). The update also reports the trends in GHG emissions from various emission sectors (e.g., transportation, building energy, agriculture).

In August 2016, SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020, were signed into law. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction to at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order B-30-15 for 2030, which set the next interim step in the state's continued efforts to pursue the long-term target expressed in Executive Orders S-3-05 and B-30-15 of 80 percent below 1990 emission levels by 2050. Achievement of these goals will have the cobenefit of reducing California's dependency of fossil fuels and making land use development and transportation systems more energy efficient.

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and "substantially advance toward our 2050 climate goals" (CARB 2017:1, 3, 5, 20, 25–26). It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste). In 2015, electricity generation accounted for 11 percent of the state's GHG emissions. California plans to significantly reduce GHG emissions from the energy sector through the development of renewable electricity generation in the form of solar, wind, geothermal, hydraulic, and biomass generation. The state is on target to meet the SB X1-2 33-percent renewable energy target by 2020 and will continue to increase statewide renewable electricity to 60 percent by 2030 and to 100-percent carbon-free electricity by 2045, pursuant to SB 100 of 2018. Additionally, the state will further its climate goals through improving the energy efficiency of residential and nonresidential buildings by continual updates (i.e., every 3 years) to the California Energy Code, which contains mandatory and prescriptive energy efficiency standards for all new construction.

More details about the statewide GHG reduction goals and 2017 Scoping Plan measures are provided in the regulatory setting of Section 3.8, "Greenhouse Gas Emissions," of the Draft EIR.

Senate Bill 375 of 2008

SB 375, signed into law in September 2008, aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. It requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy or Alternative Planning Strategy, showing prescribed land use allocation in each MPO's Regional Transportation Plan. CARB, in consultation with the MPOs, is to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks for 2020 and 2035. Implementation of SB 375 will have the cobenefit of reducing California's dependency of fossil fuels and making land use development and transportation systems more energy efficient.

The San Luis Obispo Council of Governments (SLOCOG) serves as the MPO for San Luis Obispo County, where the project site is located. Under SB 375, SLOCOG adopted its most recent *2019 Regional Transportation Plan* (RTP) in June 2019. SLOCOG was tasked by CARB to achieve an 8-percent per capita reduction compared to 2005 emissions by 2020 and an 8-percent per capita reduction by 2035, both of which SLOCOG confirmed the region would achieve by implementing the 2014 RTP (SLOCOG 2019:13-1; CARB 2018:1). In March 2018, CARB promulgated revised targets tasking SLOCOG to achieve a 3-percent and an 11-percent per capita reduction by 2020 and 2035, respectively (CARB 2018:1).

Executive Order B-18-12: Green Building Action Plan

In April 2012, Executive Order B-18-12 was issued, which requires state agencies to implement green building practices to improve energy, water, and materials efficiency; improve air quality and working conditions for state employees; reduce costs to the state; and reduce environmental impacts from state operations. Among other actions, Executive Order B-18-12 requires state agencies to reduce agency-wide water use by 10 percent by 2015 and 20 percent by 2020, as measured against a 2010 baseline. The Executive Order directs new state buildings designed after 2025 to be constructed as ZNE facilities, with an interim target of 50 percent of new facilities beginning design after 2020 to be ZNE. The Executive Order also calls for state agencies to identify and pursue opportunities to provide electric vehicle charging stations at employee parking facilities in new buildings.

Senate Bill 743 of 2013

SB 743 of 2013 required that the Governor's Office of Planning and Research (OPR) propose changes to the State CEQA Guidelines to address transportation impacts in transit priority areas and other areas of the state. In response, Section 15064.3, which requires that transportation impacts no longer consider congestion but instead focus on the impacts of VMT, was added to the State CEQA Guidelines in December 2018. Agencies have until July 1, 2020, to implement these changes but can also choose to implement these changes immediately. In support of these changes, OPR published its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which recommends that the transportation impact of a project be based on whether the project would generate a level of VMT per capita (or VMT per employee or some other metric) that is 15 percent lower than that of existing development in the region (OPR 2017:12–13) or that a different threshold based on substantial evidence be used. OPR's technical advisory explains that this criterion is consistent with PRC Section 21099, which states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions" (OPR 2017:18). This metric is intended to replace the use of delay and level of service to measure transportation-related impacts. More detail about SB 743 is provided in the regulatory setting of Section 3.13, "Transportation."

CALIFORNIA STATE UNIVERSITY

California State University Sustainability Policy

In May 2014, the California State University (CSU) Board of Trustees adopted the first CSU systemwide Sustainability Policy. The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The CSU Sustainability Policy established the following goals related to energy:

- reduce GHG emissions to 1990 levels by 2020,
- reduce GHG emissions 80 percent below 1990 levels by 2040,
- procure 33 percent of energy supply from renewable sources by 2020,
- increase on-site energy generation from 44 to 80 megawatts by 2020, and
- promote use of alternative fuels and transportation programs.

Energy Use Index

Energy use is the primary metric used by the CSU to track progress toward energy conservation goals, referred to as the Energy Use Index (EUI). EUI represents total annual electricity and natural gas use per square foot of building space, measured in British thermal units per square foot. To normalize this metric between different CSU campuses, the square footage is adjusted to prorate or remove buildings and structures that are very low or zero energy users, such as parking structures, stadiums, and farm buildings such as barns and storage sheds. The last two CSU Executive Orders on energy and sustainability (i.e., 917 of 2004, 987 of 2006) established goals to reduce British thermal units per square foot by 15 percent over two consecutive 5-year periods. Cal Poly has met or exceeded these goals.

Executive Order 987

Executive Order 987 is the CSU Policy Statement on Energy Conservation, Sustainable Building Practices, and Physical Plant Management. Cal Poly operates under this Executive Order, which sets minimum efficiency standards for new construction and renovations, and establishes operating practices intended to ensure CSU buildings are used in the most energy efficient and sustainable manner possible while still meeting the programmatic needs of the University.

Cal Poly Climate Action Plan

The Cal Poly Climate Action Plan (PolyCAP) was prepared during the 2015-2016 academic year as a collaborative effort between Facilities Management and Development and Cal Poly's City and Regional Planning Department. The goal of the PolyCAP is to reduce Cal Poly's GHG emissions and to adapt the campus to a changing climate. The PolyCAP aims to exceed the CSU mandate (i.e., reduce GHG emissions to 80 percent below 1990 levels by 2040) and achieve net zero GHG emissions by 2050 (City & Regional Planning 410/411 Studio 2016:3). The following goals, objectives, and strategies related to the 2019 Master Plan are required by the PolyCAP to improve energy efficiency and renewable energy generation on campus:

- **Building (BDG) Goal 1:** Net zero structures and operations
  - **BDG Objective 1.1:** All new and retrofitted buildings reduce annual energy demand per gross square feet by at least 50 percent from that of the former building or similar type of building.

    - **BDG Strategy 1.1.1:** Require all new and retrofitted buildings to exceed Title 24 standards by 30 percent or meet LEED [U.S. Green Building Council's Leadership in Energy and Environmental Design] Platinum certification requirements.
    - **BDG Strategy 1.1.3:** Require all new and retrofitted buildings to use efficient electric appliances.
  - **BDG Objective 1.2:** Monitoring and energy-efficient behavior reduces energy use by 25-50 percent.
    - **BDG Strategy 1.2.1:** Implement comprehensive metering in all new and retrofitted buildings.
    - **BDG Strategy 1.2.2:** Increase and educate staff to operate and monitor buildings efficiently.
  - **BDG Objective 1.3:** Reduce 100 percent of emissions associated with building operations (after implementation of all other BDG strategies).
    - **BDG Strategy 1.3.1:** Require all new and retrofitted buildings to include rooftop solar panels with the largest feasible array.
    - **BDG Strategy 1.3.2:** Require all buildings to offset emissions from natural gas consumption.
    - **BDG Strategy 1.3.3:** Produce enough energy to meet remaining demand from buildings not slated for replacement or retrofit.
- **Campus Life (CL) Goal 2:** Climate Smart Campus Culture
  - **CL Objective 2.1:** Reduce energy usage of student residents by 20 percent by 2025.
    - **CL Strategy 2.1.2:** Keep utility usage 10 percent less than baseline.
- **Renewable Energy (RE) Goal 1:** Renewable energy sources efficiently power campus needs
  - **RE Objective 1.1:** Balance energy produced on campus and energy provided by PG&E to be Net Zero by 2050.
  - **RE Objective 1.2:** Increase the capacity and efficiency of the grid.
    - **RE Strategy 1.2.2:** Install a microgrid on campus.
- **RE Goal 2:** Implemented renewable energy practice on both campus land and buildings
  - **RE Objective 2.1:** Increase implementation of solar energy panels on existing infrastructure.
    - **RE Strategy 2.1.1:** Outfit parking structures with solar arrays on the top level.
    - **RE Strategy 2.1.3:** Install rooftop solar arrays on identified buildings.
  - **RE Objective 2.2:** Build renewable energy infrastructure on campus-owned land.
    - **RE Strategy 2.2.1:** Maximize the solar energy implementation effort to ensure a 5 megawatt array.
    - **RE Strategy 2.2.2:** Implement the Cal Poly Wind Farm.
    - **RE Strategy 2.2.3:** Research and implement new energy storage strategies.
- **Public-Private Partnership (PPP) Goal 2:** Energy efficient buildings
  - **PPP Objective 2.1:** Establish Net Zero structures.
    - **PPP Strategy 2.1.1:** Incorporate the use of photovoltaic systems.
  - **PPP Objective 2.2:** Exceed Title 24 energy efficiency requirements by 20 percent.
    - **PPP Strategy 2.2.1:** Orient workforce housing buildings to maximize passive cooling and heating.
  - **PPP Objective 2.3:** Increase the efficiency of building use by 25 percent.
    - **PPP Strategy 2.3.2:** Require energy efficient appliances.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

County of San Luis Obispo General Plan

The County of San Luis Obispo General Plan was adopted in 2010, amended in 2015, and includes the following policies related to energy (County of San Luis Obispo 2010):

- Policy AQ 1.1: Encourage compact land development by concentrating new growth within existing communities and ensuring complete services to meet local needs.
- Policy AQ 1.3: Require new development to provide safe and convenient access to alternative transportation within the project area and safe access to public transportation as feasible.
- Policy AQ 1.5: Improve the operating efficiency of the transportation system by reducing vehicle travel demand and expanding opportunities for multi-modal travel.
- Policy AQ 1.7: Encourage bicycle and pedestrian use by supporting the policies found in the Regional Transportation Plan, County Bikeways Plan, Land Use and Circulation Element, and County Parks and Recreation Element. In addition, support public and private efforts to facilitate bicycling and walking for transportation and recreation.
- Policy E 1.1: Meet our electricity needs through the following prioritized measures:
  - Increased conservation and efficiency in all sectors of energy use.
  - Development and use of locally appropriate sources of renewable resources from both distributed and large-scale projects.
  - Development of non-renewable sources of energy.
- Policy E 1.4: Increase the use of methane as an energy source from wastewater treatment plants and active and inactive, closed landfills.
- Policy E 1.5: Encourage waste-burning biomass facilities and conversion technologies as methods of producing electrical energy without endangering resource recovery programs where environmental and air quality are protect and the facility is compatible with adjoining uses.
- Policy E 3.1: Ensure that new and existing development incorporates renewable energy sources such as solar, passive building, wind, and thermal energy. Reduce reliance on non-sustainable energy sources to the extent possible using available technology and sustainable design techniques, materials, and resources.
- Policy E 3.2: Require the use of energy-efficient equipment in all new development, including but not limited to Energy Star appliances, high-energy efficiency equipment, heat recovery equipment, and building energy management systems.
- Policy E 3.3: Promote the use of renewable energy systems to pump and treat water and wastewater.
- Policy E 4.1: Integrate green building practices into the design, construction, management renovation, operations, and demolition of buildings, including publicly funded affordable housing projects, through the development review and building permitting process.
- Policy E 4.4: Orient new buildings to maximize solar resources, shading, ventilation, and lighting.
- Policy E 6.1: Promote the development of sustainable energy sources and renewable energy projects through streamlined planning and development rules, codes, processing, and other incentives.

- **Policy E 6.2:** Encourage and support the development of solar and wind power and other renewable energy systems as commercial energy enterprises.
- **Policy E 6.3:** Develop renewable energy resources in the county, include the safe, effective, and efficient use of small wind energy systems, solar power systems, passive solar buildings, and other renewable energy systems designed for onsite home, farm, and commercial use.
- **Policy E 6.6:** Encourage distributed energy resources to increase the efficiency of the power and transmission system and use of local renewable fuel sources.
- **Policy E 6.7:** Encourage cogeneration facilities as a method of reducing overall energy use.
- **Policy E 6.8:** Designate and protect areas that contain renewable energy resources such as wind, solar, geothermal, and small hydroelectric. Continue to explore and encourage the development of renewable energy resources through further streamlining actions.
- **Policy E 6.9:** Renewable energy is developed most effectively where sufficient renewable energy resources exist (e.g., solar energy requires a certain amount of sunlight to be efficient and wind energy requires a certain amount of wind). In areas were renewable energy resources have been identified and mapped pursuant to Policy E 6.8, renewable energy development is dependent on the mapped resource and shall be given high priority while balancing the protection of other environmental resources.

EnergyWise Plan

The EnergyWise Plan was adopted by the County of San Luis Obispo in 2011 and updated in 2016 to implement the goals established by the Conservation and Open Space Element of the County General Plan (County of San Luis Obispo 2016).

City of San Luis Obispo General Plan

The City of San Luis Obispo's General Plan includes the following policies related to energy (City of San Luis Obispo 2014):

- **Policy 4.3.1:** The City will employ the best available practices in energy conservation, procurements, use and production, and will encourage individuals, organizations and other agencies to do likewise. "Best available practices" means behavior and technologies that reflect recommendations of specialists and that use the least energy for a desired outcome, considering available equipment, life-cycle costs, social and environmental side effects, and the regulations of other agencies. Best available practices include use of sustainable sources. Sustainable sources are naturally renewed in a relatively short time and avoid substantial undesirable side effects.
- **Policy 4.3.4:** The City will promote the use of cost effective, renewable, non-depleting energy sources wherever possible, both in new construction projects and in existing buildings and facilities.
- **Policy 4.3.5:** The City will cooperate with Federal, State and local governments and other appropriate entities to accomplish energy conservation objectives throughout the state, and inform employees, its contractors, staff and the general public of the need for and methods of energy conservation.
- **Policy 4.3.6:** The City shall encourage energy-efficient "green buildings" as certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design Program or equivalent certification.
- **Policy 4.3.7:** The City's form will support energy efficiency and the use of sustainable energy sources.
- **Policy 4.4.1:** Residences, work places and facilities for all other activities will be located and designed to promote travel by pedestrians and bicyclists.
- **Policy 4.4.2:** The City's transportation and circulation systems shall foster travel by modes other than motor vehicles, including walking, bicycles and public transit.
- **Policy 4.5.1:** To encourage use of solar energy, reasonable solar access shall be provided and protected. The City will protect reasonable solar exposure for existing collectors and likely locations of future collectors, both active and passive.

- **Policy 4.5.4:** When solar collectors are proposed as part of a development, the development plan will locate solar collectors and include features to assure adequate solar access.
- **Policy 4.5.7:** Sites and buildings should be designed to avoid unwanted heat gain from solar exposure. Features that provide shading at suitable times of the day and year and generally should be "passive" or automatic, avoiding the need for occupants to regularly monitor or adjust them.
- **Policy 5.4.1:** The City will employ the best available practices in materials procurement, use and recycling, and will encourage individuals, organizations and other agencies to do likewise. "Best available practices" means behavior and technologies that, considering available equipment, life-cycle costs, social and environmental side effects, and the regulations of other agencies.
- **Policy 5.4.3:** The City will promote waste diversion and material recycling in private development, business and operations, and will encourage businesses or nonprofit entities to provide building materials recycling and source reduction services.

City of San Luis Obispo Climate Action Plan

The City adopted its Climate Action Plan in August 2012 and is currently updating its plan for 2035. The 2012 Climate Action Plan includes community strategies with the primary goal of reducing GHG emissions from six sectors: buildings, renewable energy, transportation and land use, water, solid waste, and parks and open space to achieve an overall reduction target for the year 2020 (City of San Luis Obispo 2012). Actions identified in the plan have the co-benefit of reducing energy consumption and increasing renewable energy generation.

3.6.2 Environmental Setting

ENERGY TYPES AND SOURCES

California relies on a regional power system comprised of a diverse mix of natural gas, renewable energy, hydroelectric, and nuclear generation resources. In 2014, approximately 35 percent of natural gas consumed in the state was used to generate electricity.

Gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet specific formulations required by CARB. Major petroleum refineries in California are concentrated in three counties: Contra Costa County in northern California, Kern County in central California, and Los Angeles County in southern California.

Power plants in California meet approximately 68 percent of the in-state electricity demand; hydroelectric power from the Pacific Northwest provides 12 percent, and power plants in the southwestern U.S. provide the remaining 20 percent (EIA 2014). The contribution of in- and out-of-state power plants depends on the precipitation that occurred in the previous year, the corresponding amount of hydroelectric power that is available, and other factors. Pacific Gas and Electric Company (PG&E) is the primary energy supplier in San Luis Obispo County. In 2017, PG&E derived 33 percent of its electricity from renewable sources (CPUC 2018:3).

Alternative Fuels

A variety of alternative fuels are used to reduce demand for petroleum-based fuel. Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many transportation fuels, including biodiesel, electricity, ethanol, hydrogen, natural gas/methane, propane, and renewable diesel.

California has a growing number of alternative fuel vehicles through the joint efforts of the CEC, CARB, local air districts, federal government, transit agencies, utilities, and other public and private entities. As of November 2019, San Luis Obispo County contained more than 260 alternative fueling stations (AFDC 2019).

Transportation Fuels

On-road vehicles use is about 90 percent of the petroleum consumed in California. Petroleum products (e.g., gasoline, diesel, jet fuel) account for almost 99 percent of the energy used in California by the transportation sector, with the rest provided by ethanol, natural gas, and electricity (Bureau of Transportation Statistics 2015). The California Department of Transportation (Caltrans) projected that 198 million gallons of gasoline and diesel were consumed in San Luis Obispo County in 2015, an increase of approximately 22 million gallons of fuel from 2010 levels (Caltrans 2008).

Vehicle Miles Traveled and Gasoline Consumption

As noted in the regulatory setting of this section, several state mandates and efforts, such as SB 375, seek to reduce VMT in California. Fuel consumption per capita in California decreased by nearly 11 percent from 2008 to 2011 (Bureau of Transportation Statistics 2015). Despite the progress in reducing per capita VMT and per capita fuel consumption, the continued projected increases in total fuel consumption and VMT can be attributed to the overall increase in population. In 2018, the daily VMT in San Luis Obispo County totaled 3,318,550, an increase of 4 percent over 2015 levels (Caltrans 2019, 2017). In 2019, the average fuel efficiency in San Luis Obispo County was 29.9 miles per gallon for a gasoline-powered light-duty vehicle and 23.2 miles per gallon for a gasoline-powered light-duty truck (CARB 2019).

CAMPUS ENERGY FACILITIES AND SERVICES

Cal Poly purchases approximately 92 percent of its electricity needs from PG&E and generates the remaining 8 percent from the 4.5-megawatt Gold Tree Solar Farm and on-site cogeneration. Natural gas at Cal Poly is provided by Southern California Gas Company. Cal Poly has one cogeneration facility in the residential areas of campus that provides combined heat and power to apartments.

Existing Campus Energy Consumption

Cal Poly's building energy consumption that was estimated as part of the PolyCAP is shown in Table 3.6-1, below. Electricity associated with building activities accounted for 40 percent of the total GHG emissions from the building sector, with the remaining 60 percent associated with building heating (PolyCAP Team 2015:12). The average daily VMT associated with student and employee commute was 261,174 in 2015 (PolyCAP Team 2015:10). The fuel consumption associated with the campus fleet is included in Table 3.6-2, below. Additionally, the PolyCAP forecasted future energy consumption associated with campus activities. Existing consumption levels are compared with projected levels in Tables 3.6-1 and 3.6-2, below.

Table 3.6-1 Existing and Projected Cal Poly Building Energy Consumption

Energy Type	Amount 2014	Amount 2035	Unit
Electricity	43,080,017	51,998,445	Kilowatt-hours
Natural Gas	2,329,402	2,458,458	Therms
Diesel	1,441	1,441	Therms
Propane	6,608	6,608	Gallons

Source: PolyCAP Team 2015

Table 3.6-2 Existing and Projected Cal Poly Campus Fleet Fuel Consumption

Fuel Type	Gallons 2015	Gallons 2035
Gasoline	49,715	56,713
Diesel	29,859	32,711
Propane	7,721	143

Source: PolyCAP Team 2015

3.6.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Construction- and operation-related energy consumption by the project, measured in megawatt-hours of electricity, therms of natural gas, gallons of gasoline, and gallons of diesel fuel, were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 computer program and fuel consumption rates obtained from CARB's Emission FACtors (EMFAC) model. Where project-specific information was not known, CalEEMod default values based on the campus location, were used.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considered continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. The following principles and programs are relevant to reducing energy consumption and increasing renewable energy generation:

- Guiding Principle (GP) 11: Cal Poly should be sustainable with regard to its land and resource planning, as well as site and building design, and operations. Cal Poly should meet or exceed all state and system-wide sustainability policies.
- Implementation Program (IP) 05: Cal Poly should continue its program of identifying areas for solar and other forms of renewable energy.
- IP 06: Cal Poly should continue its program of retrofitting older buildings for energy and water efficiency.
- IP 07: Cal Poly should investigate the use of reclaimed water and the use of grey water systems; and turf should be limited to high use areas only.
- IP 12: Cal Poly should incorporate pedestrian, bicycle and transit plans into a comprehensive and updated multi-modal active transportation plan designed consistent with leading standards.
- IP 14: As a regional leader in fostering active transportation, Cal Poly should partner with local, regional and national public and private organizations (including but not limited to the City, County, Caltrans, SLOCOG, RTA [San Luis Obispo Regional Transit Authority], Amtrak, and Union Pacific Railroad) to make San Luis Obispo a model for modal shift from single occupancy autos to a complete active transportation system.
- IP 20: Cal Poly should partner with the City to help develop off-campus bicycle improvements as prescribed in the City's bike plan and that improve connections between the campus and community.
- IP 21: Convenient bicycle routes throughout the campus, as well as bike parking located as near as practical to campus origins and destinations, should be provided to encourage bicycle use.
- IP 23: Cal Poly should continue to work with the City and RTA to make public transportation more convenient than automobile use through such improvements as shorter headways, increased evening and weekend services, and greater convenience for on-campus residents.
- IP 27: Any future or renovated parking facility should meet the certification standards of the Green Parking Council or similar organization.
- IP 28: Where activities are located beyond walking distance from the Academic Core, alternative transportation options should be provided.
- IP 29: If intra-campus shuttles or similar future services are provided, they should be low or zero emission (such as electric, CNG [compressed natural gas] or gas hybrid).

- **Other Recommendations (OR) 13:** Infrastructure development should maximize resource conservation, leverage current policy and practice in support of sustainable design, consider long-term return on energy investment, and establish a foundation for future revenue potential.
- **OR 14:** Cal Poly should strive to be a net zero campus by investing in renewable power and prioritizing on-campus generation.
- **OR 15:** Cal Poly should continue to exceed Title 24 CALGreen [California Green Building Energy Standards] requirements in new construction.
- **Transportation and Circulation (TC) 01:** Existing roads in the Academic Core, including North Perimeter, should be re-designed and managed to reflect mode priorities.
- **TC 02:** Single occupancy vehicle trips to campus should be reduced by increasing ride sharing and by substituting cars with active transportation options.
- **TC 04:** On-campus residential neighborhoods should have convenient access to public transportation.
- **TC 07:** Cal Poly should give higher priority to committing resources to active transportation and trip reduction measures over providing more parking on campus.
- **TC 08:** Conflicts among circulation modes should be avoided through such methods as separated routes, grade separated paths, traffic calming and intersection controls.
- **TC 09:** A multimodal transportation center should be planned and funded on the campus.

THRESHOLDS OF SIGNIFICANCE

The following significance criteria are based on Appendices F (Energy Conservation) and G of the CEQA Guidelines, under which the project would have a significant adverse energy impact if it would:

- result in the wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources during project construction or operation; or
- conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

ISSUES NOT DISCUSSED FURTHER

All issues related to energy listed under the significance criteria above are addressed in this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: Result in the Wasteful, Inefficient, or Unnecessary Consumption of Energy or Wasteful Use of Energy Resources

Construction and operation of new and renovated buildings and facilities under the 2035 Master Plan would result in consumption of fuel (gasoline and diesel), electricity, and natural gas. Energy consumption associated with construction would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. Through adherence to and exceedance of current building code requirements, energy consumption associated with operation of new buildings and facilities under the 2035 Master Plan would not result in wasteful, inefficient, or unnecessary consumption of energy. Transportation-related energy associated with project implementation would be reduced on a per-service-population basis as compared with existing conditions. For these reasons, this impact would be **less than significant.**

Appendix G of the State CEQA Guidelines requires the consideration of the energy implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient, and unnecessary energy usage” (PRC Section

21100[b][3]). Neither the law nor the State CEQA Guidelines establish criteria that define wasteful, inefficient, or unnecessary use. Compliance with the California Energy Code would result in energy-efficient buildings. However, compliance with the California Energy Code does not address all potential energy impacts during construction and operation of the project. Energy use is discussed by project component below.

Construction-Related Energy

Energy would be required to demolish, renovate, and construct each project within the 2035 Master Plan. Energy would also be required to operate and maintain construction equipment and to produce and transport construction materials. The one-time energy expenditure required to construct buildings would be nonrecoverable. Most energy consumption would result from the use of construction equipment and vehicle trips associated with commutes by construction workers and haul trucks carrying supplies. The modeled level of energy consumption associated with construction would be 583,989 gallons of gasoline and 676,450 gallons of diesel fuel. Details about construction phasing can be found in Appendix C. The energy needs for project construction would be temporary and would not require additional capacity or increase peak or base period demands for electricity or other forms of energy. This impact would be less than significant.

Table 3.6-3 shows the amount of gasoline and diesel consumption associated with project construction by year.

Table 3.6-3 Construction-Related Energy Consumption for All Land Uses under the 2035 Master Plan

Construction Years	Gasoline (gal/year)	Diesel (gal/year)
2021–2024	263,081	295,715
2026–2026	37,403	65,611
2027–2029	89,754	103,416
2030–2032	89,902	102,283
2033–2035	103,850	109,426
Total (All Vehicle Types)	**583,989**	**676,450**

Note: gal/year = gallons per year.

Source: Calculations by Ascent Environmental in 2019

Building Energy

The operation of new buildings and facilities would result in the consumption of electricity and natural gas for lighting, space heating, and water heating. Indirect energy use would include wastewater treatment; water pumping, treatment, and distribution; and solid waste removal. Electrical and natural gas service is provided by PG&E as well as onsite generation of renewables, including a 4.5-megawatt solar photovoltaic system and a 500-kilowatt cogeneration facility.

All new buildings on the campus would be constructed in accordance with the most recent building code (i.e., California Energy Code) at the time of construction, which includes energy efficiency requirements. Additionally, implementation of the Guiding Principles of the 2035 Master Plan would seek to retrofit older buildings to improve energy efficiency, exceed the California Energy Code for new buildings, and increase on-site renewable energy generation. Further, all project buildings would be designed to achieve a 30-percent reduction in energy use from compliance with the 2019 California Green Building Standards Code pursuant to Mitigation Measure 3.8-1. Mitigation Measure 3.8-1 in Section 3.8, "Greenhouse Gas Emissions," includes several energy-reducing actions, such as installing energy-efficient appliances, high-efficacy lighting, and electric-powered space and water heating.

Table 3.6-4 compares the annual amount of operational energy consumed for all new and renovated buildings and facilities at full buildout with and without the 2035 Master Plan. Compliance with the 2019 CALGreen standards would reduce electricity and natural gas consumption associated with buildings constructed under the 2035 Master Plan by 30 percent.

Implementation of the 2035 Master Plan would result in more electricity consumption on a per-service-population basis, but all electricity associated with buildings constructed under the 2035 Master Plan would be powered by 100-percent renewable electricity through on-site generation. Additionally, electricity provided to the University will continue to become cleaner as the state's RPS targets become more stringent, with 100 percent carbon-free electricity by 2045.

Per service population natural gas consumption (6.86 million British thermal units [MMBTU]/service population) would decrease under the 2035 Master Plan when compared with existing conditions (7.09 MMBTU/service population). This trend is similar to the statewide trend of decreased natural gas consumption from new buildings due to more stringent California Energy Code requirements. Natural gas per service population calculations can be found in Appendix C.

Table 3.6-4 Operational Energy Consumption for All Land Uses under the 2035 Master Plan

Energy Type	Energy Consumption Without Plan	Energy Consumption With Plan	Units
Electricity	35,452	33,197	MWh/year
Natural Gas	42,568	33,237	MMBTU/year

Notes: MWh/year = megawatt-hours per year; MMBTU/year = million British thermal units per year.

Source: Calculations by Ascent Environmental in 2019

Transportation Energy

Fuel estimates were calculated from the combination of consumption rates and fuel mix by vehicle class from CARB's EMFAC2017 model with overall VMT and mode share by vehicle class modeled for the project in CalEEMod (see Section 3.3, "Air Quality," and Appendix C of this EIR). State and federal regulation regarding standards for vehicles in California are designed to reduce wasteful, unnecessary, and inefficient use of energy for transportation.

The project would include on-campus pedestrian and bicycle features and enhanced transit services that would promote use of these modes over vehicles, and Cal Poly would continue to enforce policies that reduce on-campus parking and vehicle use for all students. Various parking facilities may be constructed to replace surface parking lots displaced by development, but the project would result in no appreciable increase in parking spaces on campus (with only 174 additional parking spaces proposed under the 2035 Master Plan). Table 3.6-5 shows the annual amount of gasoline and diesel consumption associated with project-generated VMT at full buildout of the 2035 Master Plan.

Table 3.6-5 Gasoline and Diesel Consumption in 2035

Vehicle Category	Gasoline (gal/year)	Diesel (gal/year)
Passenger Vehicles	702,125	5,559
Trucks	153,236	138,658
Buses	4,803	5,776
Other Vehicles	2,459	735
Total (All Vehicle Types)	**862,623**	**150,729**

Note: gal/year = gallons per year.

Source: Calculations by Ascent Environmental in 2019

Table 3.6-6 compares the fuel consumption and VMT per service population associated with existing conditions and existing conditions with the project.

As a result of Master Plan principles and design features that would promote multi-modal transportation and reduce reliance on the automobile, the increase in VMT associated with the project would result in an increase in VMT per service population efficiency as compared to existing conditions. Specifically, VMT per service population associated with the new student population and the entire campus population would be lower than current conditions. In addition, the VMT reduction associated with Cal Poly campus would also result in VMT reductions within the county. See Section 3.13, "Transportation," for more details. Similarly, transportation-related fuel efficiency (per service population) would increase as a result of the project. That is, VMT on a per-person basis would decrease as a result of the Master Plan. Thus, fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary and, in fact, would become more efficient as a result of the project. Operational energy consumptions would be less than significant.

Table 3.6-6 Fuel Consumption and VMT per Service Population, Existing Conditions and Project Buildout

	Existing Conditions	Existing With Project Buildout
Daily Vehicle Miles Traveled	957,900	1,090,800
Daily Fuel Consumption (gallons)	27,341	31,134
Service Population	32,840	44,970
Daily Vehicle Miles Traveled per Service Population	29.17	24.26
Daily Fuel Consumption per Service Population	0.83	0.69
Improved Fuel Efficiency per Service Population	**16.5%**	

Source: Calculations by Ascent Environmental in 2019

Summary

The project would increase energy demand during temporary construction activities for new buildings and facilities. Construction activities would not increase long-term, ongoing demand for energy or fuel because Master Plan buildout is anticipated to last 15 years and would be both temporary and intermittent. Electric-powered equipment would be supported by on-site generators and would not use off-site power sources. Additionally, implementation of Mitigation Measures 3.3-2a and 3.3-2b in Section 3.3, Air Quality, would reduce fuel consumption through the use of idling restrictions, electric equipment, and higher-rated tiers of diesel engines and would increase the use of alternative forms of energy, such as high-performance renewable diesel.

According to the State CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on oil, and increasing reliance on renewable energy sources.

All buildings constructed under the 2035 Master Plan would, at a minimum, comply with the California Energy Code in effect at the time of construction and with the CCR requirements for energy efficiency. With implementation of Mitigation Measure 3.8-1 (see Section 3.8, "Greenhouse Gas Emissions"), project buildings would reduce energy consumption by 30 percent as compared to the 2019 California Energy Code requirements. Additionally, Mitigation Measure 3.8-1 in Section 3.8, Greenhouse Gas Emissions, calls for all electricity consumption associated with buildings constructed under the 2035 Master Plan to be offset by on-site renewable energy generation. VMT and fuel consumption per service population under the existing-plus-project condition would be lower than VMT and fuel consumption per service population under existing conditions. Because the project would reduce transportation-related energy consumption as compared with existing conditions, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.6-2: Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency

Renewable energy generation from the implementation of Mitigation Measure 3.8-1, in Section 3.8, Greenhouse Gas Emissions, would result in an increase in renewable energy use, which would directly support the goals and strategies in the state's *2008 Update Energy Action Plan* (EAP) and the CSU Sustainability Policy. Construction and operating project buildings in compliance with the 2019 California Energy Code or later iterations of the code would improve energy efficiency compared to buildings built to earlier iterations of the code. Therefore, construction and operation of the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **No impact** would occur.

Relevant plans that pertain to the efficient use of energy include the EAP, which focuses on energy efficiency; demand response; renewable energy; the supply and reliability of electricity, natural gas, and transportation fuels; and achieving GHG reduction targets (CEC and CPUC 2008); as well as the CSU Sustainability Policy, which seeks to increase on-site renewable energy generation, exceed RPS requirements, increase energy efficiency, and provide alternative transportation and use alternative fuels to meet GHG reduction goals (CSU 2014).

As discussed in Impact 3.6-1, although implementation of the 2035 Master Plan has the potential to result in the overall increase in consumption of energy resources during construction and operation of new buildings and facilities, implementation of Mitigation Measure 3.8-1 would ensure various energy conservation and production features would be incorporated into new development under the 2035 Master Plan including the installation of renewable energy features, that all buildings be built to Tier 2 of the California Green Building Standards Code, or other similar CSU standards, which would align with the EAP and CSU Sustainability Policy. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **No impact** would occur.

Mitigation Measures

No mitigation is required.

3.7 GEOLOGY AND SOILS

This section describes current conditions relative to geology, soils, and paleontological resources at and in the vicinity of the Master Plan Area and analyzes potential environmental impacts related to these topics. Mitigation measures are included where significant impacts were identified.

No comments related to geology and soils were received during public review of the Notice of Preparation (NOP).

3.7.1 Regulatory Setting

FEDERAL

National Earthquake Hazards Reduction Act

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities.

STATE

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (PRC Section 2621-2630) intends to reduce the risk to life and property from surface fault rupture during earthquakes by regulating construction in active fault corridors, and by prohibiting the location of most types of structures intended for human occupancy across the traces of active faults. The act defines criteria for identifying active faults, giving legal support to terms such as active and inactive, and establishes a process for reviewing building proposals in Earthquake Fault Zones. Under the Alquist-Priolo Act, faults are zoned and construction along or across these zones is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the act as within the last 11,000 years). A fault is considered well defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Bryant and Hart 2007). Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The intention of the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including ground shaking, liquefaction, and seismically induced landslides. The act's provisions are similar in concept to those of the Alquist-Priolo Act: The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development.

California Building Code

The California Building Code (CBC) (24 CCR) is based on the International Building Code. The CBC has been modified from the International Building Code for California conditions, with more detailed and/or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, while Chapter 18A regulates construction on unstable soils, such as expansive soils and areas subject to liquefaction. Appendix J of the CBC regulates grading activities, including drainage and erosion control. The CBC contains a provision that provides for a preliminary soil report to be prepared to identify "the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects" (CBC Chapter 18 Section 1803.1.1.1).

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (PRC Sections 2710–2796) provides for the classification of non-fuel mineral resources in the state to show where economically significant mineral resources occur or are likely to occur. Classification is carried out under the Mineral Land Classification Project under the direction of the State Geologist. Once lands have been classified, they may be designated by the State Mining and Geology Board as mineral-bearing areas of statewide or regional significance if they are in areas where urban expansion or other irreversible land uses may occur that could restrict or preclude future mineral extraction. Designation is intended to prevent future land use conflicts and occurs only after consultation with lead agencies and other stakeholders.

The California Department of Conservation, Division of Mines and Geology has developed guidelines for the classification and designation of mineral lands. These guidelines contain information on what are known as Mineral Resource Zones (MRZs), which together comprise a system of classifying lands based on their economic importance (DOC 1989). The MRZ system consists of four categories into which lands may be classified based on the degree of available knowledge about the resource, and the level of economic significance of the resource:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence
- MRZ-3: Areas containing mineral deposits for which the significance cannot be determined from available data
- MRZ-4: Areas where available information is inadequate for assignment of any other MRZ category

California Onsite Wastewater Treatment Standards

Assembly Bill 885 amended California Water Code Section 13290, which required the State Water Resources Control Board (SWRCB) to develop statewide standards for permitting and operation of Onsite Wastewater Treatment Systems, septic systems. The SWRCB adopted the Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Systems which became effective on May 13, 2013. This policy established a statewide risk-based tiered approach for the regulation and management of Onsite Wastewater Treatment Systems.

California State University Seismic Policy

California State University (CSU) Seismic Requirements were established to implement the Seismic Policy set by the Board of Trustees. The CSU Seismic Policy applies to all structures within the bounds of a CSU campus master plan. Planning for all projects shall address the options considered to improve seismic performance beyond minimally required code conformance. The basis for determination of the selected option shall be documented. The CSU Seismic Requirements address many special conditions, including geotechnical investigations, modular buildings, pre-engineered structures, temporary use of buildings, voluntary retrofits, use of engineered wood products, and designated seismic systems. Design professionals are expected to directly notify the CSU construction manager and seismic peer reviewer of potential construction changes or modification to the approved design documents that could substantively impact expected structural performance and, where appropriate, directly contact the Seismic Peer Reviewer for consideration of and concurrence with the changes as specific conditions warrant.

California Public Resources Code, Section 5097.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

San Luis Obispo County General Plan

The San Luis Obispo County (County) General Plan is the foundation upon which all land use decisions for unincorporated county lands are based. Its main purposes are to illustrate the public policy for future land use for both public and private lands, and to provide the County Board of Supervisors, Planning Commission, Subdivision Review Board and Zoning Administrator (Hearing Officer) with specific direction for future decisions affecting land use development. The County General Plan Safety Element establishes policies and programs to protect the community from risks associated with geologic hazards, earthquakes, and other natural disasters (County of San Luis Obispo 1999). The County General Plan Conservation and Open Space Element incorporates policies for the conservation of significant paleontological resources (County of San Luis Obispo 2010).

San Luis Obispo County Code, Title 19 – Septic

Title 19 of the San Luis Obispo County Code includes regulations related to septic tanks and leach area systems. As outlined in San Luis Obispo County Code Section 19.07(3)(a), septic tank and leach area systems shall be used only where the proposed site can maintain subsurface disposal, and satisfy various standards outlined in this section. For instance, septic tanks can only be use when the proposed site for soil absorption disposal area shall be free from soils or formations containing continuous channels, cracks or fractures, unless a setback distance of at least 250 feet to any domestic water supply well or surface water is assured. Further, septic tanks or leaching systems installed on slopes of 20 percent or more shall be designed and installation certified by a registered engineer, designed to minimize grading disruption associated with access for installation and maintenance. Per Section 19.07(3)(a) of the San Luis Obispo County Code, no soil absorption sewage disposal area shall be located where the natural slope is 30 percent or greater.

City of San Luis Obispo General Plan

The City of San Luis Obispo (City) General Plan was adopted in December 9, 2014, to guide the use and protection of various resources to meet community purposes. The City's General Plan Safety Element incorporates policies regarding various safety topics, including earthquakes and other geologic hazards, such as surface rupture, ground shaking, and settlement and liquefaction (City of San Luis Obispo 2014a). One policy regarding paleontological resources is also incorporated in the Conservation and Open Space Element (City of San Luis Obispo 2014b).

3.7.2 Environmental Setting

REGIONAL GEOLOGY

The Master Plan Area is located just southwest of Garcia Mountain and the La Panza Mountain Range in the Coast Ranges Geomorphic Province of California. The Coast Ranges Geomorphic Province consists of land between the Pacific Ocean and the Sacramento–San Joaquin Valley and trends northwesterly along the California coast for approximately 600 miles between Santa Maria and the southern border of Oregon (California Geological Survey 2015). The La Panza Mountain Range is approximately 30 miles long and runs from northwest to southeast between the Santa Lucia Range to the west and the Temblor Range to the east, with peaks at approximately 4,054 feet above mean sea level.

LOCAL GEOLOGY

The western portion of San Luis Obispo County, including the city of San Luis Obispo, is primarily underlain by Jurassic period (approximately 180-million-year-old) rocks of the Franciscan complex, comprised of a mixture of igneous, metamorphic, and sedimentary rocks (DOC 2010). Cretaceous and Tertiary sedimentary rocks in the Monterey and Pismo formations overlie the Franciscan complex in many parts of the San Luis Obispo area. The most distinctive morphological feature in the area is a chain of 14 Tertiary volcanic remnants that extend northwesterly from the city of San Luis Obispo to the city of Morro Bay, terminating in the prominent visual landmark of Morro Rock. Other notable features of the chain of volcanic remnants include Hollister Peak, Bishop Peak, and Cerro San Luis Obispo, which are located approximately 1.5, 2.0, and 7.5 miles southwest of the campus, respectively.

TOPOGRAPHY AND DRAINAGE

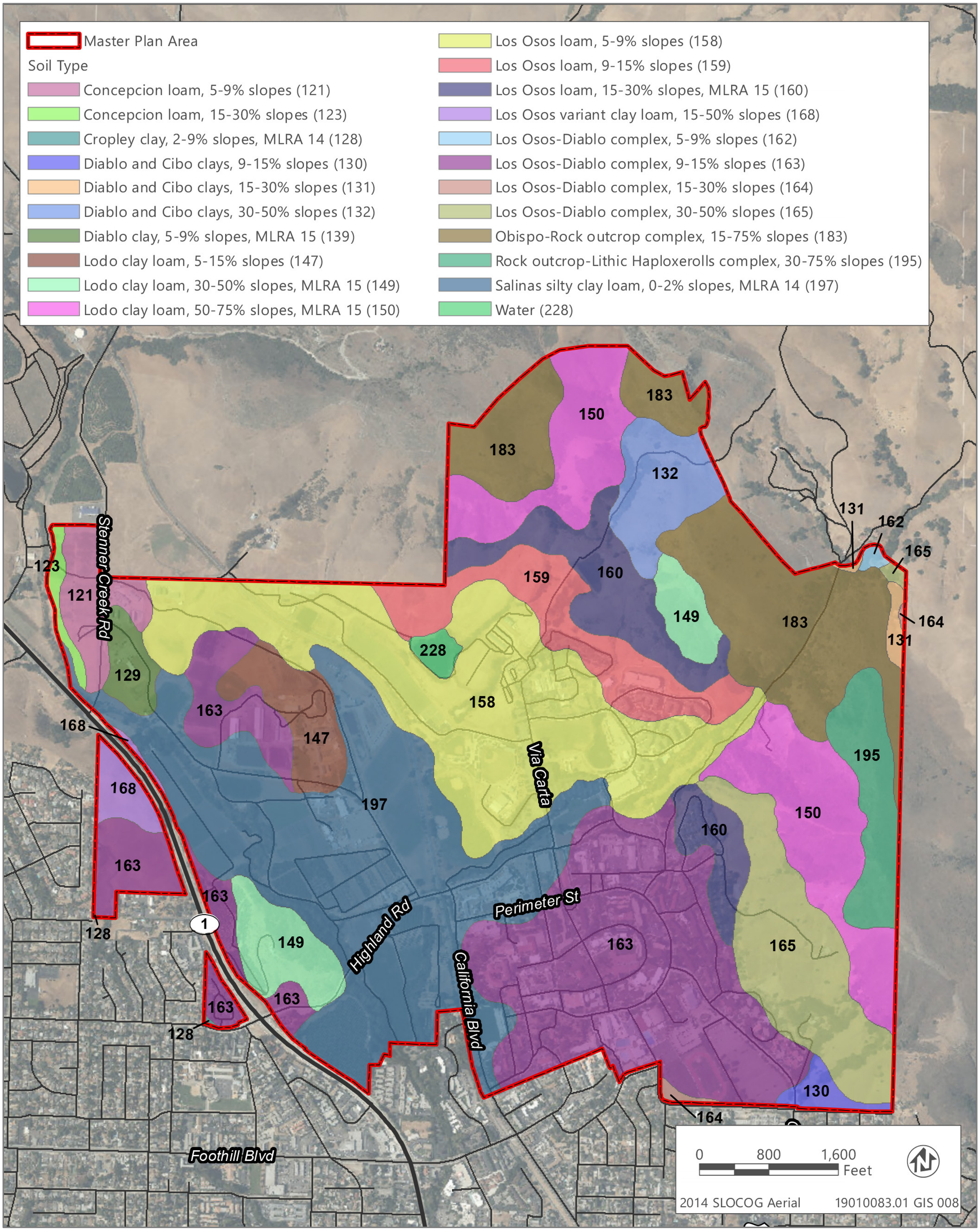
Topography varies throughout the Master Plan Area. While various rolling hills are present throughout the Master Plan Area, the campus is generally flat. However, steep hills are located in the north and east of the Master Plan Area, within the West, East, and North Campus subareas. Although the majority of the stormwater within the main campus drains into Brizzolara Creek, stormwater runoff from portions of the West Campus subarea drain into Stenner Creek. Both creeks ultimately drain into the Pacific Ocean.

GROUNDWATER

The majority of the Master Plan Area lies within the Stenner Creek Subbasin within the San Luis Obispo Creek Basin, which serves as an important groundwater recharge area for the San Luis Obispo Creek Basin (California Polytechnic State University 2015). Local groundwater is provided via seven agricultural wells on site, owned and operated by the University. A portion of the West Campus subarea is located within the San Luis Obispo Valley Basin, designated as a high priority basin by the California Department of Water Resources (County of San Luis Obispo 2019). For more information groundwater in the plan area, refer to Section 3.9, "Hydrology and Water Quality," of this EIR.

SOILS

The campus is underlain by various soil types, ranging from 0 to 75 percent slope, low to high shrink-swell potential, and slight to very high erosion hazard. The suitability of these soil types for development varies, as does the potential for geologic hazards. A discussion of soil characteristics associated with the campus is provided in Table 3.7-1, and soils are also shown in Figure 3.7-1.



Source: Data downloaded from the NRCS in 2019

Figure 3.7-1 Soils in the Master Plan Area

Table 3.7-1 Summary of Soil Characteristics

Soil Group	Description	Shrink-Swell Potential	Erosion Hazard
Concepcion loam	Very deep soil, moderate drainage, permeability very slow, runoff medium to moderate hazard	High	Moderate
Concepcion loam	Deep to moderate soil, well drained, permeability very slow	High	Moderate to high
Cropley clay	Drains moderately well, potential for soil compaction	High	Slight
Diablo clay	Deep soil, drains well	High	Slight to moderate
Diablo and Cibo clay	Deep soil, drains well, slow permeability	High	Moderate
Lodo clay loam	Somewhat excessively drained, moderate permeability	Moderate to high	Moderate
Lodo clay loam	Excessively drained, moderate permeability	Low	High
Lodo clay loam	Shallow soil, excessively drained, very steep, moderate permeability	Moderate to high	High
Los Osos loam	Moderate to deep soil, drains well	High	Moderate
Los Osos loam	Moderate to deep soil, drains well	High	High
Los Osos-Diablo complex	Moderately deep soil, drains well, permeability slow, runoff medium	High	Moderate
Los Osos-Diablo complex	Moderately deep soil, drains well, permeability slow	High	High
Los Osos variant clay loam	Moderately deep, drains well, high runoff	High	Moderate
Salinas silty clay loam	Very deep soil, drains well, permeability slow	Moderate	Slight

Source: USDA 2019

SUBSIDENCE

Land subsidence is the gradual settling or sinking of an area with very little horizontal motion. Subsidence can be induced by both natural and human phenomena. Natural phenomena include shifting of tectonic plates and dissolution of limestone resulting in sinkholes. Subsidence related to human activity includes pumping water, oil, and gas from underground reservoirs; collapse of underground mines; drainage of wetlands; and soil compaction.

Land subsidence in California is a problem that has been acknowledged and is tied to groundwater pumping. Since 2009, the California Statewide Groundwater Elevation Monitoring Program has tracked seasonal and long-term groundwater elevation trends in groundwater basins statewide (California Department of Water Resources 2019). The San Luis Obispo County Flood Control and Water Conservation District, through the San Luis Obispo County Public Works Water Resources Division, manages the countywide groundwater monitoring program that measures groundwater levels in over 300 wells within San Luis Obispo County. These groundwater level monitoring wells also monitor potential subsidence (County of San Luis Obispo Public Works Department 2018).

EXPANSIVE SOILS

Expansive soils (also known as shrink-swell soils) are soils that contain expansive clay minerals that can absorb significant amounts of water. The presence of these clay minerals makes the soil prone to large changes in volume in response to changes in water content. When an expansive soil becomes wet, water is absorbed and it increases in volume, and as the soil dries it contracts and decreases in volume. This repeated change in volume over time can produce enough force and stress on buildings, underground utilities, and other structures to damage foundations, pipes, and walls. The quantity and type of expansive clay minerals affects the potential for the soil to expand or contract. Where native soils still exist, soil types may be expected to be similar to those of the nearby areas. As shown in Table 3.7-1, soil types range in shrink-swell potential from low to high.

One measure of the shrink-swell potential of soils is linear extensibility. Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. The volume change is reported as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent, moderate if 3 to 6 percent, high if 6 to 9 percent, and very high if more than 9 percent. The Natural Resources Conservation Service (NRCS) has prescribed linear extensibility ratings to most soil series in California. As shown in Figure 3.7-2, the majority of soils in the plan area exhibit a range in linear extensibility from moderate to high, while a small area within the northwestern portion of the Master Plan Area exhibits very high linear extensibility (USDA 2019).

SEISMICITY

Most earthquakes originate along fault lines. A fault is a fracture in the Earth's crust along which rocks on one side are displaced relative to those on the other side due to shear and compressive crustal stresses. Most faults are the result of repeated displacement that may have taken place suddenly and/or by slow creep (Bryant and Hart 2007). The State of California has a classification system that designates faults as either active, potentially active, or inactive, depending on how recently displacement has occurred along them. Faults that show evidence of movement within the last 11,000 years (the Holocene geologic period) are considered active, and faults that have moved between 11,000 and 1.6 million years ago (comprising the later Pleistocene geologic period) are considered potentially active.

A review of available published geologic and seismic hazards maps indicates that there are various known active faults identified within the proximity of the campus. The nearest active faults that have the greatest potential to affect the campus during a seismic event include the Los Osos, Hosgri, Rinconada, and the San Andreas Faults, which are located approximately 5 miles west, 19 miles west, 20 miles east, and 40 miles east of the campus, respectively. Potentially active faults near the project site also include Cambria Fault, West Huasna Fault, and Edna Fault (see Figure 3.7-3). The campus is not located within an Alquist-Priolo Fault Zone, as defined in the Alquist-Priolo Earthquake Fault Zoning Act, which is designed to prohibit the construction of structures for human occupancy across active faults. Table 3.7-2 lists some of the active and potentially active faults in relatively close proximity to the Master Plan Area.

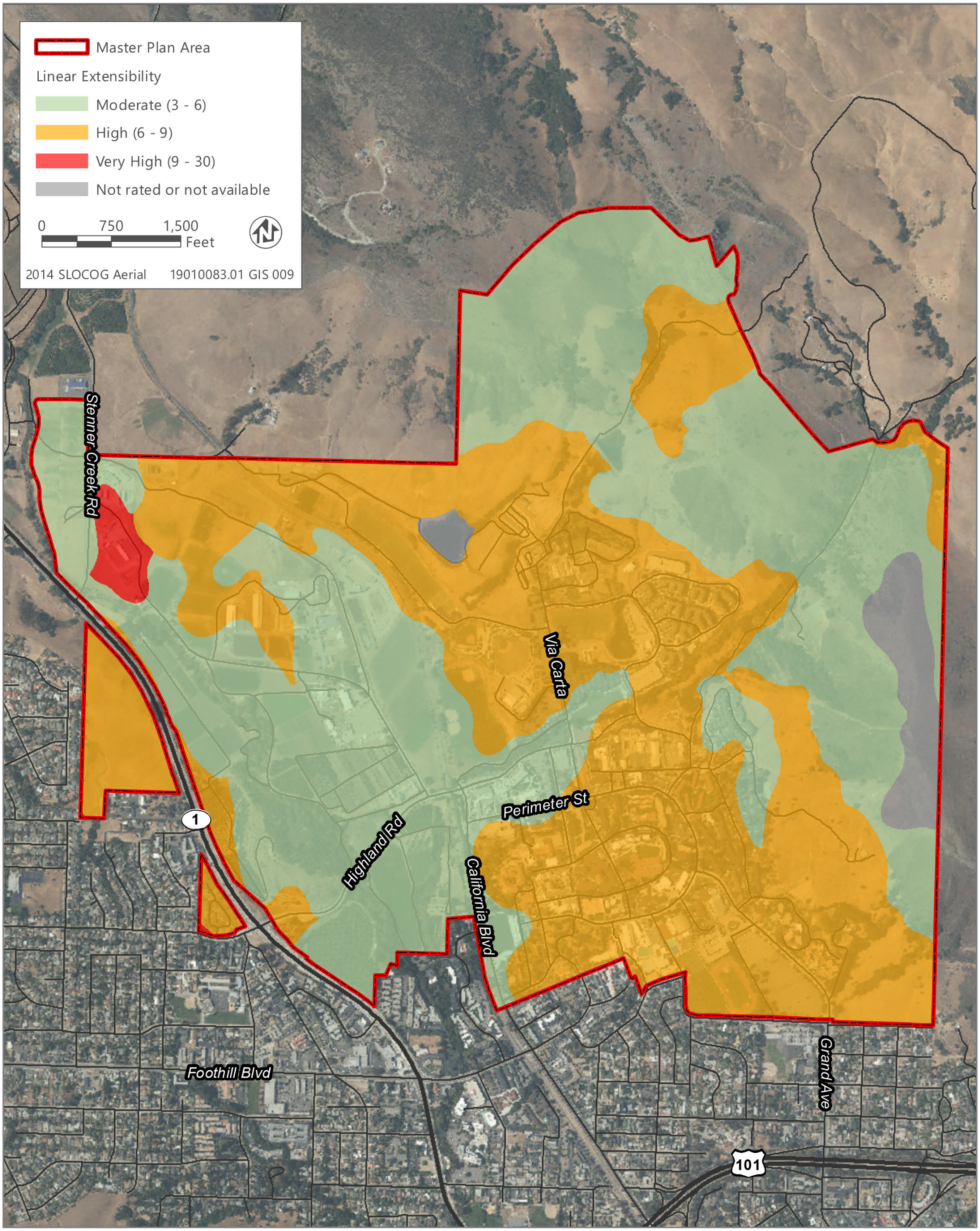
Table 3.7-2 Active Faults Within 100 Miles of the Master Plan Area

Fault Name	Distance from Fault to Project Site (Miles)	Age of Movement	Characteristic Earthquake (moment magnitude)
Los Osos Fault	5 miles west	Within the least 11,000 years	6.75
Hosgri Fault	19 miles west	Every 200 to 800 years	7.2 to 7.7
Rinconada Fault	20 miles east	Approximately 0.5 to 1 million years ago	Not available
San Andreas Fault	40 miles east	1857	7.9

Sources: Jennings and Bryant 2010; Pacific Gas and Electric Company 2011; U.S. Geological Survey 2019

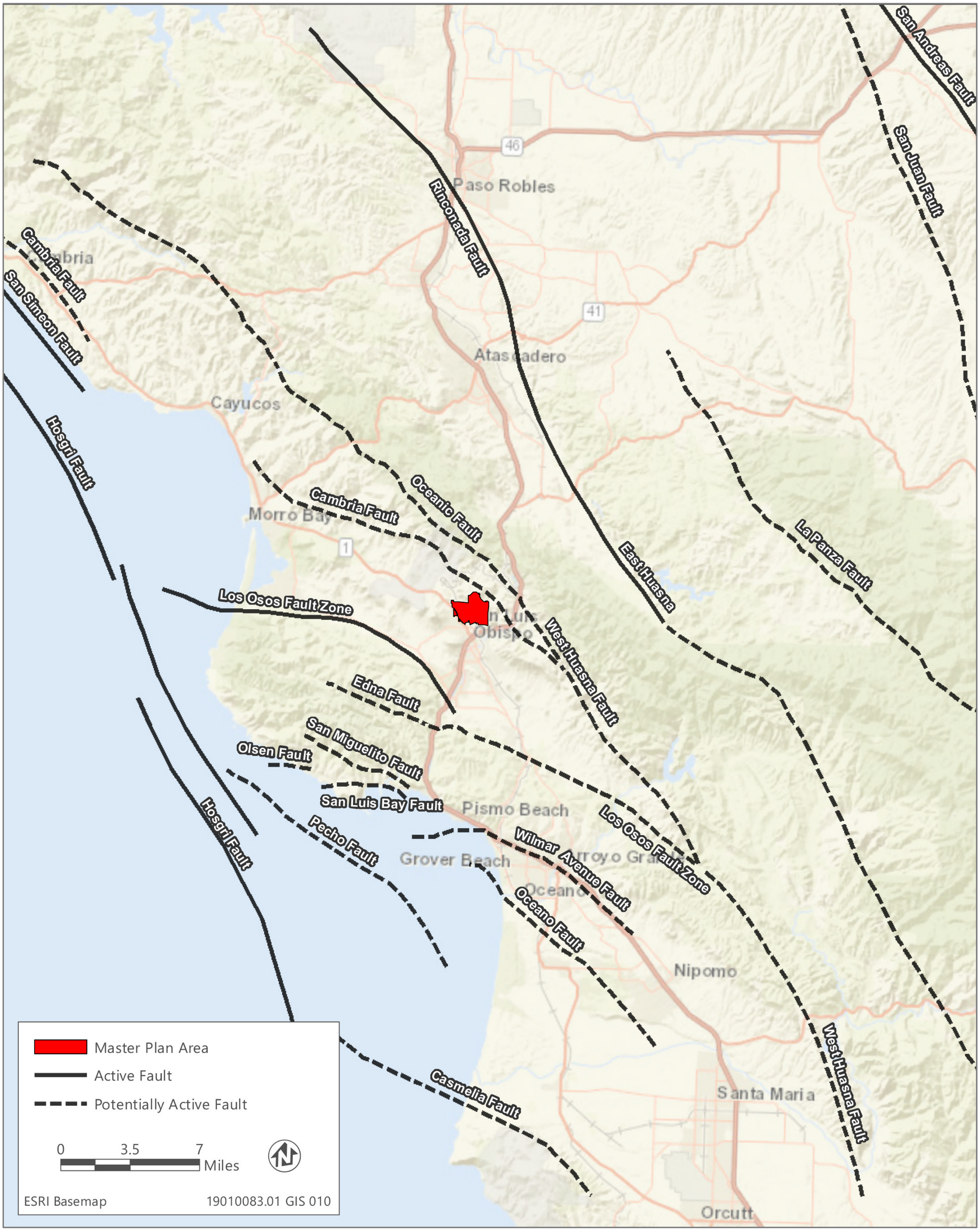
The San Andreas Fault is considered to be the most likely source of a future major earthquake in California. There are segments along the fault where no large earthquakes have occurred for long intervals of time. Studies conducted by the U.S. Geological Survey show that large earthquakes have occurred at about 150-year intervals on the southern San Andreas Fault. As the last large earthquake on the southern San Andreas occurred in 1857, that section of the fault is considered a likely location for an earthquake in the next few decades (U.S. Geological Survey 2016).

Seismic hazards resulting from earthquakes include surface fault rupture, ground shaking, and liquefaction. Each of these potential hazards is discussed below.



Source: Data downloaded from the NRCS in 2019

Figure 3.7-2 Linear Extensibility (Shrink-Swell Potential) of Soils in the Master Plan Area



Source: Data downloaded from the NRCS in 2019

Figure 3.7-3 Faults in the Vicinity of the Master Plan Area

Surface Fault Rupture

Surface rupture is the surface expression of movement along a fault. Structures built over an active fault can be torn apart if the ground ruptures. The potential for surface rupture is based on the concepts of recency and recurrence. Surface rupture along faults is generally limited to a linear zone a few meters wide. The Alquist-Priolo Act (see the Regulatory Setting discussion above) was created to prohibit the location of structures designed for human occupancy across, or within 50 feet of, an active fault, thereby reducing the loss of life and property from an earthquake. The project site is not located within an Alquist-Priolo active fault zone (Bryant and Hart 2007). However, as shown in Table 3.7-2, above, there are various active faults in proximity of the project site.

Ground Shaking

The intensity of seismic shaking, or strong ground motion, during an earthquake is dependent on the distance and direction from the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions of the surrounding area. Ground shaking could potentially result in the damage or collapse of buildings and other structures. The probable seismic ground shaking expected at the project site is anticipated to produce peak ground accelerations (PGA) between 10 and 20 percent of the acceleration of gravity (g): 0.11 g and 0.27 g, respectively (DOC 2019). PGA is expressed as "g," representing the acceleration due to Earth's gravity (g-force). Earthquake intensities generally associated with this amount of ground shaking are typically between VI and VII on the Modified Mercalli Intensity Scale (MMI) (Table 3.7-3). A historic record search indicates that approximately 46 earthquakes with magnitudes of 5.0 or greater have occurred within 65 miles of the campus between 1800 and 2016. The highest reported PGA on campus is 0.269 g. The earthquake that resulted in this peak PGA on campus occurred in 1906 approximately 2.8 miles northwest of the campus and had a reported 5.9 magnitude. This was also the closest reported earthquake to the campus to date. The largest magnitude earthquake reported was a 7.9 magnitude earthquake on the southern portion of the San Andreas Fault, approximately 40 miles northeast of the campus. This earthquake, known as the 1857 Fort Tejon Earthquake, produced an estimated PGA of 0.11 g on the campus (Earth Systems 2017a).

Table 3.7-3 The Modified Mercalli Scale of Earthquake Intensities

If most of these effects are observed	Then the intensity is
Earthquake shaking not felt but people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake-caused. Among them: trees, liquids, bodies of water sway slowly, or doors swing slowly.	I
Effect on people: Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.	II
Effect on people: Felt by most people indoors. Some can estimate duration of shaking but many may not recognize shaking of building as caused by an earthquake; the shaking is like that caused by the passing of light trucks.	III
Other effects: Hanging objects swing. Structural effects: Windows or doors rattle. Wooden walls and frames creak.	IV
Effect on people: Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers wakened. Other effects: Hanging objects swing. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Structural effects: Doors close, open or swing. Windows rattle.	V
Effect on people: Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers wakened. Other effects: Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start, or change rate. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Structural effects: Weak plaster and Masonry D* crack. Windows break. Doors close, open, or swing.	VI
Effect on people: Felt by everyone. Many are frightened and run outdoors. People walk unsteadily. Other effects: Small church or school bells ring. Pictures thrown off walls, knickknacks and books off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle. Structural effects: Masonry D* damaged; some cracks in Masonry C*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles, cornices, unbraced parapets, and architectural ornaments fall. Concrete irrigation ditches damaged.	VII

If most of these effects are observed	Then the intensity is
Effect on people: Difficult to stand. Shaking noticed by auto drivers. Other effects: Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver. Structural effects: Masonry D* heavily damaged; Masonry C* damaged, partially collapses in some cases; some damage to Masonry B*; none to Masonry A*. Stucco and some masonry walls fall. Chimneys, factory stacks, monuments, towers, elevated tanks twist or fall. Frame houses move on foundation if not bolted down; loose panel walls thrown out. Decayed piling broken off.	VIII
Effect on people: General fright. People thrown to ground. Other effects: Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes. Steering of autos affected. Branches broken from trees. Structural effects: Masonry D* destroyed; Masonry C* heavily damaged, sometimes with complete collapse; Masonry B* is seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames cracked. Reservoirs seriously damaged. Underground pipes broken.	IX
Effect on people: General panic. Other effects: Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crate, and, in muddy areas, water fountains are formed. Structural effects: Mast masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, and embankments. Railroads bent slightly.	X
Effect on people: General panic. Other effects: Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Structural effects: General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.	XI
Effect on people: General panic. Other effects: Same as for Intensity X. Structural effects: Damage nearly total, the ultimate catastrophe. Other effects: Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.	XII

* Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces.

* Masonry B: Good workmanship and mortar, reinforced.

* Masonry C: Good workmanship and mortar, unreinforced.

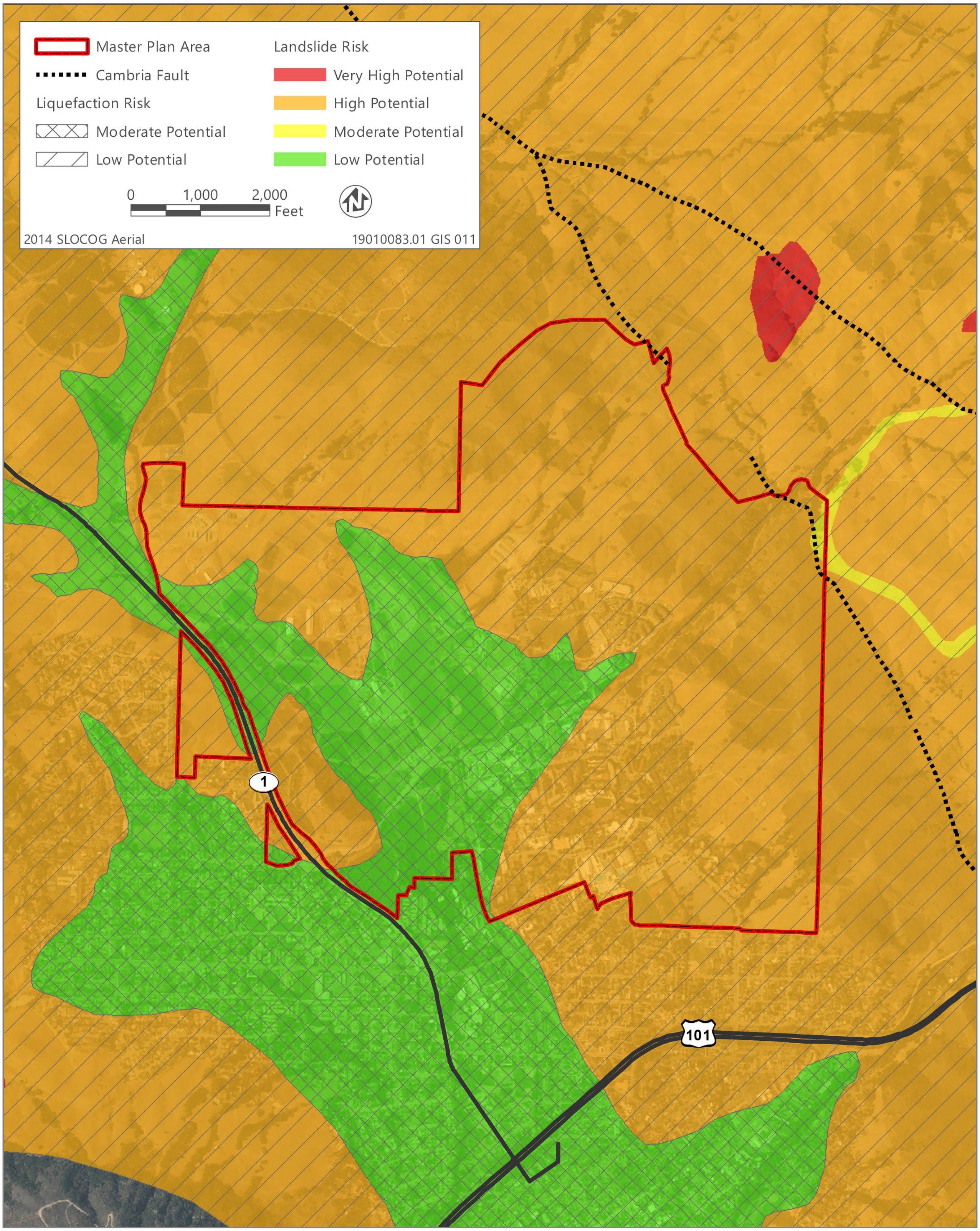
* Masonry D: Poor workmanship and mortar and weak materials, like adobe.

Overall, the Master Plan Area is located in a seismically active region that includes several active earthquake faults and therefore could experience low levels of ground shaking on an infrequent basis (California Seismic Safety Commission 2003). Based in data from the California Department of Conservation (DOC 2008), the Master Plan Area would have 2-percent chance in 50 years to experience a ground motion of 0.507 g.

Liquefaction and Lateral Spreading

Liquefaction is a phenomenon in which loose, saturated, granular soil deposits lose a significant portion of their shear strength because of excess pore water pressure buildup. An earthquake typically causes the increase in pore water pressure and subsequent liquefaction. These soils are behaving like a liquid during seismic shaking and re-solidify when shaking stops. The potential for liquefaction is highest in areas with high groundwater and loose, fine, sandy soils at depths of less than 50 feet.

Liquefaction may also lead to lateral spreading. Lateral spreading (also known as expansion) is the horizontal movement or spreading of soil toward an “open face,” such as a streambank, the open side of fill embankments, or the sides of levees. It often occurs in response to liquefaction of soils in an adjacent area. The potential for failure from lateral spreading is highest in areas where there is a high groundwater table, where there are relatively soft and recent alluvial deposits, and where creek banks are relatively high. As discussed above, groundwater is known to be present throughout the Master Plan Area. As shown in Figure 3.7-4, the project site is characterized by areas of low to moderate liquefaction risk.



Source: Data downloaded from San Luis Obispo County in 2019

Figure 3.7-4 Seismic Hazard Areas in the Vicinity of the Master Plan Area

MASS WASTING AND LANDSLIDES

Mass wasting refers to the collective group of processes that characterize down slope movement of rock and unconsolidated sediment overlying bedrock. These processes include landslides, slumps, rockfalls, flows, and creeps. Many factors contribute to the potential for mass wasting, including geologic conditions as well as the drainage, slope, and vegetation of the site. As shown in Figure 3.7-4, the landslide hazard risk within the Master Plan Area ranges from low to high potential. Further, as discussed above, steep hills are located in the north and east of the Master Plan Area, within the West, East, and North Campus subareas. Various landslide incidents have been known to occur within this portion of the main campus. A landslide occurred in February 2017, upslope of the Fremont Dorm, located at the intersection Klamath and Deer Road (approximately 1,500 feet north and east of the recently developed Student Housing South). The event resulted in immediate closure of the building. Grading work has since been completed to remove the upper landslide mass contributing to the driving force of the landslide. Investigations are currently in progress to develop recommendations to best reduce potential risks associated with this landslide (Earth Systems 2017b).

PALEONTOLOGICAL RESOURCES

The Master Plan Area is underlain by Franciscan Complex (KJf) deposits of the Coast Ranges and Young Surficial Deposits (Qya). The Franciscan Complex includes Cretaceous and Jurassic sandstone with smaller amounts of shale, chert, limestone, and conglomerate (DOC 2010). This deposit primarily consists of variably deformed and metamorphosed sandstone, graywacke, mudstone, and chert. For this reason, the potential to find fossils within the Franciscan Complex is rare, as this formation is heavily deformed and metamorphosed in many locations (a process that destroys fossils). Qya consists of alluvial gravel and sand and is typically too young to produce significant paleontological findings (DOC 2010).

3.7.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

To evaluate project impacts, resource conditions that could pose a risk to the 2035 Master Plan were identified through review of documents pertaining to these topics within the Master Plan Area. Sources consulted include the County and City of San Luis Obispo General Plans, the 2035 Master Plan, U.S. Geological Survey and California Geological Survey technical maps and guides; the NRCS Soil Survey (available through the Soil Survey Geographic Database); previous environmental impact reports; background reports prepared for nearby plans and projects; and published geologic literature. The information obtained from these sources was reviewed and summarized to establish the existing conditions (described above) and identify potential environmental hazards. In determining level of significance, the analysis assumes that the project would comply with relevant laws, regulations, and guidelines.

Potential effects associated with implementation of the 2035 Master Plan are characterized as permanent. Temporary effects from construction of specific components of the 2035 Master Plan would be evaluated on a project-level basis.

THRESHOLDS OF SIGNIFICANCE

A geology, soils, or paleontological resources impact would normally be significant if implementation of the 2035 Master Plan would:

- directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death through the rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction, or landslides;
- result in substantial soil erosion or the loss of topsoil;

- locate project facilities on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- locate project facilities on expansive soil, creating substantial direct or indirect risks to property;
- have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or
- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

ISSUES NOT DISCUSSED FURTHER

Fault Rupture

Although the project site is located in a seismically active region that includes several active earthquake faults of local and regional significance, the project site is not located within a designated Alquist-Priolo Earthquake Fault Zone and there are no known fault traces that extend through, or in the immediate vicinity of, the project site (see Figure 3.7-3). Therefore, fault rupture is not anticipated to occur. Compliance with the CSU Seismic Requirements and CBC requirements would minimize any potential impacts related to fault rupture. Thus, buildout of the 2035 Master Plan would not expose people or structures to potential substantial adverse effects related to the rupture of a known earthquake fault; and this issue is not discussed further.

Soils Capable of Supporting Septic Tanks

Future development associated with the 2035 Master Plan does not include the construction or use of septic facilities on campus; therefore, no impact would occur.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Directly or Indirectly Cause Potential Substantial Adverse Effects, including the Risk of Loss, Injury, or Death Involving Seismic Ground Shaking

Although the Master Plan Area is located in a seismically active region that includes several active earthquake faults of local and regional significance, none of these faults extend directly through campus. All structures proposed to be constructed or redeveloped would be required to comply with the CSU Seismic Requirements and the latest CBC, to ensure that all new and modified buildings would be capable of withstanding anticipated levels of ground shaking. For this reason, the potential impact related to ground shaking would be **less than significant**.

As discussed in Section 3.7.2, the Master Plan Area is located in a seismically active region that includes several active earthquake faults of local and regional significance. However, none of these faults extend directly through campus (see Figure 3.7-3). Strong ground shaking from an earthquake can result in damage associated with landslides, ground lurching, structural damage, and liquefaction. The severity of ground shaking within the Academic Core subarea during a seismic event would be influenced by the distance from the seismic source. Based on geotechnical studies prepared in 2014 for the Student Housing South Environmental Impact Report, expert assumptions indicate that the most significant seismic event predicted to affect structures within the campus would be a 6.8 magnitude event along the Los Osos Fault (SWCA 2014). However, all structures proposed to be constructed or redeveloped would be required to comply with the CSU Seismic Requirements and the latest CBC, to ensure that all new and modified buildings would be capable of withstanding anticipated levels of ground shaking. The CSU Seismic Requirements mandate the preparation of a site-specific geotechnical investigation using campus-specific 'seismic ground motion parameters' for all future development on campus. These parameters supersede CBC requirements in new construction. Thus, compliance with CSU Seismic Requirements and CBC would reduce the potential impact related to seismic ground shaking through the identification of site-specific seismic hazards and implementation of responsive structural design in accordance with peer-reviewed earthquake loads and seismic performance requirements. Therefore, the potential impact related to ground shaking would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.7-2: Directly or Indirectly Cause Potential Substantial Adverse Effects, including the Risk of Loss, Injury, or Death Involving Seismic-Related Ground Failure, including Liquefaction

Due to the varied conditions and capabilities of subsurface soils and depth to the groundwater table, the potential for liquefaction and liquefaction-induced lateral spreading also varies throughout the Master Plan Area. However, all future development proposed by the 2035 Master Plan would be required to comply with the CSU Seismic Requirements and the latest CBC requirements. For this reason, compliance with CBC and CSU Seismic Requirements would ensure that the impact related to ground failure and liquefaction would be **less than significant**.

The Master Plan Area is underlain by soils that range from very low to moderate potential for liquefaction (see Figure 3.7-4). Due to the varied conditions and capabilities of subsurface soils and depth to the groundwater table, the potential for liquefaction and liquefaction-induced lateral spreading also varies throughout the project site. Depending on site-specific subsurface conditions at each location proposed for development within the Master Plan Area, new development could expose people and/or structures to the effects of liquefaction resulting from ground shaking during a seismic event.

However, as discussed above, all future development proposed by the 2035 Master Plan would be required to comply with the CSU Seismic Requirements and the latest CBC requirements. Site-specific geotechnical studies and soil engineering reports would also be required before consideration of approval of future projects, per the CSU Seismic Requirements. These site-specific geotechnical studies and soil engineering reports would evaluate potential risk associated with seismic ground failure and liquefaction for individual future projects and incorporate project-specific design requirements and conditions of approval for all future projects. For this reason, compliance with CBC and CSU Seismic Requirements would ensure that the impact related to ground failure and liquefaction would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.7-3: Directly or Indirectly Cause Potential Substantial Adverse Effects, including the Risk of Loss, Injury, or Death Involving Landslides

The Master Plan Area incorporates a few existing steep slopes within the eastern boundary of the East Campus subarea and along the northern portion of the North Campus subarea. All structures proposed to be constructed or redeveloped under the 2035 Master Plan would be required to comply with the CSU Seismic Requirements and the latest CBC, to ensure structural design of all new and modified buildings would not result in adverse effects resulting from landslides. However, because of the presence of steep slopes along the eastern and northern portion of the Master Plan Area, and the recent landslide that occurred within the East Campus subarea, future development in these areas is considered to have the potential to expose people and structures to risks from landslides. This impact would be **significant**.

As discussed in Section 3.7.2 and shown on Figure 3.7-4 the landslide hazard risk within the Master Plan Area ranges from low to high potential. Various portions of the Master Plan Area, including the northern portion of the North and West Campus subareas and the eastern boundary of the East Campus subarea consist of steep slopes that could result in a high potential for landslides. Additionally, as discussed in Section 3.7.2, a landslide event occurred in February 2017 upslope of the Fremont Dorm within the East Campus subarea that required immediate closure of the building. Grading work has since been completed to remove the upper landslide mass contributing to the driving force of the landslide. Investigations are currently in progress to develop recommendations to best reduce potential risks associated with this landslide (Earth Systems 2017b).

All structures proposed to be constructed or redeveloped under the 2035 Master Plan would be required to comply with the CSU Seismic Requirements and the latest CBC, to ensure structural design of all new and modified buildings would not result in adverse effects resulting from landslides. For instance, buildings would be required to designed and constructed to support safely the factored loads in load combinations without exceeding the appropriate strength limit states for materials of construction. Foundation walls and retaining walls may also be required to resist lateral soil loads. For the majority of the Master Plan Area, compliance with the CBC and CSU's Seismic Requirements would adequately identify and minimize the potential impact related to landslides from future development. Nonetheless, because of the presence of steep slopes along the eastern and northern portion of the Master Plan Area, and the recent landslide that occurred within the East Campus subarea, future development in these areas is considered to have the potential to expose people and structures to risk from landslides. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 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;
- 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.

Significance after Mitigation

Mitigation 3.7-3 would require a site-specific geotechnical investigation for all 2035 Master Plan projects proposed in areas determined to have a high potential for landsliding and other geologic hazards. The geotechnical investigation would require implementation of stabilization recommendations that would reduce the impact from potential erosion. This mitigation would reduce potential direct or indirect impacts associated with the risk of loss, injury, or death involving landslides impacts associated with erosion or loss of topsoil to a **less-than-significant** level.

Impact 3.7-4: Result in Substantial Erosion or Loss of Topsoil during Construction

Construction of development and redevelopment projects under the 2035 Master Plan would involve clearing and grading of soils, which could result in erosion and loss of topsoil, particularly if soils are exposed to wind or stormwater during construction. However, through compliance with all required regulations, such as SWRCB General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ), and a Storm Water Pollution Prevention Plan (SWPPP) for projects that would result in more than 1 acre of ground disturbance, the impact related to substantial erosion or loss of topsoil during construction would be **less than significant**.

Long-term, permanent increases in impervious surfaces as a result of land use development could result in increased potential for erosion. For discussion of this impact please refer to Chapter 3.9, "Hydrology and Water Quality." This impact addresses short-term construction-related erosion potential.

As discussed in Section 3.7.2, above, the Master Plan Area is underlain with soils that range from slight to very high erosion hazard (see Table 3.7-1 and Figure 3.7-1). Construction activities associated with the development of proposed facilities and modification of existing facilities would likely require ground-disturbing activities, such as grading and excavation, which could result in erosion and loss of topsoil, particularly if soils are exposed to wind or stormwater during construction. However, all new development within the Master Plan Area would be required to comply with the SWRCB's General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Additionally, all future development that would result in more than 1 acre of ground disturbance would be required to prepare a SWPPP. The SWPPP would include site-specific best management practices (BMPs) that would be implemented to prevent erosion and stormwater runoff and would include applicable monitoring programs to be implemented as necessary (see Chapter 3.9, Hydrology and Water Quality for additional discussion related to stormwater runoff). Because existing regulatory and permitting requirements for building construction and stormwater control provide adequate protection against soil erosion during and as a result of construction, the impact associated with erosion from implementing the 2035 Master Plan would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.7-5: Be Located on a Geologic Unit That Is Unstable, or That Would Become Unstable as a Result of the Project, and Potentially Result in On- or Off-Site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse

Construction activities under the 2035 Master Plan, such as grading and excavation, could increase the risk that soils would become unstable, which could eventually result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Development and redevelopment projects that are proposed in areas where unstable soils are present could result in building damage. Because future projects could potentially be located on a geologic unit that is unstable, or that would become unstable as a result of the project, this impact would be **significant**.

As discussed under Impact 3.7-3, above, construction activities associated with the development of proposed facilities and modification of existing facilities would require ground-disturbing activities, such as grading and excavation. These construction activities could be located on geologic units or soils that are unstable or that may become unstable as a result of the development. For this reason, construction activities could increase the risk that soils would become unstable, which could eventually result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Further, development and redevelopment projects that are proposed in areas where unstable soils are present could result in building damage. For instance, unstable soils can become prone to liquefaction and lateral spreading during large earthquake events. Developments are vulnerable to heavy damage by lateral spreading, including being pulled apart, buckled, or severe structural damage. Further, subsidence can occur through groundwater withdrawals from the shallow/intermediate aquifers, which can lead to unstable soils within the

Master Plan Area. As discussed under Impact 3.7-3, above, because various portions of the Master Plan Area, including the northern portion of the North and West Campus subareas and the eastern boundary of the East Campus subarea, consist of steep slopes, proposed development under the 2035 Master Plan could be located on unstable slopes that could result in landslides. All structures proposed to be constructed or redeveloped under the 2035 Master Plan would be required to comply with the CSU Seismic Requirements and the latest CBC, to ensure structural design of all new and modified buildings would not result in adverse effects such on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Nonetheless, because the precise building footprints and design of future projects under the 2035 Master Plan is not known at this time, future projects could potentially be located on a geologic unit that is unstable, or that would become unstable as a result of the project. For this reason, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.7-5: Perform Site-Specific Geotechnical Investigations

Implement Mitigation Measure 3.7-3, described above.

<u>Significance after Mitigation</u>

Mitigation Measure 3.7-6 would require a site-specific geotechnical investigation for all 2035 Master Plan projects proposed in areas determined to have a high potential for landsliding and other geologic hazards. The geotechnical investigation would require implementation of stabilization recommendations, such as fill selection, moisture control, and compaction during construction, that would reduce the potential impact on life and property resulting from unstable soils. This mitigation measure would reduce the potential impact associated with unstable soils to a **less-than-significant** level.

Impact 3.7-6: Be Located on Expansive Soil, Creating Substantial Direct or Indirect Risks to Property

The Master Plan Area includes several soils with high shrink-swell and linear extensibility potential. Ground-disturbing construction activities associated with this development on soils that have a high shrink-swell potential and/or linear extensibility could result in adverse effects such as damage to foundations from ground movement. Development and redevelopment projects within the 2035 Master Plan on soils that have a high shrink-swell potential and/or linear extensibility could result in shrinking and swelling of soils, which can cause damage to foundations. Thus, this impact would be **significant**.

As discussed in Section 3.7.2 and shown in Table 3.7-1, soil types range in shrink-swell potential from low to high. Further, the majority of soils in the plan area exhibit a range in linear extensibility from moderate to high, while a small area within the northwestern portion of the Master Plan Area exhibits very high linear extensibility (USDA 2019) (see Figure 3.7-2). Implementation of the 2035 Master Plan would include the construction of new facilities as well as replacement of existing facilities within the Master Plan Area, which could potentially occur within areas that consist of expansive soils. Development on soils that have a high shrink-swell potential and/or linear extensibility could result in adverse effects to structures. For instance, shrinking and swelling of soils can result in differential ground movement, which can cause damage to foundations. Because future development associated with the 2035 Master Plan would not result in changes to existing soils, this phenomenon would not be exacerbated though implementation of the 2035 Master Plan. However, projects that are proposed in areas where expansive soils are present could result in building damage, which could result in risks to life and property. All projects proposed under the 2035 Master Plan, would be subject to all applicable requirements outlined in the CBC, as well as the CSU Seismic Requirements. Nonetheless, because portions of the Master Plan Area are located within areas with linear extensibility of high to very high and high shrink-swell potential, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.7-6: Perform Site-Specific Geotechnical Investigations

Implement Mitigation Measure 3.7-3, described above.

<u>Significance after Mitigation</u>
Mitigation Measure 3.7-6 would require a site-specific geotechnical investigation for all 2035 Master Plan projects proposed in areas determined to have a high potential for landsliding and other geologic hazards. The geotechnical investigation would require implementation of stabilization recommendations, such as fill selection, moisture control, and compaction during construction, that would reduce the potential impact on life and property resulting from expansive soils. This mitigation measure would reduce this potential impact associated with expansive soils to a **less-than-significant** level.

Impact 3.7-7: Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geological Feature

Although the Master Plan Area is underlain by Franciscan Complex (KJf) and Young Surficial Deposits (Q_{ya}) deposits, which are not known to host paleontological resources, discoveries of yet unknown paleontological resources during ground-disturbing activities under development of the 2035 Master Plan could still occur. Thus, this impact would be **significant**.

As discussed in Section 3.7-2, above, the Master Plan Area is underlain by Franciscan Complex (KJf) deposits of the Coast Ranges and Young Surficial Deposits (Q_{ya}). The Franciscan Complex includes Cretaceous and Jurassic sandstone with smaller amounts of shale, chert, limestone, and conglomerate, which primarily consists of variably deformed and metamorphosed sandstone, graywacke, mudstone, and chert (DOC 2010). Because the Franciscan Complex formation is heavily deformed and metamorphosed in many locations, a process that destroys fossils, it is rare to find fossils within this deposit. Q_{ya} deposits consist of alluvial gravel and sand. This type of soil is typically too young to consist of significant paleontological resources.

Although unlikely, paleontological resources such as trace fossils, mollusks, and marine reptiles have been historically documented within the Franciscan Complex. For this reason, although there are no known paleontological resources, unique geologic formations, or sites are located within the Master Plan Area, a significant impact on paleontological resources could result if an inadvertent discovery is made during ground-disturbing activities associated with construction of development and redevelopment projects under the 2035 Master Plan. Therefore, the impact on paleontological resources would be **significant**.

Mitigation Measures

Mitigation Measure 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.

<u>Significance after Mitigation</u>
Mitigation Measure 3.7-8 would require retaining a qualified paleontologist to evaluate the discovery and the implementation of appropriate treatment, if a paleontological resource is found during ground-disturbing activities. This mitigation measure would reduce the potential impact associated with paleontological resources to a **less-than-significant** level.

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3.8 GREENHOUSE GAS EMISSIONS

This section presents a summary of regulations applicable to greenhouse gas (GHG) emissions; a summary of climate change science and GHG sources in California; quantification of GHGs emitted from construction and operation of the 2035 Master Plan; and a discussion of their contribution to global climate change. Mitigation measures are recommended to reduce the project's contribution to climate change. Detailed calculations, modeling inputs, and results can be found in Appendix C.

No comments regarding GHG emissions or climate change were received in response to the Notice of Preparation (NOP).

3.8.1 Regulatory Setting

FEDERAL

Supreme Court Ruling

In *Massachusetts et al. v. Environmental Protection Agency et al.*, 549 U.S. 497 (2007), the Supreme Court of the United States ruled that carbon dioxide (CO_2) is an air pollutant as defined under the federal Clean Air Act and that the U.S. Environmental Protection Agency (EPA) has the authority to regulate GHG emissions.

In 2010, EPA started to address GHG emissions from stationary sources through its New Source Review permitting program, including operating permits for "major sources" issued under Title V of the federal Clean Air Act.

Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks and Corporate Average Fuel Economy Standards

In October 2012, EPA and the National Highway Traffic Safety Administration, on behalf of the U.S. Department of Transportation, issued final rules to further reduce GHG emissions and improve corporate average fuel economy standards for light-duty vehicles for model years 2017 and beyond (77 Federal Register [FR] 62624). These rules would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025 (77 FR 62630). However, on April 2, 2018, the EPA administrator announced a final determination that the current standards are not appropriate and should be revised. It is not yet known what revisions will be adopted or when they will be implemented (EPA 2018).

Affordable Clean Energy Rule

In June 2019, EPA, under authority of the Clean Air Act Section 111(d), issued the Affordable Clean Energy rule which provides guidance to states on establishing emissions performance standards for coal-fired electric generating units (EGUs). Under this rule, states are required to submit plans to EPA that demonstrate the use of specifically listed retrofit technologies and operating practices to achieve CO_2 emission reductions through heat rate improvement (HRI). HRI is a measurement of power plant efficiency that EPA determined as part of this rulemaking to be the best system of emission reductions for CO_2 generated from coal-fired EGUs (EPA 2019).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The Energy Independence and Security Act of 2007 increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly fivefold increase over current levels, and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

STATE

The following plans, policies, regulations, and laws established by state agencies are generally presented in the order in which they were established.

Executive Order S-3-05

In 2005, Executive Order (EO) S-3-05 was signed into law and proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, statewide emissions are to be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, the California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32, was signed into law. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that "(a) the statewide greenhouse gas emissions limit shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (c) The state board [California Air Resources Board (CARB)] shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020" (California Health and Safety Code, Division 25.5, Part 3, Section 38551).

Senate Bill 375 of 2008

In September 2008, Senate Bill (SB) 375 was signed into law and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy, showing prescribed land use allocation in each MPO's Regional Transportation Plan. CARB, in consultation with the MPOs, is to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks for 2020 and 2035. The San Luis Obispo Council of Governments (SLOCOG) serves as the MPO for San Luis Obispo County, where the project site is located. Under SB 375, SLOCOG adopted its most recent *2019 Regional Transportation Plan* (RTP) in June 2019. SLOCOG was tasked by CARB to achieve an 8-percent per capita reduction compared to 2005 emissions by 2020 and an 8-percent per capita reduction by 2035, both of which SLOCOG confirmed the region would achieve by implementing the 2014 RTP (SLOCOG 2019:13-1; CARB 2018a:1). In March 2018, CARB promulgated revised targets tasking SLOCOG to achieve a 3-percent and an 11-percent per capita reduction by 2020 and 2035, respectively (CARB 2018a:1).

CARB's Mobile Source Strategy (2016) described California's strategy for containing air pollutant emissions from vehicles and quantifies growth in vehicle miles traveled (VMT) that is compatible with achieving state climate targets.

Cap-and-Trade Program

In 2011, CARB adopted the cap-and-trade regulations and created the cap-and-trade program. The program covers GHG emission sources that emit more than 25,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year), such as refineries, power plants, and industrial facilities. The cap-and-trade program includes an enforceable statewide emissions cap that declines approximately 3 percent annually. CARB distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources that reduce emissions more than their limits can auction carbon allowances to other covered entities through the cap-and-trade market. Sources subject to the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period (CARB 2012). The cap-and-trade program took effect in early 2012 with the enforceable compliance obligation beginning January 1, 2013. The cap-and-trade program was initially slated to sunset in 2020, but the passage of SB 398 in 2017 extended the program through 2030.

Cal Poly's energy use results in annual emissions exceeding 10,000 $MTCO_2e$/year, requiring annual reporting of those emissions to CARB; however, the University is not bound to mandatory reductions under cap-and-trade because emissions are below the regulatory threshold of 25,000 $MTCO_2e$/year.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles (ZEVs), into a single package of regulatory standards for vehicle model years 2017– 2025. The new regulations strengthen the GHG standards for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's ZEV regulation requires battery, fuel cell, and plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025 (CARB 2016a:15). The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, GHG emissions from the statewide fleet of new cars and light-duty trucks will be reduced by 34 percent, and cars will emit 75 percent less smog-forming pollution than the statewide fleet in 2016 (CARB 2016b:1).

California Renewables Portfolio Standard

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB 100 of 2018 sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 52 percent of their electricity from renewables by December 31, 2027; 60 percent by December 31, 2030; and 100 percent carbon-free electricity by December 31, 2045.

Executive Order B-30-15

On April 20, 2015, EO B-30-15 was signed into law and established a California GHG reduction target of 40 percent below 1990 levels by 2030. The governor's EO aligns California's GHG reduction targets with those of leading international governments, such as the 28-nation European Union, which adopted the same target in October 2014. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 sets the next interim step in the state's continuing efforts to pursue the long-term target expressed under EO S-3-05 to reach the goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, SB 32 and AB 197 were signed into law and serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the state's continued efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Building Energy Efficiency Standards (Title 24, Part 6)

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Commission (CEC) updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current California Energy Code (2016) is scheduled to be replaced by the 2019 standards on January 1, 2020. The 2019 California Energy Code will require builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use. Additionally, new residential units will be required to include solar panels, sized to offset the estimated electrical requirements of each unit (CCR, Title 24, Part 6, Section 150.1[c]14). CEC estimates that the combination of required energy-efficiency features and mandatory solar panels in the 2019 California Energy Code will result in new residential buildings that use 53 percent less energy than those designed to meet the 2016 California Energy Code. The CEC also estimates that the 2019 California Energy Code will result in new commercial buildings that use 30 percent less energy than those designed to meet the 2016 standards, primarily through the transition to high-efficacy lighting (CEC 2018).

Low Carbon Fuel Standard

In January 2007, EO S-1-07 established a Low Carbon Fuel Standard (LCFS). The EO calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and for an LCFS for transportation fuels to be established for California. The LCFS applies to all refiners, blenders, producers, or importers (providers) of transportation fuels in California, including fuels used by off-road construction equipment (Wade, pers. comm. 2017). The LCFS is measured on the total fuel cycle and may be met through market-based methods. For example, providers exceeding the performance required by an LCFS receive credits that may be applied to future obligations or traded to providers not meeting the LCFS.

In Jun 2007, CARB adopted the LCFS as a Discrete Early Action item under AB 32 pursuant to Health and Safety Code Section 38560.5, and in April 2009, CARB approved the new rules and carbon intensity reference values with new regulatory requirements taking effect in January 2011. The standards require providers of transportation fuels to report on the mix of fuels they provide and demonstrate they meet the LCFS intensity standards annually. This is accomplished by ensuring that the number of "credits" earned by providing fuels with a lower carbon intensity than the established baseline (or obtained from another party) is equal to or greater than the "deficits" earned from selling higher-intensity fuels.

After some disputes in the courts, CARB readopted the LCFS regulation in September 2015, and the LCFS went into effect on January 1, 2016.

Climate Change Scoping Plan

In December 2008, CARB adopted its first version of its *Climate Change Scoping Plan,* which contained the main strategies California will implement to achieve the mandate of AB 32 (2006) to reduce statewide GHG emissions to 1990 levels by 2020. In May 2014, CARB released and subsequently adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching the goals of AB 32 (2006) and evaluate the progress made between 2000 and 2012 (CARB 2014a). After releasing multiple versions of proposed updates in 2017, CARB adopted the final version titled *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan) in December (CARB 2017). The 2017 Scoping Plan indicates that California is on track to achieve the 2020 statewide GHG target mandated by AB 32 of 2006 (CARB 2017:9. It also lays out the framework for achieving the mandate of SB 32 of 2016 to reduce statewide GHG emissions to at least 40 percent below 1990 levels by the end of 2030 (CARB 2017). The 2017 Scoping Plan identifies the GHG reductions needed by each emissions sector.

Senate Bill 743 of 2013

SB 743 of 2013 required that the Governor's Office of Planning and Research (OPR) propose changes to the State CEQA Guidelines to address transportation impacts in transit priority areas and other areas of the state. In response, Section 15064.3 was added to CEQA in December 2018, requiring that transportation impacts no longer consider congestion but instead focus on the impacts of VMT. Agencies have until July 1, 2020, to implement these changes but can also choose to implement these changes immediately. In support of these changes, OPR published its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which recommends that the transportation impact of a project be based on whether the project would generate a level of VMT per capita (or VMT per employee or some other metric) that is 15 percent lower than that of existing development in the region (OPR 2017:12–13), or that a different threshold is used based on substantial evidence. OPR's technical advisory explains that this criterion is consistent with PRC Section 21099, which states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions" (OPR 2017:18). This metric is intended to replace the use of delay and level of service to measure transportation-related impacts. More detail about SB 743 is provided in the "Regulatory Setting" section of Section 3.13, "Transportation."

Executive Order B-48-18: Zero-Emission Vehicles

In January 2018, EO B-48-18 was signed into law and requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This EO also requires all state entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a *Plug-in Charging Station Design Guidebook* and update the *2015 Hydrogen Station Permitting Guidebook* (Eckerle and Jones 2015) to aid in these efforts. All state entities are required to participate in updating the *2016 Zero-Emissions Vehicle Action Plan* (Governor's Interagency Working Group on Zero-Emission Vehicles 2016) to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all state entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS program, and to recommend how to ensure affordability and accessibility for all drivers.

CALIFORNIA STATE UNIVERSITY

California State University Sustainability Policy

In May 2014, the Board adopted the first CSU system-wide Sustainability Policy. The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The CSU Sustainability Policy established the following goals:

- Reduce GHG emissions to 1990 levels by 2020.
- Reduce GHG emissions 80 percent below 1990 levels by 2040.
- Procure 33 percent of energy supply from renewable sources by 2020.
- Increase on-site energy generation from 44 to 80 megawatts by 2020.
- Reduce per-capita landfill waste by 50 percent by 2016 and 80 percent by 2020.
- Reduce water use 10 percent by 2016 and 20 percent by 2020.
- Promote use of alternative fuels and transportation programs.
- Procure goods that are recycled, recyclable, or reusable.
- Procure 20 percent local/organic/free trade food by 2020.
- Integrate sustainability across the curriculum.

Under the CSU Sustainability Policy, campuses are responsible for quantifying and reducing their Scope 1 and 2 emissions to reach the 2020 and 2040 goals. Scope 1 emissions are direct emissions (e.g., combustion of fossil fuels, fleet vehicles, agriculture operations, use of refrigerants). Scope 2 emissions are emissions from purchased utilities (e.g., electricity, water).

CSU Executive Order 987

EO 987 is the CSU Policy Statement on Energy Conservation, Sustainable Building Practices, and Physical Plant Management. Cal Poly operates under this EO, which sets minimum efficiency standards for new construction and renovations, and establishes operating practices intended to ensure CSU buildings are used in the most energy efficient and sustainable manner possible while still meeting the programmatic needs of the University.

Association for the Advancement of Sustainability in Higher Education

In March 2016, Cal Poly adopted the Association for the Advancement of Sustainability in Higher Education Sustainability Tracking, Assessment, and Rating System (STARS) as a framework for implementation, measurement, and improvement of sustainable practices across the entire University. The voluntary point-based rating system measures sustainability performance in the areas of Curriculum and Research, Campus and Community Engagement, Operations, and Planning and Administration. As of 2019, Cal Poly has earned a STARS Gold Rating in recognition of its sustainability achievements.

Second Nature Climate Leadership Commitment

In 2016, Cal Poly became a Charter Signatory to the Climate Leadership Commitment, establishing a goal for Cal Poly to achieve net zero emissions from all sources (Scope 1, 2, and 3) by 2050. Scope 3 emissions are emissions not under direct control (e.g., commuting, business travel, solid waste). Campuses that have signed the Second Nature Climate Leadership Commitment are also responsible for reducing Scope 3 emissions as part of climate action plans to achieve neutrality as soon as possible. The Climate Commitment also requires Cal Poly to collaborate with local governments to achieve climate resilience.

Cal Poly San Luis Obispo Policies

Cal Poly's Campus Administrative Policies include the following policies that address GHG emissions:

- 151.2[5] Sustainability: Practice Institutional Ecology – Use a wide array of sustainable practices, related to water conservation, energy conservation, alternative transportation, and new building construction.
- 362.1 Environmental Compliance Program: The University shall comply with applicable federal, state, and local laws and regulations related to environmental protection and pollution control.

Cal Poly Climate Action Plan

The Cal Poly Climate Action Plan (PolyCAP) was prepared during the 2015-2016 academic year as a collaborative effort between Facilities Management and Development and Cal Poly's City and Regional Planning Department. The goal of the PolyCAP is to reduce Cal Poly's GHG emissions and to adapt the campus to a changing climate. The PolyCAP aims to exceed the CSU mandate and achieve net zero GHG emissions by 2050 (City & Regional Planning 410/411 Studio 2016:3). The following goals, objectives, and strategies related to the 2035 Master Plan are outlined in the CAP to reduce GHG emissions associated with campus operation:

- **Building (BDG) Goal 1:** Net zero structures and operations
  - **BDG Objective 1.1:** All new and retrofitted buildings reduce annual energy demand per gross square feet by at least 50 percent from that of the former building or similar type of building.
    - **BDG Strategy 1.1.1:** Require all new and retrofitted buildings to exceed Title 24 standards by 30 percent or meet LEED [Leadership in Energy and Environmental Design] Platinum certification requirements.
    - **BDG Strategy 1.1.3:** Require all new and retrofitted buildings to use efficient electric appliances.
  - **BDG Objective 1.2:** Monitoring and energy-efficient behavior reduces energy use by 25-50 percent.
    - **BDG Strategy 1.2.1:** Implement comprehensive metering in all new and retrofitted buildings.
    - **BDG Strategy 1.2.2:** Increase and educate staff to operate and monitor buildings efficiently.
  - **BDG Objective 1.3:** Reduce 100 percent of emissions associated with building operations (after implementation of all other BDG strategies).
    - **BDG Strategy 1.3.1:** Require all new and retrofitted buildings to include rooftop solar panels with the largest feasible array.
    - **BDG Strategy 1.3.2:** Require all buildings to offset emissions from natural gas consumption.

- **BDG Strategy 1.3.3:** Produce enough energy to meet remaining demand from buildings not slated for replacement or retrofit.

- **BDG Goal 2:** Structures that withstand or are easily adapted to the impacts of climate change
  - **BDG Objective 2.1:** Reduce the impact of heat waves/temperature increase on existing cooling/ventilation systems by 2035.
    - **BDG Strategy 2.1.2:** Prioritize envelope improvements and energy efficiency in building renovations. Add air conditioning where critically needed and provide central plant chilled water where possible.
- **Transportation (TRN) Goal 1:** Low GHG Emissions Commute
  - **TRN Objective 1.1:** Adjust parking permit policy to reduce the number of cars on campus.
    - **TRN Strategy 1.1.1:** Increase the number of housing units for students on campus and eliminate residential parking permits for freshmen and sophomores living on campus.
- **TRN Goal 2:** Low Emissions on Campus
  - **TRN Objective 2.1:** Decrease the use of campus owned vehicles.
    - **TRN Strategy 2.1.1:** Phase out the existing vehicle fleet as departments begin to rely on car share and car rental programs.
- **TRN Goal 3:** Low Emissions Long Distance Travel
  - **TRN Objective 3.1:** Eliminating unnecessary long distance trips.
    - **TRN Strategy 3.1.1:** Offer carbon offsets for long distance travel.
- **Water (WTR) Goal 1:** Responsible stewardship of campus water serving landscaping, agricultural, and domestic uses
  - **WTR Objective 1.1:** Reduce landscaping water emissions by 95 percent by 2040.
    - **WTR Strategy 1.1.1:** Remove 40 acres of turf on campus.
    - **WTR Strategy 1.1.2:** Install infrastructure for conveying untreated water for landscaping.
    - **WTR Strategy 1.1.3:** Plant water efficient landscapes.
  - **WTR Objective 1.3:** Reduce domestic water emissions by 40 percent by 2040.
    - **WTR Strategy 1.3.1:** Prepare a water efficiency plan for structures on campus.
- **WTR Goal 2:** Resilient and prepared for variable precipitation and weather patterns.
  - **WTR Objective 2.2:** Prepare for increased droughts by 2030.
    - **WTR Strategy 2.2.3:** Improve water fixtures to reduce consumption.
- **Solid Waste (SW) Goal 1:** Cal Poly is a Zero Waste Campus
  - **SW Objective 1.1:** Establish a campus culture of responsible waste disposal and divert 80 percent of waste to recycling by 2020.
- **Campus Life (CL) Goal 2:** Climate Smart Campus Culture
  - **CL Objective 2.1:** Reduce energy usage of student residents by 20 percent by 2025.
    - **CL Strategy 2.1.2:** Keep utility usage 10 percent less than baseline.
- **Renewable Energy (RE) Goal 1:** Renewable energy sources efficiently power campus needs
  - **RE Objective 1.1:** Balance energy produced on campus and energy provided by PG&E to be Net Zero by 2050.

  - **RE Objective 1.2:** Increase the capacity and efficiency of the grid.
    - **RE Strategy 1.2.2:** Install a microgrid on campus.
- **RE Goal 2:** Implemented renewable energy practices on both campus land and buildings
  - **RE Objective 2.1:** Increase implementation of solar energy panels on existing infrastructure.
    - **RE Strategy 2.1.1:** Outfit parking structures with solar arrays on the top level.
    - **RE Strategy 2.1.3:** Install rooftop solar arrays on identified buildings.
  - **RE Objective 2.2:** Build renewable energy infrastructure on campus-owned land.
    - **RE Strategy 2.2.1:** Maximize the solar energy implementation effort to ensure a 5 megawatt array.
    - **RE Strategy 2.2.2:** Implement the Cal Poly Wind Farm.
    - **RE Strategy 2.2.3:** Research and implement new energy storage strategies.
- **Public-Private Partnership (PPP) Goal 2:** Energy efficient buildings
  - **PPP Objective 2.1:** Establish Net Zero structures.
    - **PPP Strategy 2.1.1:** Incorporate the use of photovoltaic systems.
  - **PPP Objective 2.2:** Exceed Title 24 energy efficiency requirements by 20 percent.
    - **PPP Strategy 2.2.1:** Orient workforce housing buildings to maximize passive cooling and heating.
  - **PPP Objective 2.3:** Increase the efficiency of building use by 25 percent.
    - **PPP Strategy 2.3.2:** Require energy efficient appliances.
- **PPP Goal 3:** Adapt to climate change impacts
  - **PPP Objective 3.1:** Design energy-efficient buildings to foster resilience.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

County of San Luis Obispo General Plan

The County of San Luis Obispo General Plan was adopted in 2010, amended in 2015, and includes the following goals and policies related to GHG emissions and climate change (County of San Luis Obispo 2010):

GOAL AQ 1: Per capita vehicle miles traveled countywide will be reduced consistent with statewide targets.

- **Policy AQ 1.1:** Encourage compact land development by concentrating new growth within existing communities and ensuring complete services to meet local needs.
- **Policy AQ 1.3:** Require new development to provide safe and convenient access to alternative transportation within the project area and safe access to public transportation as feasible.
- **Policy AQ 1.5:** Improve the operating efficiency of the transportation system by reducing vehicle travel demand and expanding opportunities for multi-modal travel.
- **Policy AQ 1.7:** Encourage bicycle and pedestrian use by supporting the policies found in the Regional Transportation Plan, County Bikeways Plan, Land Use and Circulation Element, and County Parks and Recreation Element. In addition, support public and private efforts to facilitate bicycling and walking for transportation and recreation.

GOAL AQ 4: Greenhouse gas emissions from County operations and community-wide sources will be reduced from baseline levels by a minimum of 15 percent by 2020.

- Policy AQ 4.1: Implement and enforce State legislative or regulatory standards, policies, and programs designed to reduce greenhouse gas emissions.
- Policy AQ 4.2: Quantify, reduce, and mitigate greenhouse gas emissions.
- Policy AQ 4.4: Reduce greenhouse gas emissions from development projects and other land use activities.
- Policy AQ 4.5: Reduce net carbon emissions through the preservation, protection, and enhancement, as appropriate, of the county's terrestrial and aquatic carbon sequestration resources, including the county's lakes, soils, and native forests, trees, and plants.
- Policy AQ 4.6: Collaborate and coordinate with regional organizations and local jurisdictions to reduce greenhouse gas emissions.

GOAL AQ 5: The County will adapt to adverse climate change.

- Policy AQ 5.1: Identify the needs and strategies to monitor, prepare for, and adapt to a changing climate.
- Policy AQ 5.2: Increase public awareness about climate change and lifestyle changes that will reduce greenhouse gas emissions.

GOAL E 1: The County will have an environmentally sustainable supply of energy for all county residents.

- Policy E 1.1: Meet our electricity needs through the following prioritized measures:
  - Increased conservation and efficiency in all sectors of energy use.
  - Development and use of locally appropriate sources of renewable resources from both distributed and large-scale projects.
  - Development of non-renewable sources of energy.
- Policy E 1.4: Increase the use of methane as an energy source from wastewater treatment plants and active and inactive, closed landfills.
- Policy E 1.5: Encourage waste-burning biomass facilities and conversion technologies as methods of producing electrical energy without endangering resource recovery programs where environmental and air quality are protect and the facility is compatible with adjoining uses.

GOAL E 3: Energy efficiency and conservation will be promoted in both new and existing development.

- Policy E 3.1: Ensure that new and existing development incorporates renewable energy sources such as solar, passive building, wind, and thermal energy. Reduce reliance on non-sustainable energy sources to the extent possible using available technology and sustainable design techniques, materials, and resources.
- Policy E 3.2: Require the use of energy-efficient equipment in all new development, including but not limited to Energy Star appliances, high-energy efficiency equipment, heat recovery equipment, and building energy management systems.
- Policy E 3.3: Promote the use of renewable energy systems to pump and treat water and wastewater.

GOAL E 4: Green building practices will be integrated into all development.

- Policy E 4.1: Integrate green building practices into the design, construction, management renovation, operations, and demolition of buildings, including publicly funded affordable housing projects, through the development review and building permitting process.
- Policy E 4.4: Orient new buildings to maximize solar resources, shading, ventilation, and lighting.

GOAL E 5: Recycling, waste diversion, and reuse programs will achieve as close to zero waste as possible.

- **Policy E 5.1:** Encourage source reduction and diversion of solid waste generated to as near zero waste as possible, in order to reduce energy consumption.
- **Policy E 5.3:** Encourage biomass, green waste, and food waste composting facilities (agricultural, residential, food service, commercial, industrial sources) for the proper disposal of locally generated waste in locations where land use conflicts can be minimized.
- **Policy E 5.4:** Continue to reduce construction and demolition waste in accordance with the County's Construction and Demolition Debris Recycling Ordinance. Support increase diversion rates over time.

GOAL E 6: The use of renewable energy resources will be increased.

- **Policy E 6.1:** Promote the development of sustainable energy sources and renewable energy projects through streamlined planning and development rules, codes, processing, and other incentives.
- **Policy E 6.2:** Encourage and support the development of solar and wind power and other renewable energy systems as commercial energy enterprises.
- **Policy E 6.3:** Develop renewable energy resources in the county, include the safe, effective, and efficient use of small wind energy systems, solar power systems, passive solar buildings, and other renewable energy systems designed for onsite home, farm, and commercial use.
- **Policy E 6.6:** Encourage distributed energy resources to increase the efficiency of the power and transmission system and use of local renewable fuel sources.
- **Policy E 6.7:** Encourage cogeneration facilities as a method of reducing overall energy use.
- **Policy E 6.8:** Designate and protect areas that contain renewable energy resources such as wind, solar, geothermal, and small hydroelectric. Continue to explore and encourage the development of renewable energy resources through further streamlining actions.
- **Policy E 6.9:** Renewable energy is developed most effectively where sufficient renewable energy resources exist (e.g., solar energy requires a certain amount of sunlight to be efficient and wind energy requires a certain amount of wind). In areas were renewable energy resources have been identified and mapped pursuant to Policy E 6.8, renewable energy development is dependent on the mapped resource and shall be given high priority while balancing the protection of other environmental resources.

GOAL WR 4: Per capita potable water use in the county will decline by 20 percent by 2020.

- **Policy WR 4.1:** Employ water conservation programs to achieve an overall 20 percent reduction in per capita residential and commercial water use in the unincorporated area by 2020.
- **Policy WR 4.5:** Promote the use of supplemental water such as reclaimed sewage effluent and water from existing impoundments to prevent overdraft of groundwater. Consider new ways to recharge underground basins and to expand the use of reclaimed water. Encourage the eventual abandonment of ocean outfalls.
- **Policy WR 4.6:** Encourage the use of graywater systems, rainwater catchments, and other water reuse methods in new development and renovation projects, consistent with state and local water quality regulations.
- **Policy WR 4.8:** Support efforts of the resource conservation districts, Cal Poly, the University of California Cooperative Extension, and others to research, develop, and implement more efficient irrigation techniques.

EnergyWise Plan

The EnergyWise Plan was adopted by the County of San Luis Obispo in 2011, and updated in 2016, to implement the goals established by the Conservation and Open Space Element of the County's General Plan (County of San Luis Obispo 2016).

City of San Luis Obispo General Plan

The City of San Luis Obispo's General Plan includes the following goals and policies related to GHG emissions (City of San Luis Obispo 2014):

GOAL 4.2: Increase use of sustainable energy sources such as solar, wind and thermal energy, and reduce reliance on non-sustainable energy sources to the extent possible with available technology and resources.

- Policy 4.3.1: The City will employ the best available practices in energy conservation, procurements, use and production, and will encourage individuals, organizations and other agencies to do likewise. "Best available practices" means behavior and technologies that reflect recommendations of specialists and that use the least energy for a desired outcome, considering available equipment, life-cycle costs, social and environmental side effects, and the regulations of other agencies. Best available practices include use of sustainable sources. Sustainable sources are naturally renewed in a relatively short time and avoid substantial undesirable side effects.
- Policy 4.3.4: The City will promote the use of cost effective, renewable, non-depleting energy sources wherever possible, both in new construction projects and in existing buildings and facilities.
- Policy 4.3.5: The City will cooperate with Federal, State and local governments and other appropriate entities to accomplish energy conservation objectives throughout the state, and inform employees, its contractors, staff and the general public of the need for and methods of energy conservation.
- Policy 4.3.6: The City shall encourage energy-efficient "green buildings" as certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design Program or equivalent certification.
- Policy 4.3.7: The City's form will support energy efficiency and the use of sustainable energy sources.
- Policy 4.4.1: Residences, work places and facilities for all other activities will be located and designed to promote travel by pedestrians and bicyclists.
- Policy 4.4.2: The City's transportation and circulation systems shall foster travel by modes other than motor vehicles, including walking, bicycles and public transit.

GOAL 4.5: Encourage the provision for and protection of solar access.

- Policy 4.5.1: To encourage use of solar energy, reasonable solar access shall be provided and protected. The City will protect reasonable solar exposure for existing collectors and likely locations of future collectors, both active and passive.
- Policy 4.5.4: When solar collectors are proposed as part of a development, the development plan will locate solar collectors and include features to assure adequate solar access.
- Policy 4.5.7: Sites and buildings should be designed to avoid unwanted heat gain from solar exposure. Features that provide shading at suitable times of the day and year and generally should be "passive" or automatic, avoiding the need for occupants to regularly monitor or adjust them.

GOAL 5.2: The City will use materials efficiently in its buildings and facilities, services and operations, and encourage other to do the same.

- Policy 5.4.1: The City will employ the best available practices in materials procurement, use and recycling, and will encourage individuals, organizations and other agencies to do likewise. "Best available practices" means behavior and technologies that, considering available equipment, life-cycle costs, social and environmental side effects, and the regulations of other agencies.
- Policy 5.4.3: The City will promote waste diversion and material recycling in private development, business and operations, and will encourage businesses or nonprofit entities to provide building materials recycling and source reduction services.

City of San Luis Obispo Climate Action Plan

The City adopted its Climate Action Plan in August 2012 and is currently updating its plan for 2035. The 2012 Climate Action Plan includes community strategies for reducing GHG emissions through six sectors: buildings, renewable energy, transportation and land use, water, solid waste, and parks and open space to achieve an overall reduction target for the year 2020 (City of San Luis Obispo 2012).

3.8.2 Environmental Setting

THE PHYSICAL SCIENTIFIC BASIS OF GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth emits lower frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing (IPCC 2014:5).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remain stored in the atmosphere (IPCC 2013:467).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

GREENHOUSE GAS EMISSION SOURCES

Statewide

As discussed previously, GHG emissions are attributable in large part to human activities. The total GHG inventory for California in 2016 was 429 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) (CARB 2018b). This is less than the 2020 target of 431 $MMTCO_2e$ (CARB 2018c:1). Table 3.8-1 summarizes the statewide GHG inventory for California.

Table 3.8-1 Statewide GHG Emissions by Economic Sector

Sector	Percent
Transportation	41
Industrial	23
Electricity generation (in state)	10
Electricity generation (imports)	6
Agriculture	8
Residential	7
Commercial	5
Not specified	<1

Source: CARB 2018b

Cal Poly

As part of the PolyCAP, Cal Poly conducted a GHG emissions inventory for a baseline year of 2015, from which future growth and anticipated legislative actions were forecasted, as well as a backcasted 1990 baseline to align with adopted policies. The inventory separates GHG emissions into three categories: Scope 1, Scope 2, and Scope 3 emissions.

GHG accounting protocols recognize that the Scope 2 emissions reported by one entity may also be reported as Scope 1 emissions by another entity. For example, the Scope 2 emissions from electricity use reported by a local government may also be reported as Scope 1 emissions by the regionally serving utility that produced the electricity. This dual reporting does not constitute double counting of emissions, as the entities report the emissions associated with the electricity production and use in different scopes (Scope 1 for the regionally serving utility and Scope 2 for the local government). Emissions can only be aggregated meaningfully within a scope, not across scopes.

This also applies to Scope 3 emissions, as one entity's Scope 3 emissions are also another entity's Scope 1 or Scope 2 emissions. Thus, all scopes should be accounted for separately. The PolyCAP divides the campus's GHG emissions into the three scopes. Table 3.8-2 shows Cal Poly's GHG emissions by scope for 1990 and 2015.

Table 3.8-2 Cal Poly San Luis Obispo Greenhouse Gas Emissions Inventories for 1990 and 2015 ($MTCO_2e$)

Emissions Sector	1990	2015
Scope 1		
Fleet	1,036	790
Landscaping	4	4
Stationary Sources	14,142	12,401
Fugitive[1]	2,311	1,344
Water	210	171
Scope 2		
Electricity (Purchased)	7,260	8,358
Total Scope 1 and 2 Emissions	**24,963**	**23,138**
Scope 3		
Air Travel	682	682
Commuting	19,952	23,138
Solid Waste	1,418	227
Total Scope 1, 2, and 3 Emissions	**47,015**	**47,115**

Note: $MTCO^2e$ = metric tons of carbon dioxide equivalent.

1 Fugitive emissions include wastewater lagoons, composting operations, and agricultural uses.

Source: PolyCAP Team 2015

The GHG emissions inventory shows that Cal Poly has already reduced its Scope 1 and 2 emissions below 1990 levels, 5 years before the policy mandate, even with 100-percent growth in buildings and on-campus housing over that period. The inventory also shows that over 50 percent of Cal Poly's emissions are generated from vehicle commute.

EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

According to the Intergovernmental Panel on Climate Change, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature will increase by 3.7 to 4.8 degrees Celsius (°C) (6.7 to 8.6 degrees Fahrenheit [°F]) by the end of the century unless additional efforts to reduce GHG emissions are made (IPCC 2014:10). According to CEC, temperatures in California will warm by approximately 2.7°F above 2000 averages by 2050 and by 4.1°F to 8.6°F by 2100, depending on emission levels (CEC 2012:2).

Other environmental resources could be indirectly affected by the accumulation of GHG emissions and the resulting rise in global average temperature. In recent years, California has been marked by extreme weather and its effects. According to CNRA's *Safeguarding California Plan: 2018 Update*, California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014 (CNRA 2018:55). In contrast, the northern Sierra Nevada experienced its wettest year on record during the 2016-2017 water year (CNRA 2018:64). The changes in precipitation exacerbate wildfires throughout California, increasing their frequency, size, and devastation. As temperatures increase, the amount of precipitation falling as rain rather than snow also increases, which could lead to increased flooding because water that would normally be held in the snowpack of the Sierra Nevada and Cascade Range until spring would flow into the Central Valley during winter rainstorm events. This scenario would place more pressure on California's levee/flood control system (CNRA 2018:190–192). Furthermore, in the extreme scenario involving the rapid loss of the Antarctic ice sheet, the sea level along California's coastline could rise up to 10 feet by 2100, which is approximately 30–40 times faster than the sea-level rise experienced over the last century (CNRA 2017:102). Changes in temperature, precipitation patterns, extreme weather events, wildfires, and sea-level rise have the potential to threaten transportation and energy infrastructure and crop production (CNRA 2018:64, 116–117, 127).

The California Department of Transportation (Caltrans) owns and operates more than 51,000 miles along 265 highways, as well as three of the busiest passenger rail lines in the nation. Sea level rise, storm surge, and coastal erosion are imminent threats to highway, roads, bridge supports, airports, transit systems, and rail lines near sea level and seaports. Shifting precipitation patterns, increased temperatures, wildfires, and increased frequency in extreme weather events also threaten transportation systems across the state. Temperature extremes and increased precipitation can increase the risk of road and railroad track failure, decreased transportation safety, and increased maintenance costs (CNRA 2017).Water availability and changing temperatures, which affect the prevalence of pests, disease, and species, directly affect crop development and livestock production. Other environmental concerns include decline in water quality, groundwater security, and soil health (CNRA 2017). Vulnerabilities of water resources also include risks to degradation of watersheds, alteration of ecosystems and loss of habitat, impacts to coastal areas, and ocean acidification (CNRA 2017). The ocean absorbs approximately a third of the CO_2 released into the atmosphere every year from industrial and agricultural activities, changing the chemistry of the ocean by decreasing the pH of seawater. This ocean acidification is harmful to marine organisms, especially calcifying species such as oysters, clams, sea urchins, and corals (CNRA 2017).

Cal-Adapt is a climate change scenario planning tool developed by CEC that downscales global climate model data to local and regional resolution under two emissions scenarios. The Representative Concentration Pathway (RCP) 8.5 scenario represents a business-as-usual future emissions scenario, and the RCP 4.5 scenario represents a future with reduced GHG emissions. According to Cal-Adapt, annual average temperatures in the project area are projected to rise by 4.1°F to 6.1°F by 2099, with the low and high ends of the range reflecting the lower and higher emissions increase scenarios (CEC 2019).

San Luis Obispo County experienced an annual average high temperature of 70.5°F between 1950 and 2005. Under the RCP 4.5 scenario, the county's annual average high temperature is projected to increase by 2.5°F to 73.0°F by

2050 and increase an additional 4.1°F to 74.6°F by 2099 (CEC 2019). Under the RCP 8.5 scenario, the county's annual average high temperature is projected to increase by 2.8°F to 73.3°F by 2050 and increase an additional 6.1°F to 76.6°F by 2099 (CEC 2019).

San Luis Obispo County experienced an average precipitation of 20.8 inches per year between 1950 and 2005. Under the RCP 4.5 scenario, the county is projected to experience an increase of 0.5 inches to 21.3 inches per year by 2050 and increase to 24.1 inches per year by 2099 (CEC 2019). Under the RCP 8.5 scenario, the county is projected to experience an increase of 1.5 inches to 22.3 inches per year by 2050 and increase by 3.2 inches to 24.0 inches per year by 2099 (CEC 2019).

3.8.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

GHG emissions associated with the project would be generated during project construction and during operation after the project is built. Methods used to estimate levels of construction- and operation-related GHGs are described below.

Construction-Related Greenhouse Gas Emissions

Short-term construction-generated GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (CAPCOA 2016), as recommended by the San Luis Obispo County Air Pollution Control District (APCD) and other air districts in California. Modeling was based on project-specific information (e.g., land use type, building square footage, energy information) where available; assumptions based on typical construction activities; and default values in CalEEMod that are based on the project location and land use types. Construction was assumed to begin in 2020. Although the actual construction schedule is unknown at this time, near-term and long-term projects have been identified. Near-term projects were estimated to begin construction in 2020 and assumed to last for 9 years, with the University-Based Retirement Community and the Slack and Grand neighborhood beginning construction in 2020 along with the academic and student housing short-term projects. Long-term projects were estimated to begin construction in 2029 and the project's full buildout would occur in 2035. Total GHG emissions associated with construction over 15 years were summed and then amortized over 25 years, in accordance with APCD guidance (APCD 2012:2-2).

Operation-Related Greenhouse Gas Emissions

Operation-related emissions of GHGs were estimated for area sources (e.g., landscape maintenance equipment), energy use (i.e., electricity and natural gas consumption), water use, wastewater generation, solid waste generation, and mobile sources. Operation-related mobile-source GHG emissions were modeled based on the estimated level of VMT generated by residents, students, employees and visitors. VMT estimates were derived from data generated during the traffic impact analysis conducted for the project (see Section 3.13, "Transportation"). Mobile-source emissions were calculated using CalEEMod. Daily VMT were adjusted to annual VMT using a conversion factor of 267 days per year, which accounts for Cal Poly's academic schedule, holidays, and enrollment levels during summer and regular academic quarters. See Appendix C for details.

Indirect emissions associated with electricity and natural gas consumption were estimated using adjusted GHG emissions factors for Pacific Gas and Electric Company based on compliance with Renewable Portfolio Standard targets. The project's level of electricity and natural gas use was based on 2019 Title 24-adjusted consumption rates for each land use type. Sustainable design features such as water-efficient plumbing fixtures, improved lighting efficiency, and waste diversion rates were accounted for in the emissions estimates, in compliance with CSU and Cal Poly sustainability goals and policies. Operational area source GHG emissions from landscaping equipment were estimated using CalEEMod based on model defaults for the applied land uses.

The 2035 Master Plan includes the development of an on-site water reclamation facility (WRF) to treat campus-generated effluent. The WRF would emit process-based GHG emissions. CalEEMod estimates GHG emissions associated with water and wastewater treatment, conveyance, and delivery and reports them together as "water" emissions. Water-related methane and nitrous oxide emissions estimated by CalEEMod, attributed to the new population under the 2035 Master Plan, are assumed to reflect the process-based GHG emissions associated with the WRF. The project was anticipated to have an annual water demand of 400 acre-feet, as discussed in Chapter 2, "Project Description," which was used in the emissions modeling conducted in CalEEMod. Detailed model assumptions and inputs for these calculations are presented in Appendix C.

Consistency with Applicable Plans, Policies, Regulations

The project was also evaluated for its consistency with adopted regulations, plans, and policies aimed at reducing GHG emissions. These include the 2017 Scoping Plan, CSU Sustainability Policy, Second Nature Climate Leadership Commitment, and PolyCAP. The analysis was generally qualitative in nature and considered proposed GHG-reduction design features as GHG emissions reduction targets set by CSU and Cal Poly.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considered continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. The following principles are relevant to GHG emissions:

- General Principle (GP) 11: Cal Poly should be sustainable with regard to its land and resource planning, as well as site and building design, and operations. Cal Poly should meet or exceed all state and system-wide sustainability policies.
- GP 13: Access to and around campus should be safe, efficient and effective for all modes, while shift to an active transportation system that gives priority to walking, bicycles, emerging mobility technologies, and transit over cars.
- Implementation Program (IP) 05: Cal Poly should continue its program of identifying areas for solar and other forms of renewable energy.
- IP 06: Cal Poly should continue its program of retrofitting older buildings for energy and water efficiency.
- IP 07: Cal Poly should investigate the use of reclaimed water and the use of grey water systems; and turf should be limited to high use areas only.
- IP 08: Cal Poly should investigate the potential of becoming a climate action reserve.
- IP 12: Cal Poly should incorporate pedestrian, bicycle and transit plans into a comprehensive and updated multi-modal active transportation plan designed consistent with leading standards.
- IP 14: As a regional leader in fostering active transportation, Cal Poly should partner with local, regional and national public and private organizations (including but not limited to the City, County, Caltrans, SLOCOG, RTA [San Luis Obispo Regional Transit Authority], Amtrak, and Union Pacific Railroad) to make San Luis Obispo a model for modal shift from single occupancy autos to a complete active transportation system.
- IP 20: Cal Poly should partner with the City to help develop off-campus bicycle improvements as prescribed in the City's bike plan and that improve connections between the campus and community.
- IP 21: Convenient bicycle routes throughout the campus, as well as bike parking located as near as practical to campus origins and destinations, should be provided to encourage bicycle use.
- IP 23: Cal Poly should continue to work with the City and RTA to make public transportation more convenient than automobile use through such improvements as shorter headways, increased evening and weekend services, and greater convenience for on-campus residents.
- IP 27: Any future or renovated parking facility should meet the certification standards of the Green Parking Council or similar organization.

- IP 28: Where activities are located beyond walking distance from the Academic Core, alternative transportation options should be provided.
- IP 29: If intra-campus shuttles or similar future services are provided, they should be low or zero emission (such as electric, CNG [compressed natural gas] or gas hybrid).
- Other Recommendation (OR) 13: Infrastructure development should maximize resource conservation, leverage current policy and practice in support of sustainable design, consider long-term return on energy investment, and establish a foundation for future revenue potential.
- OR 14: Cal Poly should strive to be a net zero campus by investing in renewable power and prioritizing on-campus generation.
- OR 15: Cal Poly should continue to exceed Title 24 CALGreen [California Green Building Standards Code] requirements in new construction.
- OR 16: Cal Poly should plan for solid waste management, and in particular for recyclables, in all future development.
- OR 17: Cal Poly should be the model for Low Impact Design principles.
- Transportation and Circulation (TC) 01: Existing roads in the Academic Core, including North Perimeter, should be re-designed and managed to reflect mode priorities.
- TC 02: Single occupancy vehicle trips to campus should be reduced by increasing ride sharing and by substituting cars with active transportation options.
- TC 04: On-campus residential neighborhoods should have convenient access to public transportation.
- TC 07: Cal Poly should give higher priority to committing resources to active transportation and trip reduction measures over providing more parking on campus.
- TC 08: Conflicts among circulation modes should be avoided through such methods as separated routes, grade separated paths, traffic calming and intersection controls.
- TC 09: A multimodal transportation center should be planned and funded on the campus.

THRESHOLDS OF SIGNIFICANCE

Global climate change is inherently cumulative because the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Thus, the project's impact on climate change is addressed only as a cumulative impact.

State CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency with relevant, adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. Under Appendix G of the State CEQA Guidelines, implementing a project would result in a cumulatively considerable contribution to climate change if it would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or
- conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

The buildout year of the project is 2035, for which neither the APCD nor CSU has developed GHG emission thresholds. Thus, to evaluate the project in light of the 2030 statewide GHG reduction target codified by SB 32 (i.e., 40 percent below 1990 levels), and the 2050 long-term statewide goal identified in EO B-30-15 (i.e., 80 percent below 1990 levels), a project-specific mass emissions threshold was derived. The method is briefly described below, and detailed calculations are provided in Appendix C.

The state's 2015 emissions inventory was adjusted to match the inventory sectors included in the PolyCAP to derive the percent reduction that the state would need to achieve the 2030 and 2050 emissions reduction targets set forth in SB 32 and EO B-30-15. A percent reduction from 2015 levels for 2035 was established using a straight-line regression between 2030 and 2050 emissions reduction targets. Based on this calculation, the state would need to reduce emissions by 49 percent by 2035 to be in line with 2050 target. The needed percent reduction was applied to Cal Poly's 2015 emissions inventory to determine the 2035 mass emissions limit for Cal Poly that would be in line with the state's 2030 and 2050 emissions limits. Using the established mass emissions limit for Cal Poly for 2035 (i.e., 24,086 $MTCO_2e$) and the total anticipated student plus faculty/staff population for Cal Poly in 2035 (i.e., 27,411), a per capita emissions limit of 0.88 $MTCO_2e$ was established for Cal Poly. This per capita emissions limit is based on the state's established emissions reductions needed to achieve 2030 and 2050 mandated targets. Therefore, emissions associated with Cal Poly operations that meet this limit would be consistent with state targets.

It important to note that the PolyCAP covers the entire Cal Poly campus through the year 2050. The mass emission limit developed for the 2035 Master Plan applies only to the development anticipated under the 2035 Master Plan because it does match the projections included in the PolyCAP. The PolyCAP was adopted to address the remaining GHG emissions associated with existing campus operations. As discussed in the regulatory setting section, the PolyCAP aims to exceed the CSU mandate and achieve net zero GHG emissions by 2050.

To evaluate the significance of project-generated GHGs, the anticipated net increase in students and faculty/staff (i.e., 4,843) was multiplied by the per capita emissions limit to obtain a mass emissions threshold of 4,255 $MTCO_2e$/year. Detailed calculations for the threshold determination can be found in Appendix C. Thus, the project would result in a cumulatively considerable contribution to climate change if it would:

- exceed the mass emissions threshold of 4,255 $MTCO_2e$/year or
- conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Generate GHG Emissions That May Have a Significant Impact on the Environment

Construction activity associated with development of the project is estimated to generate a total of 20,819 $MTCO_2e$. Operation of the project would result in GHG emissions associated with mobile sources, area sources, building energy, water consumption, and wastewater and solid waste generation. After full buildout, the project would generate approximately 15,025 $MTCO_2e$/year, including the total construction emissions amortized over 25 years. This would exceed the identified threshold of 4,255 $MTCO_2e$/year. This impact would be **significant.**

GHG emissions associated with the project would be generated during construction and operation. Project-related construction activities would result in the generation of GHG emissions from the use of heavy-duty off-road construction equipment, delivery trucks associated with materials transport, and vehicle use during worker commute.

Operation of the project would result in mobile-source GHG emissions from vehicle trips (i.e., project-generated VMT), area-source emissions from the operation of landscape maintenance equipment, energy use emissions from consumption of electricity and natural gas, water-related energy consumption associated with water use and the conveyance and treatment of wastewater, and waste-generated emissions from the transport and disposal of solid waste. Emissions are summarized in Table 3.8-3 below by source for the buildout year of 2035.

As shown in Table 3.8-3 below, annual operational GHG emissions associated with the project would be 15,025 $MTCO_2e$/year. This exceeds the mass emissions threshold established for this project of 4,255 $MTCO_2e$/year and the project would need to reduce its emissions by 10,770 $MTCO_2e$/year to align with both statewide and Cal Poly's GHG targets. This impact would be **significant**.

Table 3.8-3 Unmitigated GHG Emissions Associated with Construction and Operation in 2035 ($MTCO_2e$)

Emissions Source	GHG Emissions
Area	64
Building Energy	4,210
Mobile (Vehicular)	9,154
Water-Related	215
Solid Waste	550
Amortized Construction[1]	833
Total	**15,025**
Mass Emissions Threshold	**4,255**

Notes: GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

[1] Construction emissions were amortized over 25 years per San Luis Obispo County Air Pollution Control District guidance. Total construction emissions were calculated to be 20,819 $MTCO_2e$.

Source: Modeling conducted by Ascent Environmental in 2019

Mitigation Measures

Mitigation Measure 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.

Anticipated GHG emissions reductions resulting from the above mitigation measures were quantified and summarized below in Table 3.8-4.

Table 3.8-4 Summary of GHG Emissions Reduction from Mitigation Measure 3.8-1

Emissions Source	GHG Emissions ($MTCO_2e$/year)
Area	64
Building Energy	1,784
Mobile	9,154
Water-Related	172
Solid Waste	325[1]
Amortized Construction	833
Total	**12,331**
Mass Emission Threshold	**4,255**

Notes: GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

[1] Emissions reduction related to the mitigation measure recommending zero waste by 2040 was not calculated owing to the uncertainty in available strategies for achieving the target. Rather, it was assumed that Cal Poly would continue to achieve, at a minimum, a diversion rate of 86 percent, a rate achieved in 2017. Thus, mitigated emissions were reduced consistent with current levels of waste diversion.

Source: Modeling conducted by Ascent Environmental in 2019

As shown in Table 3.8-4, implementation of Mitigation Measure 3.8-1 would reduce GHG emissions associated with the 2035 Master Plan to 12,331 $MTCO_2e$/year, reducing the project's operational emissions by 2,694 $MTCO_2e$/year. Most of these emissions would come from mobile sources. To meet the established threshold of significance, additional reductions of 8,076 $MTCO_2e$/year would be required.

Mitigation Measure 3.8-2: Purchase GHG Offsets

Annual project-generated GHG emissions would exceed the established threshold by 8,076 $MTCO_2e$/year after incorporation of Mitigation Measure 3.8-1. Additional GHG emissions reductions could be achieved from the development of a local (i.e., campus) offset program or direct investments in existing local programs such as financing installation of regional electric vehicle–charging stations or investing in local urban forests.

Where development or investments in local programs are not feasible or available, Cal Poly may choose to mitigate additional GHG emissions through the purchase of carbon credits available through any one of the following verifiable entities/registries: CARB, Climate Action Reserve, California Air Pollution Control Officers Association, the APCD, or any other equivalent or verifiable registry. Such offsets, either established by Cal Poly or purchased, will meet the requirements of CEQA Guidelines Section 15126.4(C)(3), and meet the following criteria:

- **Real**—They represent reductions actually achieved (not based on maximum permit levels).

- **Additional/surplus**—They are not already planned or required by regulation or policy (i.e., not double counted).
- **Quantifiable**—They are readily accounted for through process information and other reliable data.
- **Enforceable**—They are acquired through legally binding commitments/agreements.
- **Validated**—They are verified through the accurate means by a reliable third party.
- **Permanent**—They will remain as GHG reductions in perpetuity.

Carbon offset credits must be purchased prior to occupancy of individual structures developed under the Master Plan up to 201,900 $MTCO_2e$ of credits (i.e., 25 years multiplied by 8,076 $MTCO_2e$) for the entire campus. The amount to be purchased for each development under the Master Plan can either be calculated based on the percentage share of the development as it relates to overall development under the Master Plan or based on updated modeling at the time the development is considered for approval. The price per MT of CO_2e varies depending on the availability of credits on the market, the number of credits purchased at one time, and the type and location of carbon offset being purchased. Current pricing estimates range from $0.85 to $8.5 per $MTCO_2e$.

Significance after Mitigation

Mitigation Measures 3.8-1 and 3.8-2 would achieve PolyCAP BDG Goal 1 of net zero energy buildings, through the exceedance of the California Energy Code, on-site renewable energy generation to match electricity consumption, installation of energy-efficient appliances and lighting, and the purchase of carbon offset credits. This also aligns with Appendix B of the 2017 Scoping Plan, Local Action, which recommends the use of on-site renewables, LEED certification or CALGreen achievement, cool roofs, and net zero energy buildings (CARB 2017). Note that Mitigation Measure 3.13-1, detailed in Section 3.13, "Transportation," includes preparation and implementation of a Traffic Demand Management Plan that would provide substantial reductions in VMT and vehicle trips, resulting in approximately 20 percent reductions in mobile-source exhaust GHG emissions.

The 2035 GHG significance threshold would be met through implementation of Mitigation Measures 3.8-1 and 3.8-2. It is speculative at this time to determine consistency with long-term GHG reduction goals for the year 2050 due to uncertainty in future technology and regulations. The scale of reductions required to achieve 2050 goals of Cal Poly or the state would require improvements in the availability and/or cost of near-zero and zero-emissions technology, as well as additional GHG reductions from ongoing CSU, state, and federal legislative actions that are currently unknown. By achieving the identified significance threshold for 2035, Cal Poly would be on a trajectory toward attaining 2050 targets. For these reasons, the project would not conflict with Cal Poly's long-term carbon neutrality goal, the 2017 Scoping Plan, or established statewide GHG reduction targets. Therefore, the project would be consistent with statewide targets and would support a variety of other state plans, policies, and regulations designed to reduce GHG emissions. This impact would be **less than significant.**

Impact 3.8-2: Conflict with an Applicable Plan, Policy or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of GHGs

Both construction and operation of the project would include GHG efficiency measures consistent with all state and Cal Poly policies and plans adopted for the purpose of reducing GHG emissions and enabling the achievement of the statewide reduction target of SB 32 of 2016. The project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. Therefore, this impact would be **less than significant.**

The 2035 Master Plan was evaluated, qualitatively, for consistency with applicable local and state plans that were developed with the intent of reducing GHG emissions. Each applicable plan is discussed separately below.

Consistency with the 2017 Scoping Plan

The 2017 Scoping Plan lays out the framework for achieving the 2030 statewide GHG reduction target of 40 percent below 1990 levels and progress toward additional reductions. Appendix B of the 2017 Scoping Plan includes detailed GHG reduction measures and local actions that land use development projects can implement to support the statewide goal. For CEQA analyses, the 2017 Scoping Plan states that projects should implement feasible mitigation, preferably measures that can be implemented on-site. The project would include many GHG reduction features that would be consistent with the measures listed in Appendix B of the 2017 Scoping Plan. These include implementation of the Guiding Principles of the 2035 Master Plan, such as GP 13, IP 12, IP 21, and IP 23, which all seek to reduce VMT and increase the use of alternative modes of transportation throughout the campus. Additionally, OR 14 calls for zero net energy buildings and an increase in on-site renewable energy generation. These are consistent with the local measures of Appendix B of the 2017 Scoping Plan. Because the project would achieve the GHG emissions limit detailed in Impact 3.8-1, above, the project would not conflict with the state's ability to meet the 2030 GHG reduction target. Project design features (such as those required by the Master Plan Guiding Principles) and actions under Mitigation Measure 3.8-1 would be consistent with Appendix B of the 2017 Scoping Plan. For these reasons, the project would not conflict with the 2017 Scoping Plan.

Consistency with the CSU Sustainability Policy

The CSU Sustainability Policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. Most of the goals of the policy have a target year of 2020. Because the 2035 Master Plan is not anticipated to be built out until 2035, only one of these policies applies: reduce GHG emissions 80 percent below 1990 levels by 2040. This emissions reduction target applies to only Scope 1 and 2 emissions. The GHG emissions limit developed for the 2035 Master Plan is an interpolated target specific to Cal Poly's baseline 2015 GHG emissions. The 2035 GHG emissions limit would reduce the GHG emissions associated with the development under the 2035 Master Plan to 49 percent below 2015 levels by 2035. This target includes all three emission scopes, which is more robust than the CSU Sustainability Policy. As shown in Impact 3.8-1, above, the project would comply with this target and would put the University on a trajectory to meet both statewide and CSU emission reduction targets. The project would be consistent with the CSU Sustainability Policy.

Consistency with the Second Nature Climate Leadership Commitment

In 2016, Cal Poly became a Charter Signatory to the Climate Leadership Commitment, establishing a goal for Cal Poly to achieve net zero emissions from all sources (Scope 1, 2, and 3) by 2050. As discussed above, the emissions limit developed for the 2035 Master Plan includes all emission scopes and would reduce the project's emissions to 49 percent below 2015 levels by 2035. Achievement of this target would put the University on a trajectory toward net zero emissions by 2050. The project would be consistent with the Climate Leadership Commitment.

Consistency with the PolyCAP

The PolyCAP aims to exceed the CSU Sustainability and achieve net zero GHG emissions by 2050, as is included in the Second Nature Climate Leadership Commitment. For the same reasons that the project would be consistent with the Climate Leadership Commitment through achieving the 49 percent GHG reduction target by 2035, the project would put the University on a trajectory toward meeting the PolyCAP goals. Additionally, many of GHG reduction measures detailed in the PolyCAP are included as project design features or as part of Mitigation Measure 3.8-1. These include achieving CALGreen Tier 2 standards for buildings, increasing renewable energy generation, striving to meet zero waste goals, and reducing water consumption. For these reasons, the project would be consistent with the PolyCAP.

Summary

As discussed under Impact 3.8-1, the project would achieve the GHG emissions limit of 4,255 $MTCO_2e$/year, which represents a 49 percent reduction below 2015 levels by 2035, which is aligned with the state's GHG reduction targets as discussed in the 2017 Scoping Plan. The achievement of this reduction would put Cal Poly on a trajectory toward attaining 2040 and 2050 targets, including those set forth in the CSU Sustainability Policy, Climate Leadership Commitment, and PolyCAP. The project would include design features that would be consistent with local actions included in Appendix B of the 2017 Scoping Plan. For these reasons, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction GHG emissions. This impact would be **less than significant**.

3.9 HYDROLOGY AND WATER QUALITY

This section identifies the regulatory context and policies related to hydrology and water quality, describes the existing hydrologic conditions within the Master Plan Area, and evaluates potential hydrology and receiving water-quality impacts of the 2035 Master Plan. Potential effects on the capacity of water and sewer/wastewater are addressed in Section 3.14, "Utilities and Service Systems."

No comments related to hydrology and water quality were received in response to the Notice of Preparation (NOP).

3.9.1 Regulatory Setting

FEDERAL

Clean Water Act

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. Various elements of the CWA address water quality. These are discussed below.

<u>CWA Water Quality Criteria/Standards</u>

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described in the discussion of state regulations below, the State Water Resources Control Board (SWRCB) and its nine regional water quality control boards (RWQCBs) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

<u>CWA Section 303(d) Impaired Waters List</u>

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still comply with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. In California, implementation of TMDLs is achieved through water quality control plans, known as Basin Plans. See "State" section, below.

Stenner Creek is included on the 303(d) list of impaired waters for the 2016 reporting year (SWRCB 2016). State water quality standards specify designated uses individual waters should support (e.g., recreation or water supply). Stenner Creek is designated for agricultural supply, freshwater habitat, municipal and domestic supply, water contact recreation, and noncontact recreation. Stenner Creek is listed as impaired for pathogen pollutants related to domestic animals and livestock, natural sources, and urban runoff/storm sewers (SWRCB 2017).

<u>National Pollutant Discharge Elimination System</u>

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source waste discharges and nonpoint source storm water runoff. Each permit identifies limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits.

"Nonpoint source" pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction activities and the general quality of storm water in municipal storm water systems. The goal of the NPDES nonpoint source regulations is to improve the quality of storm water discharged to receiving waters to the maximum extent practicable.

The RWQCBs in California are responsible for implementing the NPDES permit system (see "State" section, below).

CWA Section 404 Discharge of Dredged or Fill Materials

Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) has primary responsibility for administering regulations for disposal of dredged or fill material in waters of the U.S., including jurisdictional wetlands. Activities in waters of the United States regulated under this program include dredging and filling of waters of the U.S. associated with a development project, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects.

Refer to Section 3.5, "Biological Resources," for further information regarding Clean Water Act requirements and applicability to development within the Master Plan Area.

National Flood Insurance Act

The Federal Emergency Management Agency (FEMA) is tasked with responding to, planning for, recovering from and mitigating against disasters. The Federal Insurance and Mitigation Administration within FEMA is responsible for administering the National Flood Insurance Program (NFIP) and administering programs that aid with mitigating future damages from natural hazards.

FEMA prepares Flood Insurance Rate Maps (FIRMs) that delineate the regulatory floodplain to assist local governments with the land use planning and floodplain management decisions needed to meet the requirements of NFIP. Floodplains are divided into flood hazard areas, which are areas designated per their potential for flooding, as delineated on FIRMs. Special Flood Hazard Areas are the areas identified as having a 1 percent chance of flooding in each year (otherwise known as the 100-year flood). In general, the NFIP mandates that development is not to proceed within the regulatory 100-year floodplain if the development is expected to increase flood elevation by 1 foot or more.

STATE

California Porter-Cologne Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants SWRCB and each of the nine RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the CWA. The applicable RWQCB for the 2035 Master Plan is the Central Coast RWQCB. SWRCB and the Central Coast RWQCB have the authority and responsibility to adopt plans and policies, regulate discharges to surface water and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Under the Porter-Cologne Act, each RWQCB must formulate and adopt a water quality control plan (known as a "Basin Plan") for its region. The Water Quality Control Plan for the Central Coast Basin (Basin Plan) includes beneficial uses for inland surface waters, detailed Water Quality Objectives (WQOs), and an Implementation Plan to achieve WQOs. In addition to the Implementation Plan, the Basin Plan includes brief descriptions of SWRCB plans and policies and numerous RWQCB plans and policies that direct SWRCB and RWQCB actions and clarify the RWQCB's intent. The objective of the Basin Plan is to show how the quality of surface water and groundwater in the Central Coast Region should be managed and to provide the highest water quality reasonably possible. It designates beneficial uses and water quality objectives for waters of the state, including surface waters and groundwater and includes programs of implementation to achieve water quality objectives. The current Basin Plan consists of the 2019 Basin Plan edition and all amendments fully-approved after March 2019.

The Central Coast RWQCB (Region 3) also administers the adoption of waste discharge requirements (WDRs), manages groundwater quality, and adopts projects within its boundaries under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit).

NPDES General Permit for Storm Water Discharges Associated with Construction Activity

SWRCB adopted the statewide NPDES General Permit for storm water discharges associated with construction activity in August 1999. The state requires that projects disturbing more than 1 acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Cal Poly is subject to the SWRCB's Water Quality Order No. 2009-0009-DWQ, NPDES General Permit No. CAS000002 for Storm Water Discharges Associated with Construction and Land Disturbance Activities (2009 General Permit; SWRCB 2012), which requires the preparation of a storm water pollution prevention plan (SWPPP) for discharges regulated under the SWRCB program and applies to construction activities resulting in a land disturbance of 1 acre or more, or less than 1 acre but part of a larger common plan of development. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. As part of a SWPPP, best management practices (BMPs) are required to reduce impacts to the maximum extent practicable to prevent or reduce storm water pollution through treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

NPDES Municipal Storm Water Permitting Program

The Municipal Storm Water Permitting Program regulates storm water discharges from municipal separate storm sewer systems (MS4s). Storm water is runoff from rain or snowmelt that runs off surfaces such as rooftops, paved streets, highways or parking lots and can carry with it pollutants such as oil, pesticides, herbicides, sediment, trash, bacteria, and metals. The runoff can then drain directly into a local stream, lake, or bay. Often, the runoff drains into storm drains that eventually drain untreated runoff into a local water body.

The RWQCB regulates urban runoff discharges under the NPDES permit regulations, including from point discharge sources (i.e., industrial outfall discharges) and non-point discharge sources (i.e. storm water runoff) sources. Cal Poly is considered a Non-Traditional MS4 and is subject to the SWRCB's Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004 for Waste Discharge Requirements for Storm Water Discharges from Small MS4s (2013 General Permit) (SWRCB 2013). This permit requires the implementation of specific BMPs as well as monitoring and reporting on storm water management activities, including those during construction and post-construction.

California Water Code

The California Water Code is enforced by the California Department of Water Resources (DWR). The mission of DWR is "to manage the water resources of California in cooperation with other agencies, to benefit the state's people, and to protect, restore, and enhance the natural and human environments." DWR is responsible for promoting California's general welfare by ensuring beneficial water use and development statewide.

Groundwater Management

Groundwater Management is outlined in the California Water Code, Division 6, Part 2.75, Chapters 1-5, Sections 10750 through 10755.4. The Groundwater Management Act was first introduced in 1992 as Assembly Bill (AB) 3030 and has since been modified by Senate Bill (SB) 1938 in 2002, AB 359 in 2011, and the Sustainable Groundwater Management Act (SGMA) (SB 1168, SB 1319, and AB 1739) in 2014. The intent of the Acts is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing a groundwater management plan.

The SGMA became law on January 1, 2015 and applies to all groundwater basins in the state (Water Code Section 10720.3). By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1).

Pursuant to the SGMA, any local agency that has water supply, water management or land use responsibilities within a groundwater basin may elect to be a "groundwater sustainability agency" for that basin (Water Code Section 10723). A portion of the West Campus subarea is located within the San Luis Obispo Valley Groundwater Basin, which is designated by DWR as a high priority basin (County of San Luis Obispo 2019a). The County of San Luis Obispo and the City of San Luis Obispo formed Groundwater Sustainability Agencies (GSAs) within their respective jurisdictions to cover the entire San Luis Obispo Valley Groundwater Basin. The West Campus portion of the Master Plan Area that intersects the project site falls under the County of San Luis Obispo's GSA coverage area (County of San Luis Obispo 2019a). SMGA also requires local public agencies and GSAs in high- and medium-priority basins to develop and implement Groundwater Sustainability Plans (GSP) or alternatives to GSPs (DWR 2019). However, no GSP has been prepared for the San Luis Obispo Valley Basin as of the date of issuance of this EIR.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

San Luis Obispo County General Plan

The San Luis Obispo County (County) General Plan is the foundation upon which all land use decisions for the unincorporated areas of the County are based. Its main purposes are to illustrate the public policy for future land use for both public and private lands, and to provide the County Board of Supervisors, Planning Commission, Subdivision Review Board and Zoning Administrator (Hearing Officer) with specific direction for future decisions affecting land use development. The County General Plan Conservation and Open Space Element includes policies related to water quality, control flooding, and groundwater monitoring and management (County of San Luis Obispo 2010), including:

- **Policy WR 3.1: Prevent Water Pollution**. Take actions to prevent water pollution, consistent with federal and state water policies and standards, including but not limited to the federal Clean Water Act, Safe Drinking Water Act, and NPDES.
- **Policy WR 3.2: Protect Watersheds**. Protect watersheds, groundwater and aquifer recharge areas, and natural drainage systems from potential adverse impacts of development projects.
- **Policy WR 3.3: Improve Groundwater Quality**. Protect and improve groundwater quality from point and non-point source pollution, including nitrate contamination; Methyl tert-butyl ether (MTBE) and other industrial, agricultural, and commercial sources of contamination; naturally occurring mineralization, boron, radionuclides, geothermal contamination; and seawater intrusion and salts.
- **Policy WR 6.2: Region-wide Permitting**. The County should coordinate with applicable state, regional, and local permitting agencies to develop and implement a region-wide permitting program that will provide consistent watershed or regional implementation measures.
- **Policy WR 6.3: Drainage Problems**. Consider drainage problems in the context of an entire watershed. Drainage and flood management plans should address property owner and developer responsibilities. These plans should use an integrated watershed approach that incorporates flood management, water quality, water supply, groundwater, and ecosystem protection and enhancement objectives on a watershed/basin scale.
- **Policy WR 6.4: Integrated Drainage Approach**. Assure that proposed development integrates ecosystem enhancement, drainage control, and natural recharge as applicable.

City of San Luis Obispo General Plan

The City of San Luis Obispo (City) General Plan was adopted in December 9, 2014 to guide the use and protection of various resources to meet community purposes. The City General Plan's Conservation and Open Space Element and Water and Wastewater Element incorporate various polices that address water quality, flood protection, storm water runoff, groundwater recharge, and discharge of urban pollutants (City of San Luis Obispo 2014a, 2018). The following policies have been excerpted from the City's General Plan:

- **Policy 10.2.1: Water Quality**. The City will employ the best available practices for pollution avoidance and control and will encourage others to do so. "Best available practices" means behavior and technologies that result in the highest water quality, considering available equipment, life-cycle costs, social and environmental side effects, and the regulations of other agencies.
- **Policy 10.2.2: Ahwahnee Water Principles**. In planning for its water operations, programs and services, the City will be guided by the Ahwahnee Water Principles and will encourage individuals, organizations, and other agencies to follow these policies:
  a. Community design should be compact, mixed use, walkable and transit-oriented so that automobile-generated urban runoff pollutants are minimized and the open lands that absorb water are preserved to the maximum extent possible.
  b. Natural resources such as wetlands, flood plains, recharge zones, riparian areas, open space, and native habitats should be identified, preserved and restored as valued assets for flood protection, water quality improvement, groundwater recharge, habitat, and overall long-term water resource sustainability.
  c. Water holding areas such as creekbeds, recessed athletic fields, ponds, cisterns, and other features that serve to recharge groundwater, reduce runoff, improve water quality and decrease flooding should be incorporated into the urban landscape.
  d. All aspects of landscaping from the selection of plants to soil preparation and the installation of irrigation systems should be designed to reduce water demand, retain runoff, decrease flooding, and recharge groundwater.
  e. Permeable surfaces should be used for hardscape. Impervious surfaces such as driveways, streets, and parking lots should be minimized so that land is available to absorb storm water, reduce polluted urban runoff, recharge groundwater and reduce flooding.
  f. Dual plumbing that allows grey water from showers, sinks and washers to be reused for landscape irrigation should be included in the infrastructure of new development, consistent with State guidelines.
  g. Community design should maximize the use of recycled water for appropriate applications including outdoor irrigation, toilet flushing, and commercial and industrial processes. Purple pipe should be installed in all new construction and remodeled buildings in anticipation of the future availability of recycled water.
  h. Urban water conservation technologies such as low-flow toilets, efficient clothes washers, and more efficient water-using industrial equipment should be incorporated in all new construction and retrofitted in remodeled buildings.
  i. Ground water treatment and brackish water desalination should be pursued when necessary to maximize locally available, drought-proof water supplies.
- **Policy 10.3.2: Maintain Water Quality**. The City will do the following in to maintain a high level of water quality, and will encourage individuals, organizations, and other agencies to do likewise:
  a. Design and operate its water supply, treatment, and distribution system to prevent adverse effects on water quality (potential point source of pollutants such as chlorine).
  b. Design and operate its wastewater collection and treatment system to prevent adverse effects on water quality (potential point source of pollutants such as untreated sewage and chlorine).

c. Design, construct, and maintain its facilities such as parks, buildings and grounds, storm water facilities and parking to prevent adverse effects on water quality (potential point sources for pollutants such as petroleum and non-point sources of runoff contaminated with fertilizers, pesticides, litter, and vehicle residues).

d. Regulate the design, construction, and operation of private facilities over which the City has permit authority to ensure they will not have adverse effects on water quality (potential point sources for, as examples, sediment from construction and chemicals used in operations, and non-point sources for contaminated runoff).

e. Participate with other agencies, in particular the California Regional Water Quality Control Board, in watershed planning and management.

f. In locations subject to flooding, not allow activities, such as outdoor storage, that would be substantial sources of chemical or biological contamination during a flood, even though buildings associated with the activities would meet flood-protection standards.

g. Establish standards for non-point source water pollution in cooperation with the Regional Water Quality Control Board.

h. Establish a program of baseline water quality testing for City creeks.

i. Identify and protect groundwater recharge areas to maintain suitable groundwater levels and to protect groundwater quality for existing and potential municipal water sources.

- **Policy B 4.2.2: Infiltration and Inflow**. The City will minimize storm water and groundwater infiltration and inflow into the sewer system.

3.9.2 Environmental Setting

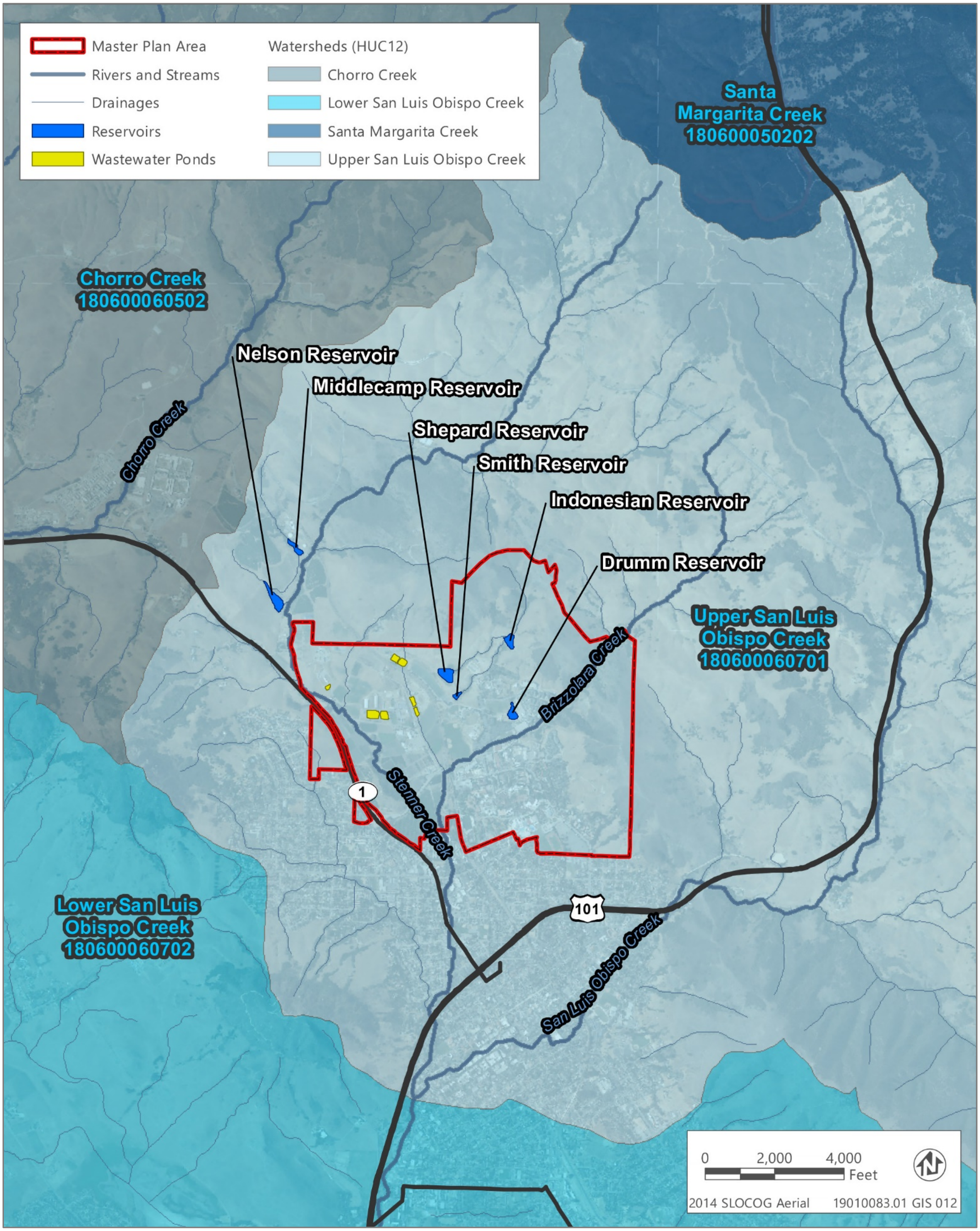
HYDROLOGY AND DRAINAGE

Regional Hydrology

The Master Plan Area is located in San Luis Obispo County, and abuts the city of San Luis Obispo to the south and west, and open space, ranch land, and public land to the north and east. The Master Plan Area is located approximately 12 miles east of the Pacific Ocean and west of the Coast Ranges Geomorphic Province of California. The main campus and is located within the Upper San Luis Obispo Creek watershed (Figure 3.9-1), within the larger Pismo Creek-Frontal Pacific Ocean watershed. The Upper San Luis Obispo Creek watershed encompasses approximately 18 square miles and is characterized by steep hillsides, a deep valley, and dense oak woodland and chaparral vegetation communities. This watershed consists primarily of agriculture, rural land uses, and scattered development (The Land Conservancy of San Luis Obispo County 1996), as well as developed portions, such as the campus and the City of San Luis Obispo. Nearby watersheds include the Chorro Creek watershed to the southwest, the Santa Margarita Creek watershed to the northwest, Lopez Canyon watershed to the north, and the Lower San Luis Obispo Creek watershed to the southeast (Figure 3.9-1).

Local Hydrology

The Master Plan Area lies within the Stenner Creek Sub-basin, within the San Luis Obispo Creek Basin, which serves as an important groundwater recharge area for the San Luis Obispo Creek Basin (Cal Poly 2015). San Luis Obispo Creek is a perennial coastal stream that flows south through the city of San Luis Obispo to an estuary at Avila Beach. Brizzolara Creek and Stenner Creek are two major tributaries to San Luis Obispo Creek (see Figure 3.9-1). Brizzolara Creek flows from the hills northeast of the Master Plan Area to the southwest through the Master Plan Area. This creek runs from the boundary between the East Campus and Academic Core subareas, on the south, and the North Campus subarea. At its intersection with Highland Drive, Brizzolara Creek makes an abrupt turn to the south and enters the West Campus subarea. Brizzolara Creek drains the Poly Canyon area north of Highland Drive and flows



Source: Data downloaded from Cal Poly and USGS in 2019

Figure 3.9-1 Existing Water Resources

southwest along the southern boundary of North Campus subarea, and northern boundary of the Academic Core and East Campus subareas, toward the City of San Luis Obispo. Stenner Creek flows southwest through the West Campus subarea and parallel to the east side of State Route 1 for approximately 1.8 miles, before it reaches San Luis Obispo Creek. Stenner Creek is the most affected by known point source discharges, including animal holding facilities, processing facilities, and agricultural fields in the North and West Campus subareas, and is included on the CWA 303(d) list of impaired waters for the 2016 reporting year (SWRCB 2016). Stenner Creek and Brizzolara Creek are also considered state and federal jurisdictional waters and are subject to USACE, California Department of Fish and Wildlife, and Central Coast RWQCB jurisdiction.

<u>Reservoir System</u>

There are six reservoirs within the San Luis Obispo Creek watershed. Four of them—the Drumm, Shepard, Indonesian, and Smith Reservoirs—are located within the Master Plan Area, and two—the Nelson and Middlecamp Reservoirs—are located outside of, and just northwest of the Master Plan Area (see Figure 3.9-1). As noted in further detail in Section 3.14, "Utilities and Service Systems," Cal Poly owns the rights to 959 acre-feet per year of water from Whale Rock Reservoir, located approximately 15 miles northwest of the Master Plan Area in the community of Cayucos. Non-potable water from Whale Rock Reservoir is pumped to Middlecamp Reservoir, located approximately 0.45 mile north of the Cal Poly Campus, and then distributed to Indonesian Reservoir for distribution to the campus agriculture reservoir system for irrigation of crops and animal production. Excess water is allowed to flow via a drainage canal to Nelson Reservoir, located to the south of Indonesian Reservoir, where it provides for recharge of the Stenner Creek aquifer. Smith Reservoir receives overflow from Shepard Reservoir, located to the northwest, and an unnamed drainage adjacent to the Equine Center, located approximately 5.7 miles south of Smith Reservoir. Surface water from Smith and Shepard Reservoirs then passes through a 4-foot-wide culvert along Mt Bishop Road and into Brizzolara Creek. Drumm Reservoir has capacity to hold approximately 449 acre-feet of non-potable water that is used primarily for irrigation, research at Cal Poly's Irrigation Training and Research Center, and non-point source pollution abatement at constructed wetlands in James Creek. Excess water is allowed to flow via a drainage from Nelson Reservoir, where it provides groundwater recharge for Stenner Creek.

<u>Groundwater Hydrology</u>

A portion of the West Campus subarea is located within the San Luis Obispo Valley Groundwater Basin, while the remainder of campus is not located within a designated groundwater basin. The San Luis Obispo Valley Groundwater Basin encompasses approximately 12,700 acres and is bounded on the northeast by the Santa Lucia Range, on the southwest by the San Luis Range, and on all other sides by contact with impermeable Miocene and Franciscan Group rocks. The northwestern portion of the basin is drained by San Luis Obispo, Prefumo, and Stenner Creeks. The southeastern portion of the basin is drained by tributaries of Pismo and Davenport Creeks. Average annual precipitation in the region ranges from 19 to 23 inches, with an average of 21 inches across the valley. The groundwater basin receives recharge from infiltration of precipitation within the valley, applied irrigation water, and streamflow. The total storage capacity of this groundwater basin was most recently reported as 24,000 acre-feet as of 1991 with 22,000 acre-feet of usable capacity. The sustained yield of the basin is estimated at 5,900 acre-feet per year, where sustained yield is defined as the maximum quantity of water that is available from a groundwater basin on an annual basis (DWR 2004).

The San Luis Obispo Valley Basin is designated as a high-priority basin by DWR (County of San Luis Obispo 2019a). Per SGMA, DWR is required to prioritize groundwater basins and direct high- and medium-priority basins to meet a timeline of targets on the path to sustainability (DWR 2018). The portion of the Master Plan Area that intersects the basin falls under the County of San Luis Obispo's GSA coverage area (County of San Luis Obispo 2019a), and Cal Poly is currently working as a participant in regional planning activities related to SGMA.

Per Section 3.14.2, Cal Poly currently pumps 120 acre-feet per year of groundwater from seven on-campus wells for agricultural purposes only. Five of the wells are located within the San Luis Obispo Creek watershed, which includes the Master Plan Area, and the other two are located within the Chorro Creek watershed located to the northeast. Groundwater is pumped from the wells located on University land and is limited by relatively shallow, low-capacity aquifers, especially during drought years (Cal Poly 2019).

Storm Water Drainage

Storm water runoff is collected in a series of inlets and storm drain lines located throughout campus and conveyed to existing drainages and either Brizzolara or Stenner Creek. The majority of the Master Plan Area drains into Brizzolara Creek, however runoff from portions of the West Campus subarea drain into unnamed drainage (located near Foothill Road) to Stenner Creek. Both creeks ultimately drain into the estuary at the Pacific Ocean in Avila Beach. Cal Poly, in compliance with existing storm water laws and permitting requirements, has developed a Storm Water Management Program. This program addresses cleaning and maintaining storm drain inlets and catch basins, ensuring buildings and other campus amenities are designed and constructed in ways that minimize impacts on water quality, and installing storm water BMPs for projects in accordance with approved designs (Cal Poly 2018a). Cal Poly requires and has installed storm interceptors for all new projects, including the Poly Canyon Student Housing complex and other recent campus developments (Cal Poly 2017). Further, as part of the Storm Water Management Program, any new development that will create and/or replace 2,500 square feet or more of impervious surface would be required to incorporate post-construction stormwater management controls, including rooftop runoff infiltration, conservation of natural and permeable areas, and/or additional onsite bioretention.

Through the General Construction Permit (GCP) and MS4 storm water programs, Cal Poly seeks to maintain and improve water quality on campus by monitoring pollution concentrations in surface water, groundwater, and storm water that leaves the main campus through the storm water system. These programs address permit requirements and the use of BMPs on campus (Cal Poly 2015). Cal Poly is also required to comply with the 2013 General permit and MS4 permits.

Flood Conditions

For planning purposes, the flood event most often used to delineate areas subject to flooding is the 100-year flood. This is an event that statistically has a 1 percent chance of occurring in any given year. Portions of the campus are located within special flood hazard areas subject to inundation during a 100-year flood, Zone A (no base flood elevations determined), as identified by the FEMA FIRM (FEMA 2019). These areas are located along Stenner Creek and Brizzolara Creek and shown in Figure 3.9-2.

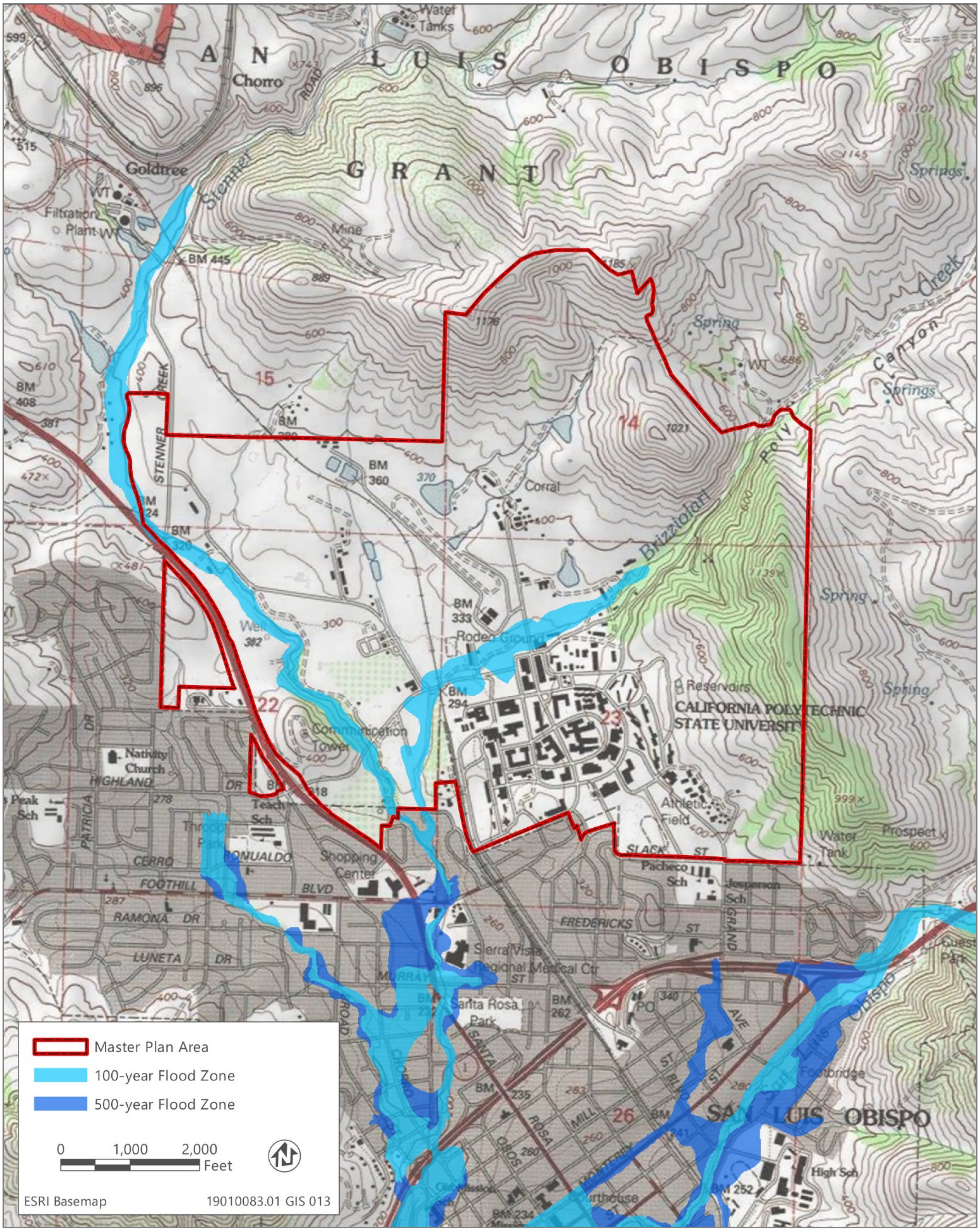
Flooding can also occur as a result of dam failure. A number of natural or human causes, including earthquakes, improper siting, fast rising flood waters, erosion of the dam face or foundation, and structural or construction flaws, can contribute to dam failure. Other reservoir-related flooding events can result from massive, fast-moving landslides that displace large volumes of water contained in a reservoir. Such rapid displacement of water can cause large quantities of water to travel over the dam, resulting in downstream flooding. Although several dams and reservoirs are located in San Luis Obispo County (see Figure 3.9-1), the Master Plan Area is not located within an identified dam inundation area on the Dam Inundation Map, according to the Safety Element of the County of San Luis Obispo’s General Plan (County of San Luis Obispo 1999), and is therefore not at risk for dam failure–related flooding.

WATER QUALITY

Surface Water Quality

Storm water runoff in urban areas typically contains oils, grease, fuel, antifreeze, and byproducts of combustion (such as lead, cadmium, nickel, and other metals), as well as nutrients, sediments, and other pollutants, such as fertilizers and pesticides. Additionally, sizable quantities of animal waste from pets (e.g., dogs and cats) and agricultural operations could lead to fecal contamination of water sources. Precipitation during the early portion of the wet season (December to April) conveys these pollutants into storm water runoff, resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff, containing peak pollutant levels, is referred to as the “first flush” of storm events. It is estimated that during the rainy season, the first flush of heavy metals and hydrocarbons would occur during the first 5 inches of seasonal rainfall.

The water quality of streams, creeks, ponds, and other surface water bodies can be greatly affected by pollution carried in contaminated surface water runoff.



Source: Data downloaded from FEMA in 2019

Figure 3.9-2 Designated Flood Zones

Impaired Water Bodies

As discussed in Section 3.9.1 above, Stenner Creek is included on the 303(d) list of impaired waters for the 2016 reporting year (SWRCB 2016). State water quality standards specify designated uses individual waters should support (e.g., recreation or water supply). Stenner Creek is designated for agricultural supply, freshwater habitat, municipal and domestic supply, water contact recreation, and noncontact recreation. Stenner Creek is listed as impaired for pathogen pollutants related to domestic animals and livestock, natural sources, and urban runoff/storm sewers (SWRCB 2008, 2017).

Wastewater Retention Ponds

In addition to existing creeks, unnamed drainages, and reservoirs within the Master Plan Area, Cal Poly has seven clay-lined wastewater retention ponds located within the San Luis Obispo Creek watershed (see Figure 3.9-1). These include two wastewater retention ponds that are associated with the Swine Unit, four that are associated with the Dairy Unit (two are emergency overflow ponds), and one that is associated with the Beef Cattle Evaluation Center, located within the northwestern portion of the main campus. Wastewater from these ponds may be used for spray irrigation purposes. These wastewater retention ponds are subject to Cal Poly's WDR for point-source pollution, which has been put into place to regulate wastewater that is discharged to land from Confined Animal Facilities to protect the recreational use and drinking water supplies of downstream beneficial uses. The WDR provides a framework for how each Confined Animal Facility is managed, including how many animals are permitted in the facility, how compost is managed, and how many gallons can be discharged to these wastewater retention ponds and to existing storm water drainage facilities from the facility each day (Cal Poly 2018b).

Groundwater Quality

Groundwater quality can be affected by many things, but the chief controls on the characteristics of groundwater quality are the sources and chemical composition of recharge water, properties of the host sediment, and history of discharge or leakage of pollutants. Groundwater wells in the San Luis Obispo Valley Groundwater Basin typically yield water of magnesium bicarbonate character. Pleistocene alluvial terrace deposits are deeper while Holocene alluvial terrace deposits cover the shallow portions and most recent portions of groundwater basins. Water stored in the Pleistocene alluvial terrace deposits is characterized by poor water quality, whereas water in the Holocene deposits is generally of excellent quality. Water from seven wells on the Cal Poly campus have excessive concentrations of nitrate and chloride (DWR 2004).

3.9.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Evaluation of potential hydrologic and water quality impacts is based on a review of existing documents and studies that address water resources in the vicinity of the project. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that the project would comply with relevant federal, state, and local laws, ordinances, and regulations.

Cal Poly 2035 Master Plan

The following Guiding Principles were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considered continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. The following principles are relevant to hydrology and water quality:

- **General Principle (GP) 7:** Land uses should be suitable to their locations considering the environmental features of the proposed sites.
- **GP 11:** Cal Poly should be sustainable with regard to its land and resource planning, as well as site and building design, and operations. Cal Poly should meet or exceed all state and system-wide sustainability policies.

- **GP 12:** As an important element of Cal Poly's academic mission, the University should be a proactive leader in wise and sustainable land and resource management.

THRESHOLDS OF SIGNIFICANCE

An impact on hydrology or water quality would normally be significant if implementation of the 2035 Master Plan would:

- violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality;
- substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:
  - result in substantial erosion or siltation on- or off-site;
  - substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site; or
  - create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- be located in flood hazard, tsunami, or seiche zones, and risk release of pollutants due to project inundation; or
- conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

ISSUES NOT DISCUSSED FURTHER

All issues applicable to hydrology and water quality listed under the significance criteria above are addressed in this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface Water or Groundwater Quality during Construction

Construction and grading activities could adversely affect water quality if construction materials brought on-site result in accidental spills or potential increase in the pollutant load in runoff. Storm events could generate enough runoff to carry storm water from construction sites into surface water bodies. However, through required compliance with existing regulations, such as the 2013 General Permit, Small MS4 Permit, and SWPPPs (required by the 2013 General Permit for development over 1 acre), implementation of the 2035 Master Plan would not violate any water quality standards or waste discharge requirements during construction. This impact would be **less than significant**.

Depending on the final site location, design, and proximity to surface water resources within or adjacent to the project site, future development associated with the 2035 Master Plan has the potential to result in direct and indirect impacts on surface water and groundwater quality. Potentially significant direct impacts could occur if structures, construction materials, soils, or pollutants are placed within existing creek channels or connecting drainages, if existing channels or drainages are directly modified, or if pollutants are allowed to reach groundwater. For instance, within the Academic Core subarea, removal of the existing farm shop and facilities building south of Brizzolara Creek and construction of creek crossings and road extensions could involve soil disturbance within or immediately adjacent to creek channels. Further, construction materials, such as gasoline, diesel fuel, lubricating oils, grease, solvents, and paint, would be brought on site and could result in accidental spills or increase the pollutant load in runoff that could adversely affect surface water or groundwater quality. While most areas of development would not be in close proximity or connected to surface water, storm events could generate enough runoff that storm water from construction sites could be carried into surface water bodies, such as Brizzolara and Stenner Creeks, and pollutant spills could infiltrate to groundwater.

As required by the 2013 General Permit, all future development that would result in disturbance of an area greater than 1 acre would be required to prepare a SWPPP and implement and comply with all applicable BMPs during construction. This would include compliance with the Construction Site Runoff Control Program which would prevent construction-related discharge of pollutants into receiving waters. Structural and nonstructural BMPs under the SWPPP could include sandbag barriers, temporary desilting basins, gravel access roads, dust controls, and construction worker training. All future construction under the 2035 Master Plan would also be subject to the requirements of the 2013 General Permit for development over 1 acre, and compliance with the Small MS4 Permit required for all campus activities, which requires specific measures for construction site runoff control. Further, Cal Poly would implement BMPs for all future development pursuant to the 2035 Master Plan which would ensure that polluted runoff would not enter existing nearby creeks and groundwater as a result of construction. Through compliance with existing permits, plans, and regulations, such as the 2013 General Permit, Small MS4 Permit, and SWPPPs (required by the 2013 General Permit for development over 1 acre) and associated BMPs, implementation of the 2035 Master Plan would not violate any water quality standards or waste discharge requirements during construction. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.9-2: Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface Water or Groundwater Quality during Operation

During project operation, increased rates of surface water runoff associated with new impervious surfaces could promote increased erosion and sedimentation or other storm water contamination and adversely affect surface water and groundwater quality. The 2035 Master Plan would comply with the 2013 General Permit, the Small MS4 Permit, SWPPPs, and associated BMPs. Further, the use of low-impact development (LID) techniques would control storm water flow and prevent contamination of surface water resources. Continued compliance with the Small MS4 Permit and the 2013 General Permit would ensure that impacts on water quality standards during operations would be **less than significant**.

The 2035 Master Plan would result in additional development within the Master Plan Area, which would increase the amount of impervious surfaces, which would in turn result in increased rates of surface water runoff. This could promote increased erosion and sedimentation or other storm water contamination and adversely affect surface water and groundwater quality. The main sources of long-term storm water pollution from development are roads, automobiles, landscaping, industrial activity, spills, and illegal dumping. Developed areas can produce storm water runoff that contains oil, grease, and heavy metals and that can carry sediment into drainage pathways. The contaminated runoff ultimately can be carried to adjacent water bodies or can infiltrate groundwater. Further, active recreation sports fields are proposed within the North Campus subarea. These fields would consist of artificial turf, which requires regular washing to remove debris. Field turf washing could result in increased runoff into storm drain systems, which could carry pollutants to adjacent water bodies.

The potential for development sites to generate polluted runoff would be minimized through mandatory compliance with the Cal Poly SWPPP, which outlines post-construction storm water management BMPs, consistent with SWRCB's Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004. These include permanent structural BMPs, such as continuous deflection separation systems, as well as non-structural BMPs, such as conservation of natural and permeable areas. In addition, all future development projects with over 1 acre of disturbance under the 2035 Master Plan would be subject to the requirements of the 2013 General Permit, including post-construction implementation of LID standards for all new development and compliance with current federal and state requirements. Cal Poly would also be required to comply with Non-Traditional Small MS4 Permittee Provisions for all campus development, which include the Pollution Prevention/Good Housekeeping for Permittee Operations

Program; the Map of Permittee-Owned or Operated Facilities provision; the preparation of SWPPPs and implementation of associated BMPs; Storm Drain System Assessment and Prioritization; Maintenance of Storm Drain System; Permittee Operations and Maintenance Activities; Pesticide, Herbicide, and Fertilizer Application and New Landscape Design and Maintenance Management; Post Construction Storm Water Management Program; and Program Effectiveness Assessment and Improvement. Additionally, future development within the Master Plan Area would implement LID techniques that mimic the site's predevelopment hydrology with new storm water infrastructure designs, such as detention and retention basins throughout the site, to prevent contamination of surface water and groundwater as well as LID principles in all designs for facilities and improvements that are located adjacent to Brizzolara and Stenner Creeks and their tributaries.

Increased campus population and developed square footage under the 2035 Master Plan would result in an increase in the amount of wastewater generated. Current wastewater flows would continue to be treated at the City's Water Resource Recovery Facility (WRRF), and additional flows would be treated by the Water Reclamation Facility (WRF) proposed as part of the 2035 Master Plan. The City's WRRF and the proposed WRF are and would be subject to WDRs (upon initiation of operation) and would be required to comply with all appropriate WDRs and NPDES requirements during operation. Refer to Section 3.14, "Utilities and Service Systems" for further clarification.

Through compliance with all applicable regulations, including the 2013 General Permit, the, Small MS4 Permit, SWPPPs, NPDES requirements, and WDRs for wastewater treatment and disposal, impacts on water quality during operations would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.9-3: Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management of the Basin

New land uses proposed under the 2035 Master Plan would not require additional pumping of groundwater to serve the University's potable water needs. However, development and redevelopment under the 2035 Master Plan could result in an increase in impervious surfaces within the main campus, which could reduce storm water infiltration with the underlying groundwater aquifers, and thus impede groundwater recharge. For this reason, the impact on groundwater recharge would be **potentially significant.**

As discussed under Section 3.9.2, the majority of the Master Plan Area lies within the Stenner Creek Sub-basin within the San Luis Obispo Creek Basin, which serves as an important groundwater recharge area for the San Luis Obispo Creek Basin (Cal Poly 2015). Local groundwater is provided via seven agricultural wells owned and operated by Cal Poly. Groundwater is pumped from the wells located on University land and is limited by relatively shallow, low-capacity aquifers, especially during drought years (Cal Poly 2019). As discussed in Section 3.14, "Utilities and Service Systems" and the Water Supply Assessment (WSA) (Appendix H) prepared for the 2035 Master Plan, groundwater withdrawals are only used for agricultural purposes and provide 120 acre-feet per year. The 2035 Master Plan does not propose agricultural or other uses that would result in an increase of groundwater withdrawal rates. Further, as outlined in the WSA, no changes in the quantity or use of groundwater are proposed within the main campus or as otherwise part of the 2035 Master Plan. Thus, the 2035 Master Plan would result in no net change in groundwater use compared to existing conditions (Watearth 2019). As a result, the 2035 Master Plan would not impede sustainable groundwater management of the basin.

However, proposed development and redevelopment of campus land uses under the 2035 Master Plan would result in an increase in impervious surfaces within the Master Plan Area. Increase in impervious surfaces could reduce storm water infiltration to the underlying San Luis Obispo Valley Groundwater Basin, which could impede groundwater recharge. For this reason, the impact on groundwater recharge would be **potentially significant**.

Mitigation Measures

Mitigation Measure 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).

Significance after Mitigation

Mitigation Measure 3.9-3 would require preparation and implementation of a site-specific drainage plan and appropriate measures to ensure proposed development and redevelopment projects do not interfere substantially with groundwater recharge. This mitigation measure would ensure that the impact on groundwater recharge are **less than significant**.

Impact 3.9-4: Substantially Alter the Existing Drainage Pattern of the Site or Area Such That Substantial Erosion, Siltation, Flooding, Polluted Runoff, or an Exceedance of the Capacity of Storm Drainage Systems Would Occur

New land use development could result in increased rates of surface water runoff associated with new impervious surfaces and could promote increased erosion and sedimentation or other storm water contamination, and exceedance of the capacity of existing storm drain systems. Because project-level details of future projects, including their impacts on the existing drainage system of their sites, are not known at this time, the project would result in a **potentially significant** impact on the existing drainage pattern of the site or the surrounding area.

Construction activities associated with development of projects contemplated under the 2035 Master Plan would include grading, demolition, and vegetation removal, which have the potential to temporarily alter drainage patterns. These activities could expose bare soil to rainfall and storm water runoff, which could accelerate erosion and result in sedimentation of storm water and, eventually, water bodies. For example, removal of vegetation, excavation, grading, stockpiling of soils for new buildings, and building foundations would create soil disturbance that could accelerate erosion, especially during storm events. In addition to erosion and sedimentation, construction materials, such as gasoline, diesel fuel, lubricating oils, grease, solvents, and paint, would be brought on site. If existing drainage patterns are substantially altered, this could result in an increase in the pollutant load in runoff, and eventually in nearby water bodies. Further, all future campus development would be required to comply with the Small MS4 permit, which requires specific measures for construction site runoff control, which would ensure that significant alterations of the drainage pattern would not occur. If not properly planned for, alteration of the existing drainage pattern could also result in increased runoff that would exceed the capacity of existing or planned on- or off-site storm water drainage systems or provide substantial additional sources of polluted runoff. Increased rates of surface water runoff associated with new impervious surfaces could promote increased erosion and sedimentation or other storm water contamination and negatively impact surface water and groundwater quality. Further, increased runoff from streets, driveways, parking lots, and landscaped areas can contain nonpoint source pollutants such as oil, grease, heavy metals, pesticides, herbicides, fertilizers, and sediment, which could result in additional sources of polluted runoff into nearby water bodies.

All future development under the 2035 Master Plan would be required to implement LID techniques that result in hydrologic conditions that mimic the site's predevelopment condition. Such techniques include implementation of detention and retention basins throughout the site, limiting impervious coverage, and other runoff attenuating features such that stormwater runoff rates and volumes do not increase. Further, the potential for development sites to generate polluted runoff would be minimized through mandatory compliance with the 2013 General Permit. Cal Poly would also be required to comply with Non-Traditional Small MS4 Permittee Provisions of the 2013 General Permit, described under Impact 3.9-1, above. Development under the 2035 Master Plan would also be required to comply with SWPPP conditions, including storm water runoff monitoring, and implement BMPs in service and construction activities, including construction site runoff control, which would prevent soil and construction wastes from leaving the construction site and entering the storm drain system. Therefore, from a campus-wide perspective, future development under the 2035 Master Plan would not result in a substantial increase in stormwater runoff or polluted runoff. However, because project-level details of all future projects, including their impacts on the existing drainage system of their sites, are not known at this time, future development under the 2035 Master Plan would result in a **potentially significant** impact on the existing drainage pattern of the site or the area and the capacity of storm drain systems.

Mitigation Measures

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

Implement Mitigation Measure 3.9-3, described above.

Mitigation Measure 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.

Significance after Mitigation

Implementation of Mitigation Measure 3.9-4a (and Mitigation Measure 3.9-3) would require a drainage plan and implementation of appropriate measures to maintain existing rain event flow rates and patterns to avoid potential impacts such as erosion or siltation, flooding, exceedance of capacity of existing or planned storm water drainage systems, provide additional sources of polluted runoff, or impede or redirect flood flows. Further, Mitigation Measure 3.9-4b would require evaluation of storm water BMPs for each future development or redevelopment project within the 2035 Master Plan to ensure existing drainage maintains pre-development standards per the MS4 permit. These mitigation measures would ensure that the impacts from alteration of existing drainage would be **less than significant**.

Impact 3.9-5: Be Located within Flood Hazard, Tsunami, or Seiche Zones, and Risk Release of Pollutants Due to Project Inundation

Portions of the Master Plan Area are located within special flood hazard areas subject to inundation in a 100-year flood). Increased intensity of development within flood hazard zones could result in risk of release of pollutants such as oil, pesticides, herbicides, sediment, trash, bacteria, and metals during a flood event. This impact would be **potentially significant**.

The Master Plan Area is located approximately 13 miles east of the Pacific Ocean, and thus, based on distance, is not subject to tsunamis. Further, as described in the City of San Luis Obispo General Plan EIR, San Luis Obispo is not subject to lakefront flooding due to earthquake-induced waves (i.e., seiche) (City of San Luis Obispo 2014). In addition, as discussed in Section 3.9.2, the Master Plan Area is not located within an identified dam inundation area on the Dam Inundation Map in the Safety Element of the County of San Luis Obispo’s General Plan (County of San Luis Obispo 1999). Regarding the potential for seiche to occur on reservoirs, seiche is not considered a significant risk in San Luis Obispo County because existing water bodies are not large enough to generate large waves (County of San Luis Obispo 1999). For these reasons, this impact is focused on future development within mapped flood hazard zones.

As discussed in Section 3.9.2, above, and shown on Figure 3.9-2, portions of the Master Plan Area are located within special flood hazard areas subject to inundation by the 100-year flood, zone A (no base flood elevations determined) (FEMA 2019). These are limited to areas located along Stenner and Brizzolara Creeks. The 100-year flood hazard area primarily runs along Brizzolara Creek at the northern edge of the Academic Core and East Campus subareas. The flood hazard area along Stenner Creek runs through a small portion of the West Campus (see Figure 3.9-2). Near term projects under the 2035 Master Plan within flood zones along Stenner Creek include the proposed Farm Shop, while near-term projects under the 2035 Master Plan within the Brizzolara Creek flood zone include the Student Housing for Freshmen Students and the Facilities Operations Complex/interim parking lot. Other projects under the 2035 Master Plan could potentially be located within these flood zones at later times. For this reason, introduction of development within flood hazard zones could result in risk of release of pollutants such as oil, pesticides, herbicides, sediment, trash, bacteria, and metals during a flood event within the Stenner and Brizollara Creek flood hazard areas.

Because portions of the Master Plan Area are located within a 100-year flood zone, the 2035 Master Plan could result in the risk of release of pollutants due to project inundation. This impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.9-5: Avoid Development in 100-Year Flood Zones Where Feasible and Incorporate Design Measures to Address Release of Pollutants

All development pursuant to the 2035 Master Plan shall be sited to avoid the 100-year flood zone to the extent practicable. If development within the flood zone cannot be avoided, design measures shall be incorporated into all habitable and critical structures to ensure finished floor levels are constructed above the 100-year flood elevation, or other flood-proofing measures, including a pollutant control plan in the event of a flood, shall be incorporated and approved by Cal Poly in conjunction with FEMA to ensure structures are designed to meet state and federal flood-proofing requirements and to prevent the release of pollutants if flooding does occur.

<u>Significance after Mitigation</u>

Mitigation Measure 3.9-5 would ensure that, if buildings are constructed within the 100-year flood zone, they would be placed above the 100-year flood elevation, to avoid potential impacts associated with flooding, including the release of pollutants. If future development is proposed within an identified flood hazard area, further coordination with FEMA and applicable design considerations would be required to be implemented to avoid potential impacts related to flood hazards and risk of pollutant release. Implementation of Mitigation Measure 3.9-5 would ensure that the impacts from risks associated with risk of release of pollutants during inundation would be **less than significant**.

Impact 3.9-6: Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan

Cal Poly will continue to adhere to all applicable plans, permits, and regulations governing water quality, and the 2035 Master Plan would not increase the University's use of groundwater. Therefore the 2035 Master Plan would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. During construction and operation of future development under the 2035 Master Plan, Cal Poly would comply with the 2013 General Permit, as well as SWPPP requirements, and implement any associated/necessary BMPs. Further, the use of LID techniques would control storm water flow and discharges and prevent contamination to surface water resources. For these reasons, this impact would be **less than significant**.

Cal Poly monitors for pollution in surface waters, groundwater, and the wastewater that leaves the campus, consistent with the 2013 General Permit, Small MS4 Permit, and associated WDRs for agricultural operations. The campus's existing permits direct the use of BMPs in service and construction activities to manage water resources and require implementation of a Storm Water Pollution Prevention Program that addresses permit requirements, including SWPPPs and storm water runoff monitoring. As discussed under Impact 3.9-1, all proposed development and redevelopment projects under the 2035 Master Plan would be required to comply with all applicable requirements, including implementation of BMPs, development and implementation of project-specific SWPPPs, and compliance with existing permits. With implementation of these requirements, the 2035 Master Plan would not conflict with or obstruct implementation of existing on-campus water quality control programs. Thus, this impact would be less than significant.

Basin Plan

The purpose of the Basin Plan is to show how the quality of surface water and groundwater in the Central Coast Region should be managed to provide the highest water quality reasonably possible. The Basin Plan lists various water uses, it describes the water quality which must be maintained to allow those uses, incorporates an Implementation Plan, summarizes SWRCB and RWQCB plans and policies to protect water quality, and describes statewide and regional surveillance and monitoring programs. As discussed under Section 3.9.1, above, Stenner Creek is included on the 303(d) list of impaired waters for the 2016 reporting year (SWRCB 2016) for pollutants related to domestic animals and livestock, natural sources, and urban runoff/storm sewers (SWRCB 2017). As discussed under Impact 3.9-1, construction and grading activities, particularly within existing creek channels, could result in impacts on water quality if construction materials brought on site result in accidental spills or potential increase to the pollutant load in runoff. Further, as discussed under Impact 3.9-2, during operations, increased rates of surface water runoff associated with new impervious surfaces could promote increased erosion and sedimentation or other storm water contamination and negatively impact Stenner and Brizzolara Creeks.

The Basin Plan outlines total maximum daily loads (TMDL) in various areas, which determines a pollutant reduction target and allocates load reductions necessary to the sources of the pollutant. Pollutant sources are characterized as either point sources that receive a waste load allocation (WLA) or nonpoint sources that receive a load allocation. The portion of Stenner Creek that is listed as an impaired body is allocated a WLA in the Basin Plan. Per the Basin Plan, this WLA will be implemented by Cal Poly's 2013 General Permit, which controls upstream urban runoff sources (RWQCB 2019). The Basin plan incorporates various implementation actions, including the development of Storm Water Management Plans and SWPPPs, consistent with NPDES requirements, for all developing parcels and MS4 permits to control urban runoff. During both construction and operations of future development under the 2035 Master Plan, Cal Poly would comply with the 2013 General Permit and associated BMPs and the SWPPP, required under the 2013 General Permit for development over 1 acre. Further, all future projects would be required to comply with the existing Small MS4 Permit conditions required for all campus activities, which require specific measures for construction site runoff control. Further, the use of LID techniques would control storm water and prevent contamination to surface water resources. Therefore, through compliance with existing regulations, development under the 2035 Master Plan would be consistent with the Basin Plan. This impact would be less than significant.

Sustainable Groundwater Management Act

SGMA requires local governments and water agencies in California's high and medium priority groundwater basins, as defined by the DWR, to form GSAs. These GSAs are responsible for developing and implementing GSPs for the sustainable management of the groundwater resources (County of San Luis Obispo 2019b). A portion of the West Campus subarea is located within the San Luis Obispo Valley Groundwater Basin, which is designated by DWR as a high-priority basin. As noted above, the remainder of the Master Plan Area is not located within a designated groundwater basin.

The County of San Luis Obispo and the City of San Luis Obispo formed GSAs within their respective jurisdictions to cover the entire San Luis Obispo Valley Groundwater Basin. The City and County of San Luis Obispo GSAs are currently preparing a GSP for the Basin, and it is anticipated that the GSP would not be adopted until January 31, 2022.

However, as noted above under Impact 3.9-3, the 2035 Master Plan would not result in any increase in the quantity of or demand for campus groundwater supplies. As a result, the implementation of the 2035 Master Plan would not result in changes to groundwater supplies, Thus, the 2035 Master Plan would result in no net change of groundwater use between existing conditions (Watearth 2019) and would not conflict with or obstruct implementation of the sustainable groundwater management plan to be adopted for the San Luis Obispo Valley Groundwater Basin. Thus, this impact would be less than significant.

Summary

Future development and redevelopment that would occur under the 2035 Master Plan would be required to comply with all applicable water quality requirements, including implementation of all applicable BMPs, and therefore, would not conflict with or obstruct implementation of existing water quality control programs. During both construction and operations, Cal Poly would comply with the 2013 General Permit, the required SWPPP and associated BMPs, and implement LID techniques that would control storm water and prevent contamination to surface water resources. For these reasons, the 2035 Master Plan would not conflict with the Basin Plan. Finally, the 2035 Master Plan would result in no net change of groundwater use between existing conditions and would not conflict with or obstruct implementation of the sustainable groundwater management plan to be adopted for the San Luis Obispo Valley Groundwater Basin. Construction and operational activities associated with the 2035 Master Plan would not obstruct implementation of an applicable Water Quality Management Plan or Groundwater Basin Plan and this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

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3.10 NOISE

This section includes a summary of applicable regulations related to noise and vibration, a description of ambient-noise conditions, and an analysis of potential short-term construction and long-term operational noise impacts associated with the 2035 Master Plan. Mitigation measures are recommended as necessary to reduce significant noise and vibration impacts.

In March 2019, AMBIENT Air Quality & Noise Consulting conducted an ambient noise survey of existing conditions. This EIR section incorporates noise monitoring data from this survey to establish the existing conditions. Project-specific noise modeling was done based on updated project details, including anticipated development and traffic information. All modeling data and assumptions are included in Appendix F and methods described in more detail below.

No comments regarding noise or vibration were received in response to the Notice of Preparation (NOP).

This analysis uses the following noise and vibration descriptors:

- **Equivalent Continuous Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013a:2-48). For instance, the 1-hour equivalent sound level, also referred to as the hourly L_{eq}, is the energy average of sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by the California Department of Transportation (Caltrans) and Federal Transit Administration (FTA) (Caltrans 2013a:2-47; FTA 2018).
- **Percentile-Exceeded Sound Level (L_X):** L_X represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time) (Caltrans 2013a:2-16).
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period (Caltrans 2013a:2-48; FTA 2018).
- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-decibel (dB) "penalty" applied to sound levels occurring during nighttime hours between 10 p.m. and 7 a.m. (Caltrans 2013a:2-48; FTA 2018).
- **Community Noise Equivalent Level (CNEL):** CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dBA penalty applied to sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m. and a 5-dBA penalty applied to the sound levels occurring during evening hours between 7 p.m. and 10 p.m., to account for added human sensitivity to noise during these periods (Caltrans 2013a:2-48).
- **Vibration Decibels (VdB):** VdB is the vibration velocity level in decibel scale (FTA 2018:Table 5-1).
- **Peak Particle Velocity (PPV):** PPV is the peak signal value of an oscillating vibration waveform. Usually expressed in inches/second (FTA 2018:Table 5-1).

3.10.1 Regulatory Setting

FEDERAL

Federal Transit Administration

To address the human response to ground vibration, the FTA has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines are presented in Table 3.10-1.

Table 3.10-1 Groundborne Vibration Impact Criteria for General Assessment

Land Use Category	GVB Impact Levels (VdB re 1 micro-inch/second) Frequent Events[1]	GVB Impact Levels (VdB re 1 micro-inch/second) Occasional Events[2]	GVB Impact Levels (VdB re 1 micro-inch/second) Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 [4]	65 [4]	65 [4]
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

Notes: GBV = groundborne vibration.

VdB = vibration decibels referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.

1 "Frequent Events" is defined as more than 70 vibration events of the same source per day.

2 "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

3 "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.

4 This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define acceptable vibration levels.

Source: FTA 2018

STATE

California General Plan Guidelines

The State of California General Plan Guidelines, published by the California Governor's Office of Planning and Research (2017), provides guidance for the compatibility of projects within areas of specific noise exposure. Acceptable and unacceptable community noise exposure limits for various land use categories have been determined to help guide new land use decisions in California communities. In many local jurisdictions, these guidelines are used as the basis for local noise standards and guidance. Citing U.S. Environmental Protection Agency materials and the state Sound Transmissions Control Standards, the state's general plan guidelines recommend interior and exterior CNEL of 45 and 60 dB for residential units, respectively (OPR 2017:378).

California Department of Transportation

In 2013, Caltrans published the Transportation and Construction Vibration Manual (Caltrans 2013b). The manual provides general guidance on vibration issues associated with construction and operation of projects in relation to human perception and structural damage. Table 3.10-2 presents recommendations for levels of vibration that could result in damage to structures exposed to continuous/frequent intermittent sources of vibration.

Table 3.10-2 Caltrans Recommendations Regarding Levels of Vibration Exposure

Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2013b

California State University

Cal Poly Administrative Policies

General Policy. Section 141.3.2.1 of the "Campus Administrative Policies" states the following:

> Outdoor events and activities that involve amplified music or speech are limited to the hours of: 7:00 a.m. to 10:00 p.m., Monday through Sunday, and University scheduling protocols must be followed (see sections 144.4 and 141.3.2.2)
>
> Outdoor events and activities that do not require use of amplified sound (for speech or music) may be held between 7:00 a.m. and midnight, Monday through Sunday. Use of the University's scheduling protocols is encouraged, to facilitate coordination with other events and among potential campus service providers. Regardless of the time they are held, events and activities must be conducted in a manner consistent with Section 141.3.1 (General Limitations) and in conformity with any additional guidelines pertinent to a particular venue.

General Policy. Section 141.3.1 of the "Campus Administrative Policies" states the following:

> All campus events and activities shall be conducted consistent with Federal and State law, with existing University policies, with the orderly conduct of University business, with preservation of the campus learning environment, with the preservation of public safety, with maintenance of University property and with the free flow of pedestrian and vehicular traffic. Entrances to campus facilities shall not be obstructed. No individual or group shall abridge, halt or disrupt the right of others to present their views. In addition, plans for outdoor events and activities should address potential impacts on residential communities, on and off campus.

LOCAL

Cal Poly, as a state entity, is not subject to municipal regulations of local governments for uses on property owned or controlled by Cal Poly that are in furtherance of the University's education purposes. However, Cal Poly may consider, for coordination purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate and feasible, but it is not bound by those plans and policies in its planning efforts. The campus is bordered by unincorporated San Luis Obispo County to the north and the east and by the city of San Luis Obispo to the south and the west. Therefore, this EIR considers and includes below both San Luis Obispo County and City of San Luis Obispo plans and policies.

San Luis Obispo County General Plan

The Noise Element of the San Luis Obispo County General Plan establishes the following standards and policies that are relevant to the analysis of the noise effects of the project:

- **Policy 3.3.2**. New development of noise-sensitive land uses (see Section 1.5 – Definitions) shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed 60 dB L_{dn} or CNEL (70 L_{dn} or CNEL for outdoor sports and recreation) unless the project design includes effective mitigation measures to reduce noise in outdoor activity areas and interior spaced to or below the levels specified for the given land use in Table 3-1 [Table 3.10-3 in this section].
- **Policy 3.3.3.** Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 3-1 [Table 3.10-3 in this section] within the outdoor activity areas are interior spaces of existing noise-sensitive land uses.

Table 3.10-3 Maximum Allowable Noise Exposure - Transportation Noise Sources

Land Use	Outdoor Activity Areas (CNEL/L_{dn})[1,2] dBA	Interior Space (CNEL/L_{dn})[2] dBA	Interior Space (L_{eq})[2] dBA
Residential (except temporary dwellings and residential accessory uses)	60	45	—
Bed and Breakfast Facilities, Hotels and Motels	60	45	—
Hospitals, Nursing and Personal Care	60	45	—
Public Assembly and Entertainment (except Meeting Halls)	—	—	35
Offices	60	—	45
Churches, Meeting Halls	—	—	45
Schools-Preschool to Secondary, College and University, Specialized Education and Training Libraries and Museums	—	—	45
Outdoor Sports and Recreation	70	—	—

Notes: dBA=A-weighted decibel.

[1] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2] As determined for a typical worst-case hour during period of use.

[3] For other than residential uses, where an outdoor activity area is not proposed, the standard shall not apply. Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Source: County of San Luis Obispo 1992

- **Policy 3.3.4.** New development of noise-sensitive land uses shall not be permitted where the noise level due to existing stationary noise sources will exceed the noise level standards of Table 3-2 [Table 3.10-10 in this section], unless effective noise mitigation measures have been incorporated into the design of the development to reduce noise exposure to or below the levels specified in Table 3-2 [Table 3.10-4 in this section].
- **Policy 3.3.5.** Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated as follows and shall be the responsibility of the developer of the stationary noise source:

  a) Noise from agricultural operations conducted in accordance with accepted standards and practices is not required to be mitigated.

  b) Noise levels shall be reduced to or below the noise level standards in Table 3-2 [Table 3.10-4 in this section] where the stationary noise source will expose an existing noise-sensitive land use (which is listed in the Land Use element as an allowable use within its existing land use category) to noise levels which exceed the standards in Table 3-2 [Table 3.10-14 in this section]. When the affected noise-sensitive land use is Outdoor Sports and Recreation, the noise level standards in Table 3-2 [Table 3.10-4 in this section] shall be increased by 10 dB. Where the noise source is one of the following electrical substations which is not modified so as to increase noise levels, the noise standards shall instead be fifty dB between 10 p.m. and 7 a.m. and fifty-five dB between 7 a.m. and 10 p.m., determined at the property line of the receiving land use: the Cholame, San Miguel, Templeton, Cambria, Perry, Cayucos, Baywood, State Route 1 (SR 1) between Morro Bay and the California Men's Colony, Goldtree, Foothill, San Luis Obispo, Oceano, Mesa, Union Oil, Callender, and Mustang electrical substations.

  c) Noise levels shall be reduced to or below the noise level standards in Table 3-2 [Table 3.10-4 in this section] where the stationary noise source will expose vacant land in the Agriculture, Rural Lands, Residential rural, Residential Suburban, Residential Single-Family, Residential Multi-Family, Recreation, Office and Professional, and Commercial Retail land use categories to noise levels which exceed the standards in Table 3-2 [Table 3.10-4 in this section]. Where the noise source is one of the following electrical substations which is not modified so as to increase noise levels, the noise standards shall instead be fifty dB between 10 p.m. and 7 a.m. and fifty-five dB between 7 a.m. and 10 p.m., determined at the property line of the receiving land use:

the Cholame, San Miguel, Templeton, Cambria, Perry, Cayucos, Baywood, SR 1 between Morro Bay and the California Men's Colony, Goldtree, Foothill, San Luis Obispo, Oceano, Mesa, Union Oil, Callender, and Mustang electrical substations. This policy may be waived when the Director of Planning and Building determines that such vacant land is not likely to be developed with a noise-sensitive land use.

d) For new proposed resource extraction, manufacturing or processing noise sources or modifications to those sources which increase noise levels: where such noise sources will expose existing noise-sensitive land uses (which are listed in the Land Use Element as allowable uses within their land use categories) to noise levels which exceed the standards in Table 3-2 [Table 3.10-4 in this section], best available control technologies shall be used to minimize noise levels. The noise levels shall in no case exceed the noise level standards in Table 3-2 [Table 3.10-4 in this section].

Table 3.10-4 Maximum Allowable Noise Exposure – Stationary Noise Sources[1]

Duration	Day (7 a.m. to 10. p.m.)	Night (10 p.m. to 7 a.m.)[2]
Hourly (L_{eq}) dBA	50	45
Maximum (L_{max}) dBA	70	65
Impulsive (L_{max}) dBA	65	60

Notes: dBA= A-weighted decibels.

1 As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

2 Applies only where the receiving land use operates or is occupied during nighttime hours.

Source: County of San Luis Obispo 1992

San Luis Obispo County Municipal Code

<u>22.10.120 - Noise Standards</u>

B. Exterior noise level standards. The exterior noise level standards of this Section are applicable when a land use affected by noise is one of the following noise-sensitive uses: residential uses listed in Section 22.06.030 (Allowable Land Uses and Permit Requirements), except for residential accessory uses and temporary dwellings; health care services (hospitals and similar establishments only); hotels and motels; bed and breakfast facilities; schools (pre-school to secondary, college and university, specialized education and training); churches; libraries and museums; public assembly and entertainment; offices, and outdoor sports and recreation.

1. No person shall create any noise or allow the creation of any noise at any location within the unincorporated areas of the county on property owned, leased, occupied or otherwise controlled by the person which causes the exterior noise level when measured at any of the preceding noise-sensitive land uses situated in either the incorporated or unincorporated areas to exceed the noise level standards in Table 3.10-5. When the receiving noise-sensitive land use is outdoor sports and recreation, the noise level standards in Table 3.10-5 shall be increased by 10 dB.

2. In the event the measured ambient noise level exceeds the applicable exterior noise level standard in Subsection B.1, the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB.

3. Each of the exterior noise level standards specified in Subsection B.1 shall be reduced by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises

4. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the exterior noise level standards.

Table 3.10-5 Maximum Allowed Exterior Noise Levels

Category	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Average (L_{eq}) dBA	50	45
Maximum Level (L_{max}) dBA	70	65

Notes: Applies only where the receiving land use operates or is occupied during nighttime hours; dBA=A-weighted decibels.

Source: County of San Luis Obispo 1992

C. Interior noise level standards (Table 3.10-6). The interior noise level standards of this Section are applicable when the land use which is the source of noise and the land use which is affected by noise are both residential uses as listed in Section 22.06.030 (Allowable Land Uses and Permit Requirements), except for residential accessory uses and temporary dwellings.

1. No person shall operate or cause to be operated a source of noise within a residential use in any location in the unincorporated areas of the county or allow the creation of any noise which causes the noise level when measured inside a residential use located in either the incorporated or unincorporated area to exceed the interior noise level standards in the following table.
2. In the event the measured ambient noise level exceeds the applicable interior noise level standard in Subsection C.1, the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB.
3. Each of the interior noise level standards specified in Subsection C.1 shall be reduced by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.
4. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the interior noise level standards.

Table 3.10-6 Maximum Allowed Interior Noise Levels

Category	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Average (L_{eq}) dBA	40	35
Maximum Level (L_{max}) dBA	60	55

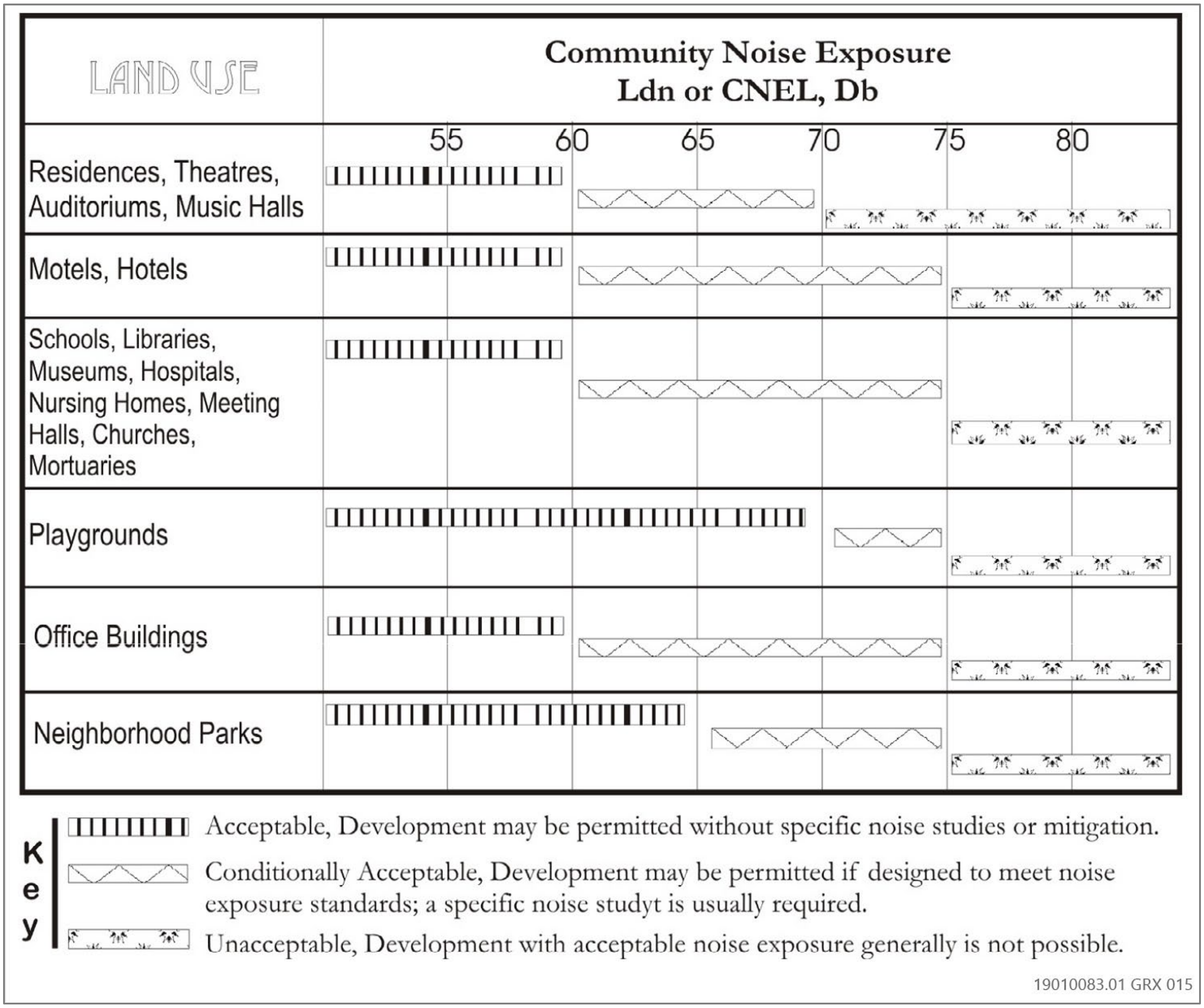
Note: dBA=A-weighted decibels.

Source: County of San Luis Obispo 1992

City of San Luis Obispo General Plan

The Noise Element of the City of San Luis Obispo General Plan establishes the following standards and policies that are relevant to the analysis of the noise effects of the project:

- Policy 1.2. Land Use and Transportation Noise Sources: Figure 1 [Figure 3.10-1 in this section] shall be used to determine the appropriateness of designating land for noise-sensitive uses, considering noise exposure due to transportation sources. Figure 1 [Figure 3.10-1 in this section] shows the ranges of noise exposure, for various noise-sensitive land uses, which are considered to be acceptable, conditionally acceptable, or unacceptable.
  - In acceptable noise environments, development may be permitted without requiring specific noise studies or specific noise-reducing features.
  - In conditionally acceptable noise environments, development should be permitted only after noise mitigation has been designed as part of the project, to reduce noise exposure to the levels specified by the following policies. In these areas, further studies may be required to characterize the actual noise exposure and appropriate means to reduce it.
  - In unacceptable noise environments, development in compliance with the policies generally is not possible.



Source: City of San Luis Obispo 1996

Figure 3.10-1 Noise Exposure

- **Policy 1.3. New Development Design and Transportation Noise Sources:** New noise-sensitive development shall be located and designed to meet the maximum outdoor and indoor noise exposure levels of Table 1 [Table 3.10-7 in this section].
- **Policy 1.4. New Transportation Noise Sources:** Noise created by new transportation noise sources, including road, railroad, and airport expansion projects, shall be mitigated to not exceed the levels specified in Table 1 [Table 3.10-7 in this section] for outdoor activity areas and indoor spaces of noise-sensitive land uses which were established before the new transportation noise source.
- **Policy 1.5. Traffic Growth:** The noise level standards in Table 1 [Table 3.10-7 in this section] should be used as criteria for limiting traffic growth on:
  - Residential Collector streets, as designated by the Circulation Element;
  - Local Streets, as designated by the Circulation Element, which extend through areas designated for residential uses.

Table 3.10-7 Maximum Noise Exposure for Noise-Sensitive Uses Due to Transportation Noise Sources

Land Use	Outdoor Activity Areas (CNEL/L_{dn})[1,2] dBA	Interior Space CNEL/L_{dn}[2] dBA	Interior Space L_{eq}[2] dBA	Interior Space L_{max}[3] dBA
Residences, hotels, hospitals, nursing homes	60	45	--	60
Theaters, auditoriums, music halls	--	--	35	60
Schools, libraries, museums	60	--	45	--
Neighborhood parks	65	--	45	60
Playgrounds	70	--	--	--

Notes: dBA=A-weighted decibels.

1 If the location of outdoor activity areas is not shown, the outdoor noise standard shall apply at the property line of the receiving land use.

2 As determined for a typical worst-case hour during period of use.

3 L_{max} indoor standard applies only to railroad noise at location south of Orcutt Road.

Source: City of San Luis Obispo 1996

- Policy 1.6. New Development and Stationary Noise Sources: New development of noise-sensitive land uses may be permitted only where location or design allow the development to meet the standards of Table 2 [Table 3.10-8 in this section], for existing stationary noise sources.
- Policy 1.7. New or Modified Stationary Noise Sources: Noise created by new stationary; noise sources, or by existing stationary noise sources which undergo modifications that may increase noise levels, shall be mitigated to not exceed the noise level standards of Table 2 [Table 3.10-8 in this section], for lands designated for noise-sensitive uses. This policy does not apply to noise levels associated with agricultural operations.

Table 3.10-8 Maximum Noise Exposure for Noise-Sensitive Uses Due to Stationary Noise Sources

Duration	Day (7 a.m. to 10. p.m.)	Night (10 p.m. to 7 a.m.)
Hourly (L_{eq})[1,2] dBA	50	45
Maximum (L_{max}) [1,2] dBA	70	65
Impulsive (L_{max}) [1,3] dBA	65	60

Notes: dBA= A-weighted decibels.

1 As determined at the property line of the receiver. When determining effectiveness of noise mitigation measures, the standards may; be applied on the receptor side of noise barriers or other property-line noise mitigation measures.

2 Sound level measurements shall be made with slow meter response.

3 Sound level measurements shall be made with fast meter response.

Source: City of San Luis Obispo 1996

City of San Luis Obispo Municipal Code

The City of San Luis Obispo Noise Control Ordinance contained in Chapter 9.12 of the Municipal Code establishes the following standards and policies that are relevant to the analysis of the noise effects of the project:

9.12.050 Prohibited Acts

6. Construction/Demolition.
    a. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of seven p.m. and seven a.m., or any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by exception issued by the community development department. (This section shall not apply to the use of domestic power tools as specified in subsection B 10 of this section.
    b. Noise Restrictions at Affected Properties. Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties will not exceed those listed in the Tables 3.10-9 and 3.10-10.

Table 3.10-9 Maximum Noise Levels for Nonscheduled, Intermittent, Short-Term Operation (Less than 10 Days) of Mobile Equipment

Zoning Category	Time Period	Noise Level (dBA)
Single-Family Residential	Daily 7:00 a.m. to 7:00 p.m., except Sundays and legal holidays	75
Multi-Family Residential		80
Mixed Residential/Commercial		85
Single-Family Residential	7:00 p.m. to 7:00 a.m., all day Sunday and legal holidays	60
Multi-Family Residential		65
Mixed Residential/Commercial		70

Source: City of San Luis Obispo 2019a

Table 3.10-10 Maximum Noise Levels for Repetitively Scheduled, Relatively Long-Term Operation (10 Days or More) of Stationary Equipment

Zoning Category	Time Period	Noise Level (dBA)
Single-Family Residential	Daily 7:00 a.m. to 7:00 p.m., except Sundays and legal holidays	60
Multi-Family Residential		65
Mixed Residential/Commercial		70
Single-Family Residential	7:00 p.m. to 7:00 a.m., all day Sunday and legal holidays	50
Multi-Family Residential		55
Mixed Residential/Commercial		60

Source: City of San Luis Obispo 2019a

7. Vibration. Operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred fifty feet (forty-six meters) from the source if on a public space or public right-of-way.

<u>9.12.060 Exterior Noise Limits</u>

A. Maximum Permissible Sound Levels at Receiving Land Use.

   1. The noise standards for the various categories of land use identified by the noise control office(r) as presented in Table 1 of Section 9.12.070 [Table 3.10-8 in this section] shall, unless otherwise specifically indicated, apply to all such property within a designated zone.

   2. No person shall cause or allow to cause, any source of sound at any location within the incorporated city or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property, either incorporated or unincorporated, to exceed:

      a. The noise standard for that land use as specified in Table 1 of Section 9.12.070 [Table 3.10-11 in this section] for a cumulative period of more than thirty minutes in any hour; or

      b. The noise standard plus 5 dB for a cumulative period of more than fifteen minutes in any hour; or

      c. The noise standard plus 10 dB for a cumulative period of more than five minutes in any hour; or

      d. The noise standard plus 15 dB for a cumulative period of more than one minute in any hour; or

      e. The noise standard plus 20 dB for any period of time.

Table 3.10-11 Exterior Noise Limits

Zoning Designation	Time Period	Maximum Acceptable Noise Level (dBA)
Low- and Medium-Density Residential (R-1 and R-2); Conservation/Open Space (C/OS)	10:00 p.m. – 7:00 a.m.	50
	7:00 a.m. – 10:00 p.m.	55
Medium- and High-Density Residential (R-3 and R-4)	10:00 p.m. – 7:00 a.m.	50
	7:00 a.m. – 10:00 p.m.	55
Office and Public Facility (O and PF)	10:00 p.m. – 7:00 a.m.	55
	7:00 a.m. – 10:00 p.m.	60
Neighborhood, Retail, Community, Downtown and Tourist Commercial (C-N, C-R, C-C, C-D, C T)	10:00 p.m. – 7:00 a.m.	60
	7:00 a.m. – 10:00 p.m.	65
Service Commercial (C-S)	Anytime	70
Manufacturing (M)	Anytime	75

Notes: As determined at the property line of the receiver. Noise levels represent an average applied over a 30-minute period. These noise levels are adjusted for shorter exposure periods as follows:

15 minutes/hour = +5 dBA

5 minutes/hour = +10 dBA

1 minute/hour = +15 dBA

Any time = +20 dBA

Source: City of San Luis Obispo 2019a

<u>9.12.070 Interior Noise Limits</u>

A. Maximum Permissible Dwelling Interior Sound Levels.

1. The interior noise standards for multifamily residential dwellings as presented in Table 1 of this section [Table 3.10-12 in this section] shall apply, unless otherwise specifically indicated, within all such dwellings with windows in their normal seasonal configuration.

2. No person shall operate or cause to be operated within a dwelling unit, any source of sound or allow the creation of any noise which causes the noise level when measured inside a neighboring receiving dwelling unit to exceed:

    a. The noise standard as specified in Table 1 [Table 3.10-12 in this section] of this section for a cumulative period of more than five minutes in any hour, or

    b. The noise standard plus 5 db for a cumulative period of more than one minute in any hour; or

    c. The noise standard plus 10 dB or the maximum measured ambient, for any period of time.

Table 3.10-12 Interior Noise Limits

Zoning Designation	Time Period	Maximum Acceptable Noise Level (dBA)
All Multifamily Residential Land Uses	10:00 p.m. – 7:00 a.m.	40
	7:00 a.m. – 10:00 p.m.	45

Source: City of San Luis Obispo 2019a

3.10.2 Environmental Setting

Noise levels are commonly reported in decibels using the A-weighting scale (dbA). The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds.

Because decibels are logarithmic units, noise levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness at the same time, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. For example, if one idling truck generates 70 dB, two trucks idling simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level approximately 5 dB louder than one source.

All sound levels discussed in this section are expressed in A-weighted decibels (i.e., dBA). For context, Table 3.10-13 describes typical A-weighted noise levels for various common noise sources.

Table 3.10-13 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 miles per hour	— 80 —	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, daytime, Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office, Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime	— 30 —	Library, Bedroom at night
Quiet rural nighttime	— 20 —	
	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013a: Table 2-5

Human Response to Changes in Noise Levels

The doubling of sound energy results in a 3-dB increase in the sound level. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 Hz and perceives both higher and lower frequency sounds of the same magnitude with less intensity (Caltrans 2013a:2-18). In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness (Caltrans 2013a:2-10). Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound would generally be perceived as barely detectable.

Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2018; Caltrans 2013a:6).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2018; Caltrans 2013b:7). This is based on a reference value of 1 micro inch per second.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Ground vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2018; Caltrans 2013b:27).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur to fragile buildings. Construction activities can generate sufficient ground vibrations to pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2018).

Vibrations generated by construction activity can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations are generated by vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment.

Table 3.10-14 summarizes the general human response to different ground vibration-velocity levels.

Table 3.10-14 Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many humans.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying.
85 VdB	Vibration tolerable only if there are an infrequent number of events per day.

Note: VdB = vibration decibels referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.

Source: FTA 2018

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which a noise level decreases with distance depends on the following factors.

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Roads and highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources, thus propagating at a slower rate in comparison to a point source. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a source to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective-wave canceling provides additional attenuation associated with geometric spreading. Traditionally, this additional attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), additional ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the attenuate rate associated with cylindrical spreading, the additional ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance. This would hold true for point sources, resulting in an overall drop-off rate of up to 7.5 dB per doubling of distance.

Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels, as wind can carry sound. Sound levels can be increased over large distances (e.g., more than 500 feet) from the source because of atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also affect sound attenuation.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction (Caltrans 2013a:2-41; FTA 2018). Barriers higher than the line of sight provide increased noise reduction (FTA 2018). Vegetation between the source and receiver is rarely effective in reducing noise because it does not create a solid barrier unless there are multiple rows of vegetation (FTA 2018).

EXISTING NOISE ENVIRONMENT

Existing Noise- and Vibration-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Land uses such as schools, transient lodging, historic sites, cemeteries, and places of worship are also generally considered sensitive to increases in noise levels. These land use types are also considered vibration-sensitive, as are commercial and industrial buildings where vibration would interfere with operations within the building, even at levels well below those associated with human annoyance.

The 2035 Master Plan Area is bordered by undeveloped, unincorporated San Luis Obispo County land to the north and the east and by the city of San Luis Obispo to the south and the west. Noise- and vibration-sensitive land uses in the vicinity of the 2035 Master Plan Area include multi-family residential buildings, single-family residences, and educational facilities.

As shown in Figure 3.10-2, the campus is bounded by SR 1 and California Boulevard to the west, Slack Street to the south, Stenner Creek Road to the north, and forested hills to the east. The existing residential areas in the vicinity of the 2035 Master Plan Area include the Alta Vista and Monterey Heights single-family residential neighborhoods, bordering the southern edge of campus, and the Foothill and Ferrini Heights neighborhoods, north of Foothill Boulevard to the west of campus. Noise- and vibration-sensitive land uses are also located within the 2035 Master Plan Area and include student housing and educational facilities.

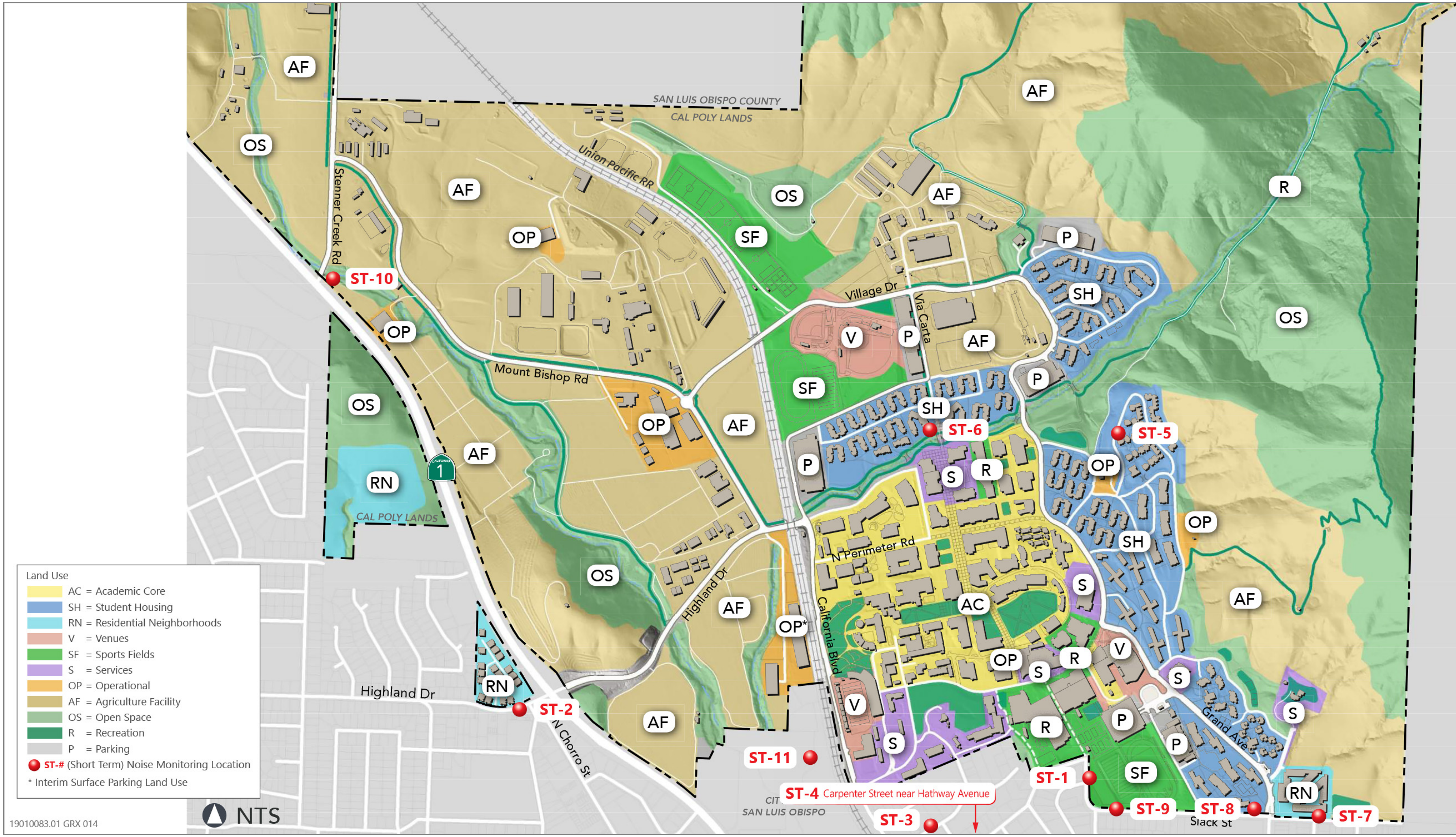
Educational facilities in the vicinity of the 2035 Master Plan Area are located to the southwest of the intersection of Grand Avenue and Slack Street and include Charles E. Teach Elementary School, San Luis Obispo Classical Academy High School, and the Monart Art School. The Foothill and Ferrini Heights residential neighborhoods west of the 2035 Master Plan Area are buffered from the campus by Cal Poly Technology Park and SR 1. Additionally, sports fields used for band practice, events, and games are located along the southern boundary of the 2035 Master Plan Area adjacent to residences in the Alta Vista and Monterey Heights neighborhoods.

Additionally, as shown in Figure 3.10-2, educational facilities located within the 2035 Master Plan Area are generally concentrated in the Academic Core subarea with student housing generally located to the north and east of the Academic Core subarea.

Existing Noise Sources and Ambient Levels

Transportation Noise

The existing noise environment in the 2035 Master Plan Area is primarily influenced by noise from vehicular traffic on the surrounding roadway network. Table 3.10-15 summarizes the existing traffic noise levels for major roadways in the 2035 Master Plan Area. To conservatively model traffic noise, noise levels were estimated using the Federal Highway Administration's (FHWA's) Traffic Noise Model Version 2.5 (FHWA 2004). The modeling is based on the reference noise emission levels for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and ground attenuation factors. Existing traffic volumes were obtained from the City of San Luis Obispo (San Luis Obispo, 2019b). Existing plus project traffic volumes were obtained from the project-specific traffic study (Rubins, pers. comm., 2019). The modeling conducted does not account for any natural or human-made shielding (e.g., the presence of walls or buildings) or reflection off building surfaces and is therefore conservative in its input assumptions.



Source: AMBIENT 2019, adapted by Ascent Environmental in 2019

Figure 3.10-2 Noise Monitoring Locations

As depicted in Table 3.10-15, existing traffic noise levels at approximately 50 feet from the centerline of the study area roadways generally range from the high 50s CNEL to mid-70s CNEL. Based on modeling, the highest traffic noise levels in the vicinity of the Master Plan Area occur along the segments of Santa Rosa Street north of Highland Drive and south of Foothill Boulevard, which generate predicted noise levels of 75.1 CNEL and 72.9 CNEL, respectively.

Table 3.10-15 Existing Average-Daily Traffic Noise Levels

Roadway Segment	Predicted Noise Level (CNEL) 50 ft from Near Travel Lane Centerline	Predicted Noise Level (CNEL) Distance to Noise Contours (feet) 55	Predicted Noise Level (CNEL) Distance to Noise Contours (feet) 60	Predicted Noise Level (CNEL) Distance to Noise Contours (feet) 65
Santa Rosa Street, North of Highland Drive	75.1	5,143	1,626	514
Santa Rosa Street, South of Foothill Boulevard	72.9	3,083	975	308
Foothill Boulevard, West of Broad Street	68.6	1,132	358	113
Chorro Street, South of Foothill Boulevard	58.4	110	35	11
Grand, South of Slack	65.2	520	165	52

Note: CNEL = Community Noise Equivalent Level.

Sources: Noise levels modeled by Ascent Environmental in 2019. Refer to Appendix F.

Existing Noise Survey

To document the existing noise environment on and adjacent to the Cal Poly campus, ambient noise surveys were conducted at various locations within and in the vicinity of the 2035 Master Plan Area (see Figure 3.10-2 and Table 3.10-16 for locations). Short-term (10-minute) noise measurements were conducted on September 27–29 between the hours of 1:00 p.m. and 5:30 p.m. using a Larson Davis model 820 sound-level meter placed at a height of approximately 5 feet above the ground surface. Based on observations conducted during the noise measurements, ambient noise levels were predominantly influenced by vehicle traffic on area roadways. To a lesser extent, construction activities, voices, and aircraft overflights also contributed to ambient noise conditions (AMBIENT 2019).

Measured average daytime noise levels in the 2035 Master Plan Area generally range from the upper 40s L_{eq} to the upper 60s L_{eq}, primarily dependent on distance from area roadways. Average nighttime noise levels are generally 5 to 10 dBA less than daytime noise levels. Intermittent noise levels in the 2035 Master Plan Area associated with vehicle traffic on area roadways and can reach levels of approximately 80 L_{max} along area roadway corridors. Noise measurement survey results are summarized in Table 3.10-16.

Table 3.10-16 Ambient Daytime Noise Levels

Monitoring Location		Primary Sources Noted During Measurement	Monitoring Date/Time	Measured Noise Level (dBA) L_{eq}	Measured Noise Level (dBA) L_{max}
ST-1	Longview Lane near Hathway Avenue	Vehicle Traffic	09/27/18 2:40 p.m.-2:50 p.m.	57.2	78.7
ST-2	Highland Drive near Ferrini Road	Vehicle Traffic	09/27/18 2:00 p.m.-2:15 p.m.	62.3	78.6
ST-2	Highland Drive near Ferrini Road	Vehicle Traffic	09/28/18 5:15 p.m.-5:30 p.m.	64.5	77.1
ST-3	Foothill Blvd. near Carpenter Street	Vehicle Traffic	09/27/18 1:20 p.m.-1:30 p.m.	56.4	76.2
ST-4	Carpenter Street near Hathway Avenue	Vehicle Traffic	09/27/18 1:00 p.m.-1:10 p.m.	55.3	77.9
ST-5	Cerro Vista Circle near Cerro Vista Apartments	Vehicle Traffic	09/27/18 3:20 p.m.-3:30 p.m.	50.0	68.4

Monitoring Location		Primary Sources Noted During Measurement	Monitoring Date/Time	Measured Noise Level (dBA) L_{eq}	Measured Noise Level (dBA) L_{max}
ST-6	Via Carta near E Creek Road	Vehicle Traffic	09/27/18 3:50 p.m.-4:00 p.m.	54.5	69.1
ST-7	Slack Street near Graves Avenue	Vehicle Traffic	09/27/18 4:30 p.m.-4:40 p.m.	49.1	64.8
ST-8	Slack Street near Grand Avenue	Vehicle Traffic	09/28/18 4:00 p.m.-4:10 p.m.	59.7	72.6
ST-9	Slack Street near Longview Lane	Vehicle Traffic	09/28/18 5:20 p.m.-5:30 p.m.	56.3	69.3
ST-10	Santa Rosa Street near Stenner Creek Road	Vehicle Traffic	09/28/18 4:35 p.m.-4:45 p.m.	68.9	74.9
ST-11	Mustang Drive near Mustang Village Apartments	PA system, crowd noise, music, stopping on bleachers at Spanos Stadium	09/29/18 4:00 p.m.-4:30 p.m.	57.3	65.4

Note: Noise measurements were conducted using a Larson Davis Laboratories Model 820 Type I integrating sound meter positioned at a height of approximately 5 feet above ground surface.

Source: AMBIENT 2019

3.10.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Construction Noise and Vibration

To assess potential short-term (construction-related) noise and vibration impacts, sensitive receptors and their relative exposure were identified. Project-generated construction source noise and vibration levels were determined based on methodologies, reference emission levels, and usage factors from FHWA's *Roadway Construction Noise Model User's Guide* (FHWA 2006). Reference levels for noise and vibration emissions for specific equipment or activity types are well documented and the usage thereof common practice in the field of acoustics.

Operational Noise and Vibration

To assess potential long-term (operation-related) noise impacts due to project-generated increases in traffic, noise levels were estimated using FHWA's roadway noise prediction model (FHWA-RD-77-108) and project-specific traffic data obtained from the traffic analysis prepared for the project (Rubins, pers. comm., 2019). The analysis is based on the reference noise emission levels for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and ground attenuation factors. For detailed modeling inputs and calculations see Appendix F. The project's contribution to traffic noise levels along area roadways was determined by comparing the predicted noise levels with and without project-generated traffic. Note that the modeling conducted does not account for any natural or human-made shielding (e.g., the presence of walls or buildings) or reflection off building surfaces.

With respect to non-transportation noise sources (e.g., stationary) associated with project implementation, the assessment of long-term (operational-related) impacts was based on reference noise emission levels, and measured noise levels for activities and equipment associated with project operation (e.g., heating, ventilation and air conditioning [HVAC] units, parking facilities), and standard attenuation rates and modeling techniques.

Groundborne vibration levels associated with non-transportation (stationary) sources were evaluated qualitatively, based on representative noise and groundborne vibration levels commonly associated with similar uses.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considering continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. The following principle is relevant to noise:

- Guiding Principle (GP 16): GP 16: Cal Poly should consider potential impacts – including but not limited to traffic, parking, noise and glare – on surrounding areas, especially nearby single-family residential neighborhoods, in its land use planning, building and site design, and operations.

THRESHOLDS OF SIGNIFICANCE

Cal Poly does not have adopted noise standards or policies, and therefore, this analysis relies on adopted noise standards of the City of San Luis Obispo and other appropriate agencies (e.g., Caltrans), where local standards are not available. It is appropriate to use these available noise standards because they were adopted to protect the community from excessive noise exposure and associated adverse effects. Impacts related to noise would normally be significant if implementation of the 2035 Master Plan would result in:

- generation of a substantial temporary construction increase in ambient noise levels in the vicinity of the project that exceeds 75 L_{max} during the daytime hours (7:00 a.m. to 7:00 p.m.) and 60 L_{max} during the nighttime hours(7:00 p.m. to 7:00 a.m.) applicable to mobile construction equipment at noise-sensitive land uses;
- generation of a substantial permanent traffic noise increase in ambient levels in the vicinity of the project in excess of 60 dBA Ldn (exterior), or where existing traffic noise levels exceed this level, result in a substantial (i.e., 3 dB) increase in noise;
- generation of a substantial permanent stationary noise increase in ambient noise levels in the vicinity of the project in excess of exterior noise standards for stationary noise sources of 50 L_{eq}/70 L_{max} during the daytime hours (7:00 a.m. to 10:00 p.m.) and 45 L_{eq}/65 L_{max} during the nighttime hours (10:00 p.m. to 7:00 a.m.) at noise-sensitive land uses; or
- generation of excessive groundborne vibration or groundborne noise levels that exceed Caltrans's recommended standards of 0.25 ppv/sec, aimed at preventing architectural damage to structures or FTA's recommended maximum exposure level of 80 VdB for assessing groundborne noise impacts to residences where people normally sleep.

ISSUES NOT DISCUSSED FURTHER

Airport/Airstrip-Related Noise Exposure

The project is not located within an airport land use plan, or within 2 miles of a public airport or public use airport/airstrip. San Luis Obispo County Regional Airport is the closest airport and is located approximately 3.5 miles south of the project site. Additionally, the project is not located within 2 miles of a private airstrip. Therefore, implementation of the project would not affect airport operations or result in the development or relocation of any noise-sensitive land uses in proximity to any airport or airstrip; and thus, the project would not result in noise impacts related to the exposure of people residing or working in the project area to excessive aircraft-related noise levels. This issue is not discussed further.

Long-Term Operational Vibration

The implementation of the 2035 Master Plan would not introduce any major sources of long-term or permanent ground vibration (in contrast to construction vibration, which is evaluated in impact analysis, below). Additionally, no major stationary sources of groundborne vibration were identified in the project area that would result in the long-term exposure of proposed on-site land uses to unacceptable levels of ground vibration. Thus, long-term or permanent ground vibration levels in exceedance of the significance thresholds are not anticipated as a result of 2035 Master Plan implementation. This issue is not discussed further in this EIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: Generate Substantial Temporary (Construction) Noise

Implementation of the 2035 Master Plan would result in construction activities associated with the development of facilities to accommodate projected student enrollment and furtherance of the University's academic mission. Although construction activities would be intermittent and temporary, construction noise could reach high levels at nearby noise-sensitive land uses and could result in human disturbance. As a result, this impact would be **significant**.

The development of campus facilities contemplated in the 2035 Master Plan would result in increases in noise-generating construction activities. Noise generated during construction of buildings and associated structures is typically associated with operation of on- and off-road vehicles and equipment, including heavy trucks, excavators, earth movers, and building equipment. Noise levels associated with construction activities occurring during the more noise-sensitive evening and nighttime hours are of greater concern. Because exterior ambient noise levels typically decrease during the evening and nighttime hours (i.e., 7:00 p.m. to 7:00 a.m.) as community activities (e.g., commercial activities, vehicle traffic) decrease, construction activities performed during these more noise-sensitive periods can result in increased annoyance and potential sleep disruption for occupants of nearby residential dwellings.

Construction equipment in use at a given time would vary depending on the phase of construction and specific activities underway. Typical construction activities include grubbing/clearing of project sites, excavation and relocation of soil and rock, backfilling and compaction of soils, construction of utilities (i.e., potable and non-potable water conveyance, wastewater conveyance, storm water drainage facilities, and electrical and natural gas infrastructure), and construction of proposed buildings. Typical noise levels generated by various types of construction equipment likely to be used are identified in Table 3.10-17.

Short-term construction noise levels near the project site would fluctuate depending on the type, number, and duration of usage for the varying equipment. The effects of construction noise largely depend on the type of construction activities being performed, noise levels generated by those activities, distances to noise-sensitive receptors, the relative locations of noise-attenuating features such as vegetation and existing structures, and existing ambient noise levels.

Typically, the site preparation/grading phase of construction generates the most noise because the heaviest, loudest equipment (e.g., graders, excavators, dozers) is used for these activities. Specific construction-related details (e.g., location, schedule, equipment) for individual projects are unknown at this time. Therefore, to evaluate potential construction impacts, construction noise levels were modeled conservatively assuming that up to six pieces of equipment would be operating simultaneously along the boundary of the construction site nearest to the surrounding noise-sensitive receptors. Based on modeling conducted, construction-related noise levels could be approximately 88 L_{eq} and 92 L_{max} at 50 feet from a construction site. For detailed modeling and inputs see Appendix F.

Implementation of projects proposed under the 2035 Master Plan would necessitate construction activities near existing development, both on- and off-campus. Construction activities generally occur in phases and would be dispersed throughout the campus. However, construction activities could occur adjacent to existing residential development and depending on the construction activities conducted, equipment used, and distance to nearby noise-sensitive land uses, construction activities occurring could exceed acceptable daytime construction-noise levels (see Table 3.10-5) at existing on-campus and off-campus sensitive land uses.

Table 3.10-17 Typical Construction Equipment Noise Levels

Equipment	Noise Level (dBA at 50 feet) L_{max}	Noise Level (dBA at 50 feet) L_{eq}
Backhoes	78	74
Bulldozers	82	78
Compressors	78	74
Cranes	81	73
Concrete Pump Truck	81	74

Equipment	Noise Level (dBA at 50 feet) L_{max}	Noise Level (dBA at 50 feet) L_{eq}
Drill Rigs	79	72
Dump Trucks	77	73
Excavator	81	77
Generator	81	78
Grader	85	81
Front End Loaders	79	75
Pneumatic Tools	85	82
Pumps	81	78
Rollers	80	73
Scrapers	84	80
Tractor	84	80

Notes: Based on measured instantaneous noise levels (L_{max}), average equipment usage rates, and calculated average-hourly (L_{eq}) noise levels derived from the FHWA Road Construction Noise Model.

Source: FHWA 2006

While the majority of construction activities would occur during the time when construction noise standards are higher (i.e., 7:00 a.m. to 7:00 p.m. with City noise standards ranging from 60-85 dBA depending on affected land use and duration of noise generating activity, see tables 3.10-9 and 3.10-10), some activity may be required outside of these hours depending on the circumstance and location. Outdoor construction would be permitted to occur only during the nighttime hours if there are no other reasonable options. For example, some foundation designs require that once the pouring of concrete begins, the pour must continue without pause until complete. In some instances, such a concrete pour may take 20 or more hours, requiring work to occur during some nighttime hours. It is unknown at this time if the 2035 Master Plan would include construction that would have any elements that require outdoor nighttime construction. Therefore, to ensure a comprehensive evaluation of potential environmental effects, this EIR assumes the potential for outdoor nighttime construction activity. Depending on the type of construction activities required during the nighttime, this could also result in an exceedance of the City's most conservative threshold for nighttime construction noise of 50 dBA L_{max} (see Tables 3.10-9 and 3-10-10).

Therefore, both daytime and nighttime construction activities associated with implementation of the 2035 Master Plan could result in exceedances of the most conservative daytime and nighttime construction-noise levels standards (i.e., 75 dBA L_{max} and 60 dBA L_{max}, respectively) as established in the City of San Luis Obispo Municipal Code. Thus, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.10-1: Implement Construction-Noise Reduction Measures

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 possible 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-site 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 L_{max} 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 L_{max} 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. 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 ensure that the City of San Luis Obispo exterior noise level standard of 60 dBA L_{max} for temporary construction noise is not exceeded at any residence. 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 L_{max} would result in interior noise levels of about 35 dBA L_{max}, which would not result in a substantially increased risk for sleep disturbance. If exterior noise levels of 60 dBA Lmax are infeasible due to type of construction activity and proximity to residential structure, ensuring interior noise levels do not exceed 45 dBA L_{eq}, consistent with City standards, would ensure residents are not disturbed. To achieve this performance standard, one or more of the following or equivalent measures shall be considered and implemented where appropriate:
  - Use of noise-reducing enclosures and techniques around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors).
  - Installation of temporary noise curtains installed as close as possible to the boundary of the construction site within the direct line of sight path of the nearby sensitive receptor(s) and 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 noise reduction measures are achieved the necessary reductions such that levels at the receiving land uses do not exceed exterior noise levels of 60 dBA L_{max} for construction activity occurring during these noise-sensitive hours.

Significance after Mitigation

Mitigation Measure 3.10-1 would limit the periods during which construction activities would occur in the vicinity of nearby noise-sensitive land uses. Additional measures would be required to further reduce the potential for noise exposure, including use of alternatively powered equipment, exhaust mufflers, engine shrouds, equipment enclosures, and barriers for activities in the vicinity of noise-sensitive uses. Implementation of these noise-reduction features can reduce construction noise levels by approximately 10 dBA, or more. With mitigation, construction-generated noise levels would be substantially reduced. However, construction noise levels at some nearby land uses may need to be reduced by up to 17 dBA during daytime hours to achieve applicable noise standards; thus, even with implementation of all feasible mitigation, construction noise could still exceed applicable noise standards. Therefore, this impact would be **significant and unavoidable**.

Impact 3.10-2: Generate Substantial Increase in Long-Term (Traffic) Noise Levels

Population growth and development associated with implementation of the 2035 Master Plan would increase traffic within and outside the 2035 Master Plan Area. However, project-generated traffic volumes would not be at levels high enough to cause substantial increases in noise (i.e., 3 dB or more). This impact would be **less than significant**.

Development associated with the 2035 Master Plan would result in some increases in traffic volumes along affected roadway segments and potentially generate an increase in traffic source noise levels.

Generally, a doubling of a noise source (such as twice as much traffic) is required to result in an increase of 3 dB, which is perceived as noticeable by people. Therefore, regarding traffic noise specifically, an increase in 3 dB or more in traffic noise would be considered substantial. To assess this impact, traffic noise levels associated with the proposed development under existing and existing-plus-project conditions were modeled for affected roadway segments. For further details on traffic counts and conditions, see Section 3.13, “Transportation.” Table 3.10-18 summarizes the increases in noise on project-affected roadway segments. As shown in Table 3.10-18, development of the 2035 Master Plan would result in predicted increases in traffic noise levels of approximately 0.9 dBA, or less along affected area roadway segments.

Table 3.10-18 Predicted Increases in Traffic Noise Levels

Roadway	Predicted dBA CNEL, 50 Feet from Near-Travel Lane Centerline Existing	Predicted dBA CNEL, 50 Feet from Near-Travel Lane Centerline Existing Plus Project	Predicted Change (dBA)	Significant Increase?
Santa Rosa Street, North of Highland Drive	75.1	75.2	0.1	No
Santa Rosa Street, South of Foothill Boulevard	72.9	73.1	0.2	No
Foothill Boulevard, West of Broad Street	68.6	68.6	0.0	No
Chorro Street, South of Foothill Boulevard	58.4	59.0	0.6	No
Grand Avenue, South of Slack Street	65.2	66.1	0.9	No

Notes: Traffic noise levels were calculated using methods consistent with the FHWA roadway noise prediction model, based on data obtained from the traffic analysis prepared for this project; dBA=A-weighted decibel.

Source: Modeled by Ascent Environmental, Inc, in 2019

Increases in project-generated traffic could result in some increase in traffic noise levels along roadways internal to the campus. As discussed in Section 3.3 “Air Quality,” the project would result in an increase of 7,495 vehicle trips per day that would be spread out over several local roadways (evaluated in Table 3.10-18) and would enter/leave campus through multiple entry points, dispersing any new trips throughout the internal roadway network. Further, students and faculty/staff driving to and from campus would be driving toward parking structures and parking lots that are generally not located near on-campus residential uses. In addition, peak travel times would generally occur in the morning hours, times when people are awake and less prone to be disturbed from traffic noise. For these reasons, traffic noise increases on internal roadways would be minimal and would generally not affect any existing or future sensitive receptors. Therefore, implementation of the project would not result in a substantial increase (i.e., 3 dB) in traffic noise and, for roadways currently below 60 dBA L_{dn},, would not exceed 60 dBA L_{dn} as a result of project-generated traffic increases. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.10-3: Generate Substantial Long-Term Increase in Stationary Noise

The new buildings and facilities constructed as part of the 2035 Master Plan may include new stationary noise sources and equipment (e.g., mechanical equipment), and increased noise levels associated with athletic and special events. Depending on location and design, equipment location, intervening shielding, and noise-reduction features incorporated, noise levels associated with new stationary noise sources (Spanos Stadium, parking facilities, HVAC systems) could result in exceedances of exterior noise limits at existing sensitive land uses. This impact would be **significant**.

Noise sources commonly associated with the facilities proposed in the 2035 Master Plan would include sporting and special events; parking lot activities (e.g., opening and closing of vehicle doors, people talking); and the use of onsite building equipment such as HVAC systems, boilers, and emergency/back-up generators. Emergency/back-up generators would only be used for continued periods of time during power outages or building equipment malfunctions and, therefore, do not substantially contribute to increases in average ambient noise levels. Further, back-up equipment would be tested periodically for short periods of time during the daytime hours, consistent with typical work shifts of maintenance personnel, and City standards for stationary sources (i.e., 7:00 a.m. to 10:00 p.m.). Thus, due to the infrequent, intermittent, and temporary use characteristics of these noise sources, in combination with that fact that typical maintenance activity would occur during the less sensitive times of the day, noise generated from new emergency/back-up generators would not be considered a substantial permanent increase in noise that could disturb nearby receptors. For these reasons, stationary noise sources evaluated in this impact include Spanos Stadium, parking facilities, and HVAC systems. Noise levels associated with these noise sources are discussed separately, below.

<u>Sporting and Special Events</u>

The 2035 Master Plan provides for enhancement of existing sport and event facilities on campus, including the expansion of Spanos Stadium. The Spanos Stadium expansion would add approximately 4,000 seats to better accommodate home sporting events and graduation ceremonies. This additional seating would result in additional spectator noise from the stadium during sporting and special events. The nearest off-campus noise-sensitive land uses are the Mustang Village Apartments, located approximately 350 feet southwest of the stadium across California Boulevard and the Union Pacific Railroad tracks. Detailed information regarding stadium improvements are not yet available. Events at Spanos Stadium are typically limited to the less sensitive times of day (i.e., 7:00 a.m. to 10:00 p.m), as defined by the municipal code standards that apply to stationary equipment. Because specific stadium improvements, event types, and timing of events are unknown at this time, this EIR conservatively assumes that operational noise levels associated with the stadium expansion could exceed applicable noise standards at nearby noise-sensitive land uses, including the Mustang Village Apartments. This impact would be significant.

<u>Parking Facilities</u>

Various parking structures and surface parking lots are proposed to be constructed as part of the 2035 Master Plan. Near-term development (within the first 10 years of 2035 Master Plan implementation) would include construction of a new parking structure located along Via Carta south of Village Drive in the North Campus subarea and construction of a second structure near the Union Pacific Railroad right-of-way, immediately north of Brizzolara Creek and also in the North Campus subarea. Various other parking facilities may also be constructed to replace surface parking lots that may be displaced by future planned development, such as the interim parking lot in the West Campus. Noise levels commonly associated with large parking structures can reach levels of approximately 60-65 dBA L_{eq} at 50 feet during periods of peak use (Ambient 2019). Given that the proposed parking facilities would be located within the North Campus subarea of the main campus or in a relatively isolated area in the West Campus, operational noise levels associated with these facilities would not be audible at off-campus residential neighborhoods (Ambient 2019).

However, the proposed parking facilities could be located adjacent to where new student housing areas are proposed. Based on the conservative reference noise level of 65 dBA L_{eq} at 50 feet, and applying typical attenuation rates, noise from the proposed parking structures could exceed daytime exterior noise thresholds for stationary equipment (i.e., 50 L_{eq}/70 L_{max} between 7:00 a.m. and 10:00 p.m.) if a sensitive receptor is located within 280 feet of the source, and the nighttime exterior noise thresholds (i.e., 45 L_{eq}/65 L_{max} between 10:00 p.m. to 7:00 a.m.) if a sensitive receptor is located within 498 feet of the source. Based on the 2035 Master Plan, it is likely that student housing would be located closer than 280 feet from the proposed parking structures. Therefore, it is possible that proposed parking structures could cause both daytime and nighttime exterior noise thresholds to be exceeded at noise-sensitive receptors. This impact would be significant.

Building Mechanical Equipment

Implementation of the 2035 Master Plan would result in increased stationary source noise levels, primarily associated with building mechanical equipment (e.g., HVAC systems). As discussed above, this discussion focusses on HVAC equipment. Detailed information regarding the stationary equipment to be installed for facilities constructed under the 2035 Master Plan is not available at this time. However, noise levels commonly associated with larger commercial-use air conditioning systems can reach levels of up to 78 dBA at 3 feet (Lennox 2019). Commonly installed building equipment, such as HVAC systems, can be located in the interior of the structure, on rooftops, or in direct line-of-sight to adjacent land uses. Based on the reference noise level, and applying typical attenuation rates, noise from HVAC units could exceed daytime (i.e., 7:00 a.m. to 10:00 p.m.) exterior noise thresholds for stationary equipment of 50 dBA L_{eq} within 75 feet and the 70 dBA L_{max} standard within 8 feet of the source. Nighttime (i.e., 10:00 p.m. to 7:00 a.m.) exterior noise standards of 45 dBA L_{eq} could be exceeded within 134 feet and 65 dBA Lmax within 14 feet of an HVAC unit. Thus, depending on the proximity of HVAC systems to surrounding noise-sensitive receptors, the increase in ambient noise levels associated with HVAC systems at nearby noise-sensitive land uses could exceed applicable noise standards. This impact would be significant.

Summary

Dependent on the specific improvements proposed to the stadium and the associated design and location of those improvements, operational noise levels associated with the stadium expansion could exceed applicable daytime noise standards at nearby noise-sensitive land uses. Additionally, parking structures proposed in the 2035 Master Plan could cause both daytime and nighttime exterior noise thresholds to be exceeded at on-site noise-sensitive receptors (on-campus residences). Lastly, depending on building design, and the type, size, and location of the mechanical equipment installed, operational noise levels associated with stationary noise sources could result in exceedances of exterior noise limits at existing sensitive land uses. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.10-3a: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of Spanos Stadium

To minimize noise levels generated by the Spanos Stadium expansion, the following measures shall be implemented:

- Prior to final design, a noise assessment shall be conducted by a qualified acoustical engineer or noise specialist to evaluate potential increases in noise levels associated with the proposed expansion of Spanos Stadium. Noise-reduction measures shall be incorporated to reduce significant increases in existing operational noise levels (i.e., 3 dBA, or greater) at nearby noise-sensitive land uses, including Mustang Village Apartments, to the extent feasible. Such measures may include, but are not limited to, the incorporation of structural shielding, enclosed bleachers, and revised placement for amplified sound system speakers.

Mitigation Measure 3.10-3b: Implement Noise Reduction Measures to Reduce Long-Term Noise Impacts of the Proposed Parking Structures

To minimize noise levels generated by the proposed parking structures, the following measures shall be implemented:

- Prior to final design, a noise assessment shall be conducted by a qualified acoustical engineer or noise specialist to evaluate potential increases in noise levels associated with the proposed expansion of any proposed parking structure. Noise-reduction measures shall be incorporated to reduce to the extent feasible significant increases in existing operational noise levels (i.e., 3 dBA, or greater) at nearby noise-sensitive land uses, including campus student housing. Such measures may include, but are not limited to, locating parking structures as far away as possible from noise-sensitive land uses, constructing noise barriers between parking structures and noise-sensitive land uses, or using buildings and topographic features to provide acoustic shielding for noise-sensitive land uses.

Mitigation Measure 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 L_{eq} and 70 dba L_{max}, or less during the daytime (i.e., 7:00 a.m. to 10:00 p.m.) and 45 L_{eq} and 60 dBA L_{max}, 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.

Significance after Mitigation

Implementation of Mitigation Measure 3.10-3a would require the preparation of an acoustical analysis for the planned expansion of Spanos Stadium, prior to final site design. The acoustical analysis would be required to evaluate changes in operational noise levels associated with the proposed stadium expansion and, where practical, incorporate noise reduction measures (e.g., structural shielding, enclosed bleachers, and changes in speaker placement for amplified sound systems).

Implementation of Mitigation Measure 3.10-3b would require the preparation of an acoustical analysis for the planned parking structures prior to final site design. The acoustical analysis would be required to evaluate changes in operational noise levels associated with the proposed parking structures and, where practical, incorporate noise reduction measures (e.g., building location and design, construction of noise barriers).

Similarly, implementation of Mitigation Measure 3.10-3c would require that all external building mechanical equipment noise sources are oriented, located, and designed in such a way that reduces noise exposure and would ensure that exterior and interior noise levels at nearby noise-sensitive land uses would not exceed the exterior noise standards for stationary sources. Thus, incorporated mitigation would ensure that stationary equipment do not exceed applicable standards and this impact would be reduced to less than significant.

However, depending on the final site design for the proposed parking structures, proposed housing facilities, and the Spanos Stadium expansion, the implementation of mitigation measures may not be sufficient to fully mitigate associated increases in operational noise levels at all nearby noise-sensitive land uses to levels at or below the identified noise standard. As a result, this impact would be **significant and unavoidable**.

Impact 3.10-4: Generate Substantial Temporary (Construction) Vibration Levels

If pile driving is required during project construction, it could expose existing nearby sensitive receptors and structures to levels of ground vibration that could result in structural damage and/or human disturbance. This impact would be **significant**.

As shown in Table 3.10-19, construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment used and activities involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increased distance. Construction-related ground vibration is normally associated with impact equipment, such as pile drivers and jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. Blasting activities also generate relatively high levels of ground vibration and vibration noise. The effects of ground vibration may be imperceptible at the lowest levels, result in low rumbling sounds and detectable vibrations at moderate levels, and at high levels can cause sleep disturbance in places where people normally sleep or annoyance in buildings that are primarily used for daytime functions.

As shown in Table 3.10-19, pile driving and blasting are the typical construction activities that generate the greatest ground vibration. Construction associated with the 2035 Master Plan could include the use of impact or sonic pile driving. No blasting would occur.

Table 3.10-19 Representative Ground Vibration and Noise Levels for Construction Equipment

Equipment	PPV (in/sec)[1] at 25 feet	Approximate L_v (VdB) at 25 feet[2]
Impact Pile Driver	1.518	112
Blasting	1.13	109
Sonic Pile Driver	0.734	105

Notes: PPV = peak particle velocity; LV = the root mean square velocity expressed in vibration decibels (VdB), assuming a crest factor of 4.
Source: FTA 2018

Construction activities would occur in close proximity to existing on- and off-site sensitive receptors. The location and method for sinking piles, if needed, and the distance to the nearest sensitive receptors cannot be known at this time.

It is not known if any of the structures in the project vicinity would be considered historic; therefore, vibration levels from impact and sonic pile driving were modeled to determine the distance at which the Caltrans's 0.25 in/sec PPV vibration standard for prevention of structural damage for historic and some old buildings and the FTA's maximum acceptable level for human response of 80 VdB would be exceeded. Modeling was based on FTA's recommended procedure for applying a propagation adjustment to these reference levels. Modeling results are shown in Table 3.10-20.

Table 3.10-20 Representative Ground Vibration and Noise Levels for Construction Equipment

Equipment	Distance (feet) at Which PPV (in/sec)[1] of 0.25 Would Be Exceeded	Distance (feet) at Which L_v (VdB) of 80.0 Would Be Exceeded
Impact Pile Driver	83	292
Sonic Pile Driver	51	170

Notes: PPV = peak particle velocity; L_v = the root mean square velocity expressed in vibration decibels (VdB), assuming a crest factor of 4.
Source: FTA 2018

As shown in Table 3.10-20, impact pile driving and sonic pile driving could exceed Caltrans's 0.25 in/sec PPV vibration standard for prevention of structural damage for historic and some old buildings and the FTA's maximum acceptable level for human response of 80 VdB, depending on the distance to the nearest sensitive receptor. Therefore, implementation of the project could expose existing on-site and off-site sensitive receptors and structures to levels of ground vibration that could result in and/or structural damage and/or human disturbance. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.10-4a: Implement Measures to Reduce Ground Vibration

For any future construction activity that would involve pile driving and be located within 300 feet of an existing sensitive land use or occupied building, the following measures shall be implemented:

- To the extent feasible, earthmoving and ground-impacting operations shall be phased so as not to occur simultaneously in areas close to sensitive receptors (i.e., within 300 feet). The total vibration level produced could be significantly less when each vibration source is operated at separate times.

- Where there is flexibility in the location of use of heavy-duty construction equipment, or impact equipment, the equipment shall be operated as far away from vibration-sensitive sites as reasonably feasible.

Mitigation Measure 3.10-4b: Develop and Implement a Vibration Control Plan

To assess and, when needed, reduce vibration and noise impacts from construction activities, the following measures shall be implemented:

- A vibration control plan shall be developed prior to initiating any pile-driving activities. Applicable elements of the plan shall be implemented before, during, and after pile-driving activity. The plan will include measures sufficient to reduce vibration at sensitive receptors to levels below applicable thresholds. Items that will be addressed in the plan include, but are not limited to, the following:
  - Identification of the maximum allowable vibration levels at nearby buildings may consider Caltrans's recommended standards with respect to the prevention of architectural building damage of 0.25 in/sec PPV for historic and some old buildings and for buildings that are occupied at the time of pile driving, FTA's maximum-acceptable-vibration standard with respect to human response, 80 VdB. However, based on site-specific parameters (e.g., building age, structural integrity), and construction specifics (e.g., time of day when vibration activities occur, pile frequency), these standards may be adjusted, as long as sensitive receptors and structures are protected.
  - Pre-construction surveys shall be conducted to identify any pre-existing structural damage to buildings that may be affected by project-generated vibration.
  - Identification of minimum setback requirements for different types of ground-vibration-producing activities (e.g., pile driving) for the purpose of preventing damage to nearby structures and preventing adverse effects on people. Factors to be considered include the nature of the vibration-producing activity, local soil conditions, and the fragility/resiliency of the nearby structures. Initial setback requirements can be reduced if a project- and site-specific analysis is conducted by a qualified geotechnical engineer or ground vibration specialist that indicates that no structural damage to buildings or structures would occur.
  - Vibration levels from pile driving shall be monitored and documented at the nearest sensitive land use to document that applicable thresholds are not exceeded. Recorded data shall be submitted on a twice-weekly basis to Cal Poly. If it is found at any time that thresholds are exceeded, pile driving shall cease in that location, and methods shall be implemented to reduce vibration to below applicable thresholds, or an alternative pile installation method shall be used at that location.

Significance after Mitigation

Implementation of Mitigation Measures 3.10-4a and 3.10-4b would require the contractor to minimize vibration exposure to nearby receptors by locating equipment far from receptors and phasing operations. Further, if pile driving would be required, a vibration control plan would be prepared and implemented to refine appropriate setback distances and identify other measures to reduce vibration, if necessary, and identify and implement alternative methods to pile driving if required. These measures would ensure compliance with recommended levels to prevent structural damage and human annoyance. Thus, this impact would be reduced to a **less-than-significant** level.

3.11 POPULATION AND HOUSING

This section describes the existing population, employment, and housing supply for Cal Poly and the city and county of San Luis Obispo, and the Master Plan's potential contributions to population growth, employment opportunities, and housing as the result of planned enrollment growth over the course of Master Plan buildout. Potential growth-inducing impacts of the project are further addressed in Chapter 6, "Other CEQA Considerations."

In response to the Notice of Preparation (NOP), several comments were received related to population and housing, including concerns about the number of students living off-campus and the need for additional on-campus student housing.

3.11.1 Regulatory Setting

FEDERAL

No federal plans, policies, regulations, or laws are applicable to the provision of population and housing for the project.

STATE

State California Environmental Quality Act Guidelines Section 15131

State CEQA Guidelines Section 15131 provides that economic or social information may be included in an EIR, but those economic or social effects shall not be considered significant effects on the environment. In an EIR, the lead agency is responsible for researching economic or social changes resulting from a project, which may eventually lead to physical changes in the environment. These economic or social changes can be used to determine the significance of physical changes on the environment.

Government Code Section 65040.12

Government Code Section 65040.12 (e) defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws and policies."

Cortese-Knox-Hertzberg Local Government Reorganization Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act Section 56668(o) defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services. Environmental justice addresses issues concerning whether an activity could expose minority or disadvantaged populations to proportionately greater impacts compared with those borne by other individuals.

Senate Bill 244, Disadvantaged Unincorporated Communities

In 2011, Senate Bill (SB) 244 was enacted, resulting in changes to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Cortese-Knox-Hertzberg Act). Local Agency Formation Commissions (LAFCos) are now required to deny any application to annex to a city territory that is contiguous to a disadvantaged unincorporated community unless a second application is submitted to annex the disadvantaged community as well and LAFCos are required to evaluate disadvantaged unincorporated communities in a municipal service review. SB 244 defines "disadvantaged unincorporated community" as any area with 12 or more registered voters where the median household income is less than 80 percent of the statewide annual median.

California Education Code

The California Education Code contains several provisions mandating CSU enrollment access levels, to ensure the CSU system accommodates all eligible California resident students. Section 66202.5 of the Education Code states the following:

> The State of California reaffirms its historic commitment to ensure adequate resources to support enrollment growth, within the systemwide academic and individual campus plans to accommodate eligible California freshmen applicants and eligible California Community College transfer students, as specified in Sections 66202 and 66730.
>
> The University of California and the California State University are expected to plan that adequate spaces are available to accommodate all California resident students who are eligible and likely to apply to attend an appropriate place within the system. The State of California likewise reaffirms its historic commitment to ensure that resources are provided to make this expansion possible and shall commit resources to ensure that students from enrollment categories designated in subdivision (a) of Section 66202 are accommodated in a place within the system.

Similarly, Section 66011(a) of the California Education Code provides that all resident applicants to California institutions of public higher education, who are determined to be qualified by law or by admission standards established by the respective governing boards, should be admitted to either (1) a district of the California Community Colleges, in accordance with Section 76000; (2) the California State University (CSU); or (3) the University of California.

Section 66741 of the California Education Code requires acceptance of qualified transfer students at the advanced standing level.

California Housing Element Law

California's Housing Element Law (California Government Code Sections 65580 through 65589.8) recognized that early attainment of decent housing and a suitable living environment for every Californian, including farmworkers, was a "priority of the highest order." The law was enacted to ensure that counties and cities recognize their proportionate responsibilities in contributing to the attainment of state housing goals, to establish the requirement that all counties and cities adopt housing elements to help meet state goals, to recognize that each locality is best capable of determining what efforts it is required to take to contribute to attainment of state housing needs, and to encourage and facilitate cooperation between local governments to address regional housing needs. Section 65583 states "the housing element shall consist of an identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing" and "the housing element shall identify adequate sites for housing, including rental housing, factory-built housing, mobile homes, and emergency shelters, and shall make adequate provision for the existing and projected needs of all economic segments of the community."

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation and is based on a Regional Housing Needs Plan developed by councils of government. The San Luis Obispo Council of Governments (SLOCOG) is the lead agency for developing the Regional Housing Needs Plan for seven cities, including the City of San Luis Obispo, and County of San Luis Obispo. The 2001 Master Plan is accounted for in the current housing need projections developed by SLOCOG as part of the 2013-2019 Regional Housing Needs Plan. If approved, the 2035 Master Plan would be included as part of future housing need projections developed by SLOCOG.

CALIFORNIA STATE UNIVERSITY

CSU Operating Budget

In keeping with its state charter and in response to projections of continued increases in demand for higher education enrollment and to meet California's future workforce needs, the CSU Board of Trustees has directed each campus of the CSU to take the necessary steps to accommodate additional systemwide enrollment increases. The Trustees require every CSU campus to prepare a Master Plan depicting existing and anticipated facilities "necessary to accommodate a specified enrollment at an estimated planning horizon, in accordance with approved educational policies and objectives" (California State University 2012a). Master Plans are based on annual FTES college year enrollment targets prepared by each campus in consultation with the CSU Chancellor's Office (California State University 2012b).

Each year, the CSU negotiates with the State of California for funding to support planned enrollment growth as part of the annual budget process. The annual state budget identifies anticipated enrollment growth systemwide for the CSU each year; according to the 2019-2020 California State Budget, the state expects the CSU to accommodate growth in enrollment of 10,000 FTES during that period (DOF 2019a). Following negotiation, the CSU allocates enrollment growth funding for California residents according to an enrollment target for each of the 23 CSU campuses. Campuses are expected to manage their enrollments within a small margin of error around the target because they receive state/CSU funding only for the targeted number.

California State University Graduation Initiative 2025

Graduation Initiative 2025 is the CSU's initiative to increase graduation rates for all CSU students while eliminating opportunity and achievement gaps. Through this initiative the CSU strives to ensure that all students have the opportunity to graduate in a timely manner according to their personal goals, positively impacting their future and producing the graduates needed for the California and national workforce. The Graduation Initiative 2025 establishes the following goals for 2025: 40 percent freshman 4-year graduation rate, 70 percent freshman 6-year graduation rate, 45 percent transfer 2-year graduation rate, 85 percent transfer 4-year graduation rate, and eliminate all equity gaps for underrepresented minorities and Pell Grant-eligible students to achieve equity. To achieve this goal, Cal Poly needs to increase its capacity to support students both academically, in the form of additional programs and physical academic space, and with sufficient housing and services that ultimately support students and the academic mission of university.

Cal Poly Campus Administrative Policies Residency Requirement

Chapter 660, University Housing, of the Campus Administrative Policies includes the following policy related to on-campus housing requirements:

> **660.1 Purpose and Mission Statement**. University Housing is responsible for the administration of the University's academic year and summer quarter student housing program. The mission of the department is to provide a quality living and learning experience for a diverse population of residents. Regulations that govern use of the housing facilities have been established by the Board of Trustees of the California State University in Title V of the California Code of Regulations. The University Housing Department consists of six units that support the Department mission: Housing Administration, Facilities Operations, University Housing Depot, Residential Life and Education, Housing Technology, and Custodial Operations. At Cal Poly, San Luis Obispo, there is a residency requirement. All admitted first-time freshmen are required to live on-campus for their first year. At such time University Housing has as part of its housing portfolio the number of bed spaces needed to accommodate all freshman and sophomore students, all admitted students who enter the university as freshmen will be required to live on-campus for two years (six academic quarters).

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

County of San Luis Obispo General Plan

The San Luis Obispo County General Plan is comprised of several elements that include strategic growth principles and policies to manage population growth and guide housing development within the county. The following principles and policies from these elements are considered as part of the EIR's analysis.

<u>Land Use and Circulation Element</u>

Principle 2: Strengthen and direct development toward existing and strategically planned communities.

- Policy 2: Avoid establishing or expanding Residential Rural and Residential Suburban areas outside urban or village reserve areas.
- Policy 3: Plan for most future development to be within existing and strategically planned cities and communities.
- Policy 7: Phase urban development in a compact manner, first using vacant or underutilized "infill" parcels and lands next to or near existing development.

Principle 3: Foster distinctive, attractive communities with a strong sense of place.

- Policy 3: Establish and maintain a distinct edge between urban and rural areas to enhance community separation while allowing for appropriate and compact urban expansion at the urban edge.

Principle 6: Create a range of housing opportunities and choices.

- Policy 1: Plan for most new housing to be within urban or village areas and close to jobs while protecting residential areas from incompatible uses.
- Policy 2: Provide quality housing choices that are affordable to people with a variety of income levels.
- Policy 3: Provide a range of housing types within each neighborhood, and avoid creating adverse concentrations of affordable units.

Principle 8: Take advantage of compact building design.

- Policy 1: Develop compact neighborhoods that contain residential uses that are affordable-by-design and efficient in land and energy consumption.
- Policy 2: Include public and private amenities with new development to enhance the livability of compact neighborhoods.

<u>Housing Element</u>

- Policy HE 1.1: Designate a sufficient supply of land for housing that will facilitate balanced communities, including a variety of housing types, tenure, price, and neighborhood character.
- Policy HE 1.2: Plan for future housing needs beyond the State-required planning period (2009-2014) for this Housing Element. This is important because the tasks necessary to identify land for housing and provide infrastructure can take several years to accomplish.
- Policy HE 1.3: Designate land for housing near locations of employment, shopping, schools, parks, and transportation systems when feasible.
- Policy HE 1.7: Encourage development of live/work units, where housing can be provided for the workforce while generating economic activity in the community.

- **Policy HE 1.9:** Encourage the use of Strategic Growth principles in development that create a range of housing choices, mix land uses, preserve open space, and focus development in urban areas.
- **Policy HE 1.10:** Protect the existing supply of multi-family land to meet the needs of lower income households and the workforce, and avoid development of multi-family land at low residential densities or with non-residential land uses. The intent of this policy is to support the affordable housing objectives of this Element, which will require the efficient and strategic use of land. This policy supports the development of ordinances which encourage increased residential densities on multi-family land, consistent with Program HE 1.F. This policy is not intended to prevent the approval of housing projects having less than allowable densities that are otherwise consistent with County ordinances and policies.
- **Policy HE 1.11:** Encourage alternative housing types such as co-housing, shared homes, rooming houses, residential hotels, mixed use, and other similar collaborative housing. Providing a wide variety of alternative housing types improves the ability of residents to find the housing that best fits their needs.
- **Policy HE 3.2:** Work with other jurisdictions to support a countywide approach to reducing and preventing homelessness.
- **Policy HE 3.3:** Work with community groups and developers to provide opportunities for construction and acquisition of housing for special needs groups.

City of San Luis Obispo General Plan

The City of San Luis Obispo General Plan Land Use Element and Housing Element provide policies to address population and housing within the city and to guide sustainable development that meets their population and housing needs. The following policies apply to the project.

<u>Land Use Element</u>

- **Policy 1.11.1: Overall Intent**. The City shall manage the city's growth rate to provide for the balanced evolution of the community and the gradual assimilation of new residents. Growth must be consistent with the City's ability to provide resources and services and with State and City requirements for protecting the environment, the economy, and open space.
- **Policy 1.11.2: Residential Growth Rate**. The City shall manage the growth of the city's housing supply so that it does not exceed one percent per year, on average, based on thresholds established by Land Use Element Table 3, excluding dwellings affordable to residents with extremely low, very low or low incomes as defined by the Housing Element. This rate of growth may continue so long as the City's basic service capacity is assured. Table 3 shows the approximate number of dwellings and residents which would result from the one percent maximum average annual growth rate over the planning period. Approved specific plan areas may develop in accordance with the phasing schedule adopted by each specific plan provided thresholds established by Table 3 are not exceeded. The City Council shall review the rate of growth on an annual basis in conjunction with the General Plan annual report to ensure consistency with the City's gradual assimilation policy.
- **Policy 1.11.3: Phasing Residential Expansions**. Before a residential expansion area is developed, the City must have adopted a specific plan or a development plan for it. Such plans for residential expansion projects will provide for phased development, consistent with the population growth outlined in Table 3, and taking into account expected infill residential development.
- **Policy 1.11.4: Nonresidential Growth Rate**. Each year, the City Council shall evaluate the actual increase in nonresidential floor area over the preceding five years. The Council shall consider establishing limits for the rate of nonresidential development if the increase in nonresidential floor area for any 5-year period exceeds five percent. Any limits so established shall not apply to:

    A. Changed operations or employment levels, or relocation or ownership change, of any business existing within the City at the time the limit is set;

    B. Additional nonresidential floor area within the Downtown core (Figure 4);

C. Public agencies; and

D. Manufacturing, light industrial, research businesses, or companies providing a significant number of head of household jobs.

- **Policy 1.12.1: Educational and Governmental Facilities Near the City**. The City shall continue to communicate with nearby government and educational institutions to address proposed changes in numbers of workers, students, or inmates that have the potential to result in significant adverse land use or circulation impacts on the City or may negatively influence the City's ability to manage growth.
- **Policy 1.12.2: Cal Poly**. The City shall encourage Cal Poly not to change its 2001 Master Plan enrollment targets in a way that would exceed campus and community resources. The City shall encourage Cal Poly to provide additional on-campus housing, enhanced transit service, and other measures to minimize impacts of campus commuting and enrollment. Cal Poly should actively engage the community during updates or amendments to the Campus Master Plan and fully mitigate impacts to the City, including environmental and quality of life impacts to nearby neighborhoods.
- **Policy 2.6: Student and Campus Housing**
  - **2.6.1: Cal Poly**. The City shall encourage Cal Poly to build housing on campus for all of its students, to the extent feasible. On-campus housing should be expanded at least as fast as enrollment increases. Consideration shall be given for housing for faculty and staff as student enrollment increases.
  - **2.6.3: Amenities**. The City shall encourage development of attractive multifamily housing likely to be occupied by students to provide the amenities that students may otherwise seek in single-family areas.
  - **2.6.4: Location**. The City shall encourage the development of housing likely to attract faculty, staff, and students to locate close to Cal Poly. The City shall work with Cal Poly to facilitate faculty and staff owning or renting housing in adjacent neighborhoods.
  - **2.6.5: Fraternities & Sororities**. The City shall work with Cal Poly to develop a proposal to locate fraternities and sororities on campus for consideration by the CSU Board. If locations on campus cannot be provided, fraternities and sororities should be limited to medium-high and high-density residential areas near the campus.

<u>Housing Element</u>

- **Policy 8.4:** Encourage Cal Poly University to continue to develop on-campus student housing to meet existing and future needs and to lessen pressure on City housing supply and transportation systems.
- **Policy 8.5:** Strengthen the role of on-campus housing by encouraging Cal Poly University to require freshman and sophomore students to live on campus.
- **Policy 8.6:** Locate fraternities and sororities on the Cal Poly University campus. Until that is possible, they should be located in Medium-High and High-Density residential zones near the campus.
- **Policy 8.7:** Encourage Cal Poly University to develop and maintain faculty and staff housing, consistent with the General Plan.
- **Policy 10.2:** Cal Poly State University and Cuesta College should actively work with the City and community organization to create positive environments around the Cal Poly Campus by:

A. Establishing standards for appropriate student densities in neighborhoods near Campus;

B. Promoting homeownership for academic faculty and staff in Low-Density Residential neighborhoods in the northern part of the City; and

C. Encouraging and participating in the revitalization of degraded neighborhoods.

3.11.2 Environmental Setting

POPULATION AND POPULATION GROWTH

As part of its regional planning functions, SLOCOG develops regional population, employment, and housing forecasts for the county and the individual cities and communities within the county. The housing elements of the City's and County's respective general plans each incorporate projected population and housing estimates from SLOCOG into their overall planning efforts. A discussion of population trends in the city and county are discussed below.

Regional Population

The county's population is strongly determined by the strong in-migration of affluent, retired people, a drop in the natural birth rate, and high emigration of young professionals and families. Unlike statewide population growth, the county's population growth is more strongly influenced by in-migration than natural births and is anticipated to continue to be determined by net migration (County of San Luis Obispo 2014:5-4, 5-5).

The city of San Luis Obispo has the highest population in the county. In 2013, approximately 17 percent of the county's population resided within the city (City of San Luis Obispo 2015:A-1). Since 1980, the city has experienced slow, steady population growth with an average annual population growth rate of about 1 percent, with periods of faster or slower growth reflecting economic cycles (City of San Luis Obispo 2015:3-17). The city's population is largely determined by student enrollment at Cal Poly and Cuesta Community College. With 35 percent of residents being age 18-24, the city has nearly a 2.5 times greater share of these young adults than the county (City of San Luis Obispo 2015:A-3).

Table 3.11-1 shows the population of the county and incorporated cities in 2010, 2015, and 2018. The population growth experienced in the city between 2010 and 2018 occurred at approximately the same rate, 3.6 percent, as experienced in the total county including incorporated areas, 3.9 percent.

The SLOCOG 2050 Regional Growth Forecast, prepared in June 2017, projects that the region's population will continue to grow, albeit at a slower rate than in the state. The natural increase (births less deaths) reached a high of 1,254 in 1986 but has averaged just 671 persons since that year. Over the last 10 years, natural increase has fallen from about 700 persons in 2007 to just 227 persons in 2016 (SLOCOG 2017:100). Net migration (inbound less outbound mitigation), the primary source of growth in the county, has also slowed since its peak of nearly 7,900 persons in 1989. Since 1990, the annual average net migration has been 1,975 persons. However, over the last 10 years, that annual average has dropped to 1,326 persons, reaching a 45-year low of 520 persons in 2013 (SLOCOG 2017:101).

Table 3.11-1 Regional Population Characteristics

County/City	2010	2015	2018	Percent Growth (2010-2018)
San Luis Obispo County (Total)	269,637	277,219	280,048	3.9
Arroyo Grande	17,252	17,797	17,880	3.6
Atascadero	28,310	29,863	30,353	7.2
El Paso de Robles	29,793	30,932	31,204	4.7
Grover Beach	13,156	13,528	13,617	3.5
Morro Bay	10,234	10,430	10,498	2.6
Pismo Beach	7,655	8,005	8,251	7.7
City of San Luis Obispo	45,119	46,331	46,741	3.6
San Luis Obispo (unincorporated county)	118,118	120,333	121,504	2.8

Source: DOF 2019b

The regional growth forecast estimates that the total county population will increase from 269,637 in 2010 to 286,657 in 2020 and would reach 312,346 in 2035. The total county population will increase by 44,107 from 2015 to 2050, a population growth increase of 13.8 percent (SLOCOG 2017:2). As shown in Table 3.11-2, below, the city's population is projected to increase at a slower growth rate than the unincorporated county.

Table 3.11-2 Population Projections

Jurisdiction	2015	2020	2035	2050
San Luis Obispo (City)	45,950	47,214	50,659	51,672
San Luis Obispo (Unincorporated County)	118,950	123,597	134,975	138,534
San Luis Obispo (Total County)	276,375	286,657	312,346	320,482

Note: The population projections represent the medium growth scenario as described in the SLOCOG 2050 Regional Growth Forecast.

Source: SLOCOG 2017

Cal Poly Population

As stated in the Regulatory Setting, the State of California budget is the primary factor that determines enrollment levels, and in turn, the CSU allocates funding tied to a specific enrollment growth target for each of the 23 campuses. When the state has experienced a fiscal crisis, enrollment funding for the CSU has decreased and campuses have had to adjust their enrollments downward until additional funding became available in subsequent years. During the past 30 years, this has occurred four times.

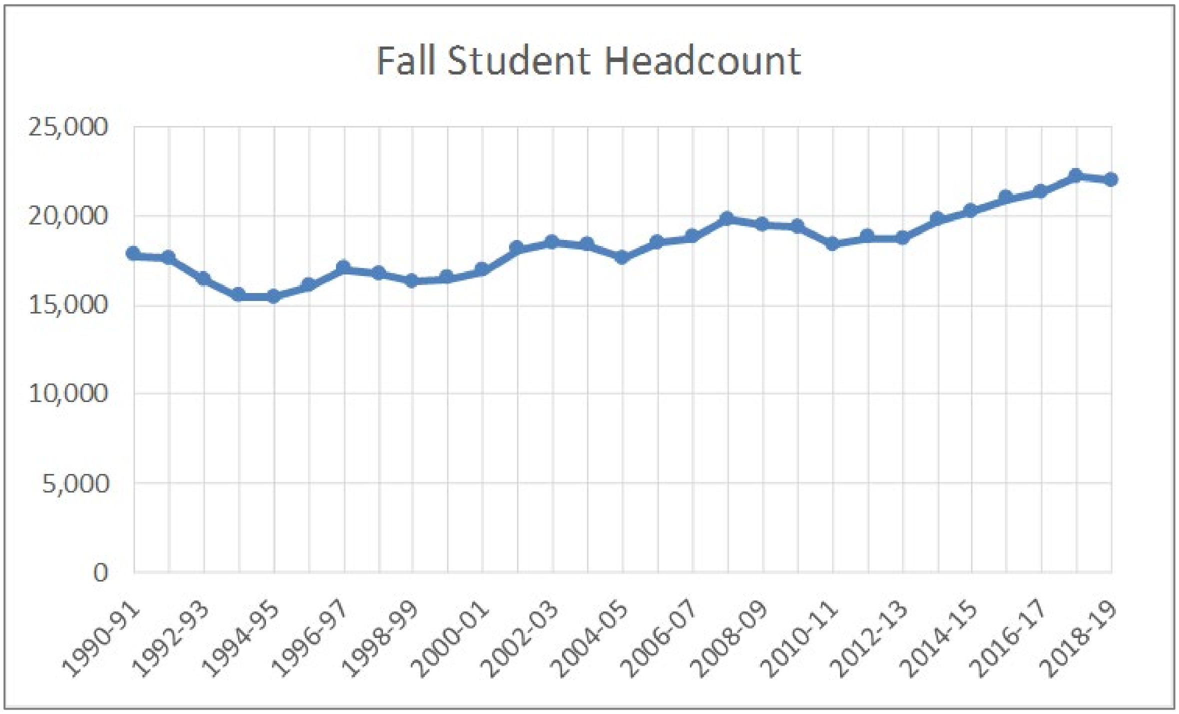
Individual campuses, like Cal Poly, establish their long-term enrollment goals through the campus master planning process. Prior to development of a master plan, the CSU Board of Trustees approves a future allowable capacity for campus facilities at all CSU campuses, including Cal Poly. This process sets a future campus capacity that the campus can work toward. However, because of variations in state funding and CSU allocations, the growth rate can vary significantly from year to year. At Cal Poly, the 2001 Master Plan, and now the 2035 Master Plan, set the future enrollment capacity based on Cal Poly's academic plan, as summarized in the 2035 Master Plan, and the high demand for a Cal Poly education.

Each year, Cal Poly estimates the number of current students that are expected to return the following year, then subtracts that number from the total headcount target to determine the appropriate size of the new entering class. The number of students admitted is based on forecasts as to how many of those students would ultimately enroll. Many factors affect this percentage (e.g., a student may choose to enroll at one of the other schools where they have been accepted)—called the yield or show rate—and it varies from year to year and by student major. For the fall 2017 quarter, for example, the number of students enrolled was significantly higher than forecasted based on enrollment in recent years. One contributing factor was that Cal Poly discontinued its early decision admissions process, which meant that the Cal Poly could not rely on past models for estimating final first-time freshman enrollment. Cal Poly always expects some variation due to external factors, such as admission practices at competing institutions (e.g., the University of California) that are not known in March when Cal Poly makes its offers of admission for new freshmen. When the number of new freshmen has exceeded the target in any particular year, Cal Poly has compensated by reducing both the target and/or actual enrollment the following year.

Undergraduate students typically require a minimum of 4 years to complete their degree coursework, so a larger entering class means that there would be a large class at Cal Poly for at least 4 years. Reducing the next new freshman class by too large a margin is not appropriate since it could result in an alternating pattern of large and small entering classes. Such perturbations would make it very difficult to provide courses, hire appropriate faculty and staff, and manage housing demand. Cal Poly aspires to maintain a "steady state" enrollment that doesn't vary widely from year to year, which requires the freshman class size to vary only within a reasonable range.

Enrollment Trends

Over the past 25 years, enrollment growth has averaged about 200 students per year, although actual enrollment can sometimes vary substantially from year to year. Student enrollment was approximately 15,500 in the early 1990s, 18,000 in 2001, 19,000 in 2007, and 20,000 in 2014 (Cal Poly 2019a). In fall 2017, primarily as a result of discontinuing the early decision admissions process, enrollment increased to 22,188. Fluctuations in enrollment trends, shown in Figure 3.11-1 are a result of numerous variables including demand for certain degrees, economic prosperity, and the reputation of Cal Poly.



Source: Cal Poly 2019a

Figure 3.11-1 Fall Student Headcount

Current Population

In response to the increased enrollment during the fall 2017 quarter, Cal Poly took two steps to reduce enrollment of the entering class in the fall 2018 quarter. First, Cal Poly reduced the target enrollment count for new students in fall 2018, especially freshmen students, which is by far the largest group of new students each year. Then, and more importantly, Cal Poly reviewed and refined its models for estimating new student yields. Implementation of these steps following the increased enrollment during fall 2017 resulted in a successful reduction of the freshman class the following year, with a total of 5,253 first-time freshmen entering Cal Poly in fall 2018, and a total fall 2018 enrollment of 21,812, a 1.69 percent decrease from the previous year (Cal Poly 2018a). Cal Poly determines faculty and staff needs by evaluating the historical relationship between students and faculty (commonly called the student-to-faculty ratio) as well as the relationship between students and staffing. Recently, faculty and staff has increased from 3,148 in 2015 to 3,266 in 2018. Total fall 2018 campus population is shown in Table 3.11-3.

Table 3.11-3 Student Enrollment and Faculty and Staff Headcount

	Fall 2018 Population
Student Headcount	
First-time enrollment[1]	5,253
Undergraduate	21,037
Graduates	648
Post-Baccalaureates	127
Total Student Headcount	21,812

	Fall 2018 Population
Faculty and Staff Fall Headcount	
Instructional Faculty	1,219
Ratio of Faculty to Students	*0.0559*
Staff and Management	2,047
Ratio of Staff to Students	*0.0938*
Total Regular Employees	3,266

[1] Includes undergraduate and graduate enrollment.

Source: Cal Poly 2019b

Summer Enrollment

Between 1980 and 2010, Cal Poly had an active summer enrollment program with as much as 25–33 percent of all students attending. The enrollment level declined after 2005 and then dropped dramatically in 2010 when the CSU discontinued summer funding during a fiscal crisis (Figure 3.11-2). Since then, the summer headcount has stabilized at just over 2,000 students, or about 10 percent of the fall headcount.

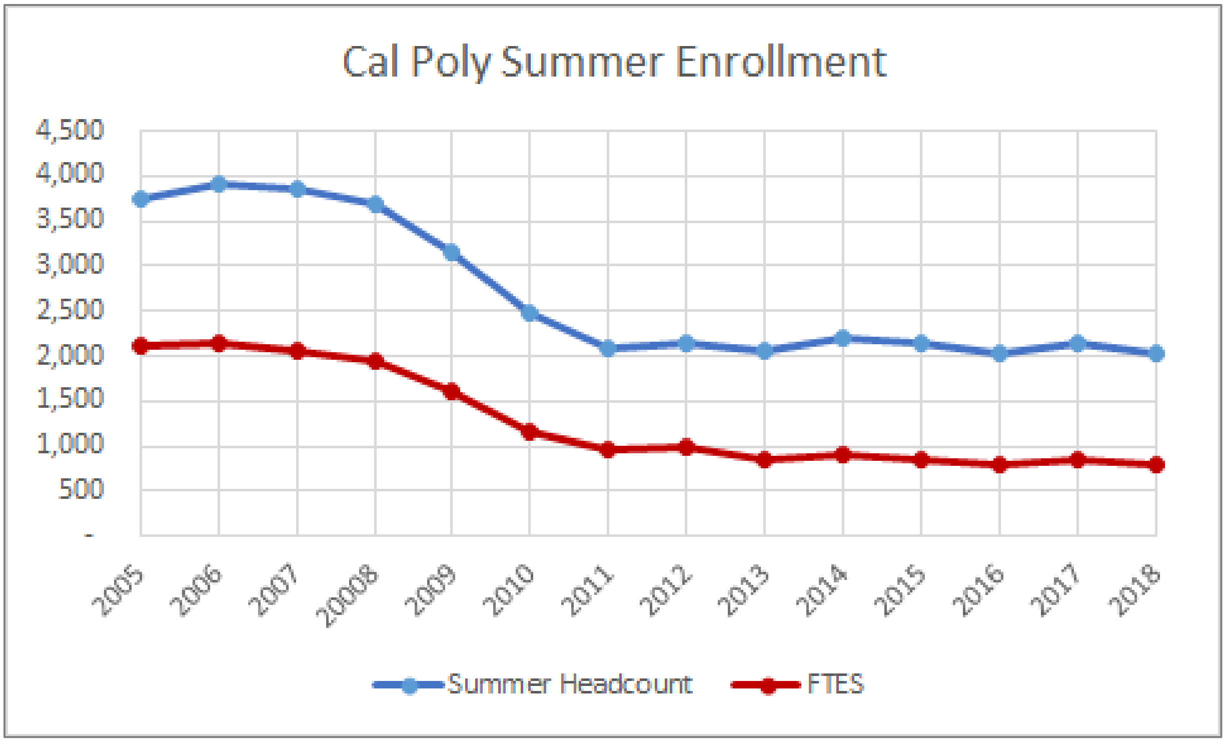
Cal Poly has previously considered expanding summer enrollment to reduce the student headcount during fall, winter and spring quarters, but does not currently plan to add significantly to summer course offerings on campus. Many students work, travel, or undertake internships during the summer away from Cal Poly and the greater San Luis Obispo area. To meet their continuing educational needs, Cal Poly is expanding course offerings online so that students can take courses from any location during the summer.

Overall, the summer population (i.e., students, faculty, staff, special event attendees) is less than 25 percent of the academic year population and varies significantly from day-to-day and week-to-week as summer programs vary in size and length over about 2½ months. Some academic courses are offered in concentrated formats as short courses; and faculty conducting research may not be on campus daily.

New student orientation is the largest summer activity, involving virtually all new freshmen and many of their parents and supporters. The office of New Student and Transition Programs schedules about 10 sessions during July and early August, each of which lasts 2 days and the largest handles about 1,000 overnight participants. Overall, this program served 7,257 new students and guests in summer 2018.

The Office of Conference and Event Planning (CEP) offers a full array of services year-round, with a large presence in the summer when more facilities including housing are available. CEP records show that summer activities (other than orientation) vary from fewer than 20 to several hundred participants and from 1 day to 2 months in duration. Several factors determine the number of participants, for example, Cal Poly housed firefighters for 2 weeks in August 2016 when the Chimney Fire broke out nearby resulting in a temporary increase in campus population. The best available and most complete information at the time of this EIR was for summer of 2015 participation. The average size in 2015 was 110.7 participants (with a median of 74), and average length 8.8 days (with a median of 5 days). In the summer of 2015 CEP served a total of 5,867 participants (excluding orientation). The numbers were higher in 2016, and a little lower in 2017 and 2018, depending on circumstances.

The total summer population for 2018 was 5,823, approximately 23 percent of the regular academic year population. The summer population is based on a weekday average and includes summer students, instructional faculty, faculty conducting research, administrators and staff, and summer program participants. The total weekday average summer housing occupancy was 726, or 9.4 percent of the fall student housing occupancy.



Source: Cal Poly 2019a

Figure 3.11-2 Cal Poly Summer Enrollment

HOUSING UNITS AND VACANCY

Regional Housing

Over half (52.8 percent) of the housing units constructed in the San Luis Obispo region from 2000 to 2016 were built in the unincorporated area. Among the cities, Paso Robles had the highest share of the region's new housing units (16.2 percent), followed by Atascadero (12.0 percent), and San Luis Obispo (9.1 percent). Just 9.9 percent of the new housing units built between 2000 and 2016 were in the four smaller cities combined (Arroyo Grande, Grover Beach, Morro Bay, and Pismo Beach) (SLOCOG 2017:118).

Since 2000, over 16,000 units were single-family housing (attached and detached). This represents a 22.3 percent increase in single-family housing. In the same period, 2,245 housing units were built as multi-family housing, an increase of just 11.8 percent. There was also an overall loss of 333 mobile home units in the region (SLOCOG 2017:118).

More recently, the construction of new housing has slowed. As shown in Table 3.11-4 the total number of housing units in the region increased by 0.04 percent from 2010 to 2018. Atascadero experienced the highest increase in housing units and a percent increase of 0.05 percent. Paso Robles, Pismo Beach, and the unincorporated county each experienced a 0.04 percent increase in total housing units from 2010 to 2018 (DOF 2019b).

The housing vacancy rate is a measure of general housing availability and represents the percentage of all available housing units that are vacant or unoccupied at a particular time. A low vacancy rate, 5 percent or less, suggests that housing availability is low; conversely, a high vacancy rate (over 8 percent) may indicate a high number of housing units are available for occupancy, a high number of seasonal units are vacant, or there is an oversupply of housing. By maintaining a "healthy" vacancy rate between 5 percent and 8 percent, housing consumers have a wider choice of housing types and prices to choose from. As vacancy rates drop, shortages generally raise housing costs and limit choices.

Table 3.11-4 Regional Housing Characteristics

County/City	Total Number of Housing Units 2010	Total Number of Housing Units 2015	Total Number of Housing Units 2018	Percent Increase from 2010–2018
San Luis Obispo (Total)	117,315	119,697	121,661	0.04
Arroyo Grande	7,628	7,740	7,803	0.02
Atascadero	11,505	11,875	12,155	0.05
Paso Robles	11,426	11,706	11,877	0.04
Grover Beach	5,748	5,770	5,813	0.01
Morro Bay	6,320	6,378	6,455	0.02
Pismo Beach	5,585	5,649	5,797	0.04
San Luis Obispo	20,553	20,887	21,273	0.03
San Luis Obispo (unincorporated county)	48,550	49,692	50,488	0.04

Source: DOF 2019b

The county's housing vacancy rate has been consistently higher than the state's vacancy rate. Between 1990 and 2016, the vacancy rate of the county ranged from 9.28 percent to 13.59 percent, while California's vacancy rate has ranged from 5.81 percent to 8.09 percent (SLOCOG 2017:7). According to the California Department of Finance, there was a total of 121,661 housing units within the county in 2018, out of which, 15,015 units were vacant, indicating a vacancy rate of 12.3 percent (DOF 2019b). Out of the 105,044 occupied housing units within the county in 2017, 87.4 percent of the total housing units, approximately 60 percent were owner-occupied, and 40 percent were renter-occupied (U.S. Census Bureau 2017a).

The county's average household size, or number of people occupying a dwelling unit, has been consistently lower than that of the state. From 1990 to 2016, the household size of the county has ranged from 2.40 to 2.53 persons per household. This is consistently lower than California, which has ranged from 2.79 to 2.97 persons per household (SLOCOG 2017:123). The average household size for the county, as reported in 2018, was 2.47 persons per household (DOF 2019b).

The 2013 SLOCOG Regional Housing Needs Plan (RHNP) establishes the target number of housing units for each of its member jurisdictions based on the Regional Housing Needs Allocation (RHNA) of 4,090 housing units assigned by the California State Department of Housing and Community Development. The established target for the unincorporated county is 1,347 new housing units for the period of January 1, 2014 to June 30, 2019 (SLOCOG 2013:1). In 2014, the unincorporated county had approximately 49,413 total housing units, and in 2018, the unincorporated county had 50,488 housing units, demonstrating an increase of 1,075 additional units within the county for the 2014-2018 timeframe so far (DOF 2019b). According to the 2050 SLOCOG Regional Growth Forecast, the unincorporated areas of the county are projected to increase the number of housing units to 54,929 by 2035 and the entire county, including incorporated areas, is projected to provide 135,129 housing units by 2035 (SLOCOG 2017:3).

City of San Luis Obispo

In the 1980s and 1990s, the city's housing stock increased at a slower rate than the city's population; however, between 2000 and 2010, the number of housing units added generally increased at a faster rate than population growth, with an increase of 1,247 housing units compared to an increase in population by 945 new residents.

Since the 1990s, the city's housing vacancy rate has generally remained at just over 5 percent. The vacancy rate dropped steeply in the early 2000s to as low as 3.45 percent (DOF 2012), reflecting the gap between population growth and housing development in the 1990s. In 2010, the city's housing stock grew to 20,553 housing units, with a vacancy rate of 6.6 percent (DOF 2019b). As of 2018, the city had 1,340 vacant housing units out of 21,273 total housing units, representing a vacancy rate of 6.3 percent (DOF 2019b). According to the 2010 U.S. Census, out of the total 20,861 housing units within the city, 37.6 percent were owner-occupied, and 62.4 percent were renter-occupied, a significantly higher proportion than in the county and state (U.S. Census Bureau 2010). As of 2017, out of the total 18,728 occupied housing units, 38.3 percent were owner-occupied, and 61.7 percent were renter-occupied (U.S. Census Bureau 2017b). The city's consistent vacancy rate and high proportion of renters reflects the high demand for housing in the area, and particularly for student rental housing near the local college campuses.

Under City zoning regulations, up to five persons over the age of 18 can occupy a dwelling and share rental costs, unless within a High-Occupancy Residential Use designation. In 2010, the average household size was 2.29 persons per household (DOF 2019b). In 2018, the average household size was also 2.29 persons per household (DOF 2019b). As the population of students living off campus in the city increases, the city's household size also increases as larger numbers of students share housing units. In the city, there is a higher percentage of non-family households, approximately 59 percent, than family-households due, in part, to the student population in the city (SLOCOG 2017:116).

General Plan Policy 1.11.2 included in the City's Land Use Element requires that the City manage the growth of housing supply so that it does not exceed 1 percent per year on average. This growth limit allows for a total housing unit count of 25,762 units in 2035. According to the California Department of Finance, the city's housing unit count was 21,273 housing units in 2018 (DOF 2019b). Therefore, the City's General Plan Land Use Element plans for an increase of approximately 4,489 additional housing units between 2018 and 2035.

The City's 2014-2019 RHNA established in the SLOCOG RHNP is 1,144 housing units (SLOCOG 2013:1). Based on the programs and strategies outlined in the City's 2015 Housing Element, and the fact that there is sufficient land that is suitable and available for new residential development, the City anticipates meeting the RHNA goal of 1,144 units for the period of 2014 to 2019 (City of San Luis Obispo 2015). In 2014, the city had a total of 20,779 housing units and as of 2018, the city had a total of 21,273 housing units, demonstrating an increase of 494 housing units (DOF 2019b).

According to the 2050 SLOCOG Regional Growth Forecast, the city is projected to provide a total of 22,534 housing units by 2035 (SLOCOG 2017:150). A residential development capacity inventory conducted by the City in 2013 indicates that San Luis Obispo has approximately 725 acres of vacant, underutilized, or blighted properties that can accommodate approximately 3,477 dwelling units (City of San Luis Obispo 2015:K-7). Much of this capacity is located within the City's Margarita and Orcutt Specific Plan areas. As such, it is expected the City would be able to meet the projected growth of 1,647 housing units by 2035. Additional areas outside of the city have been identified for possible annexation into the city, which would provide additional vacant and/or underutilized land for potential residential development (e.g., the 110-acre Froom Ranch Specific Plan is currently being evaluated by the City as a predominantly residential area).

Cal Poly Housing

Student Housing

Two types of housing are available on campus: traditional dormitory-style student housing, where students share bathrooms and do not have cooking facilities; and apartment-style units that include bathrooms and cooking facilities. Traditional dormitory-style housing units are considered group quarters and are not counted as housing units by the U.S. Census or in regional or local housing analysis. Apartment-style units are considered housing units and are included in the U.S. Census and regional or local housing analysis.

The number of beds available does not always match the number of beds occupied. The beds available represents the design capacity for residence halls, typically some combination of single and double rooms; however, when demand is high due to a large entering freshman class or other circumstances, the University adds beds by converting double rooms to triples, thus increasing the number of beds occupied. The following discussion uses the distinction between design capacity and beds occupied.

Historically, additional housing facilities have been developed on campus to correspond with increased student enrollment and has resulted in a gradual net increase in the total percentage of undergraduate students housed on campus. Cal Poly's total fall student headcount increased from 16,877 in 2000 to 21,812 in 2018; however, the University has consistently provided sufficient housing to accommodate enrollment growth (Allison-Bullock, pers. comm., 2019). On-campus housing has increased substantially since 2000, from a design capacity of 2,783 beds in

2000 to approximately 7,760 beds provided in 2018. In 2018, 36 percent of Cal Poly students lived in on-campus housing. Existing housing for freshmen students includes the following facilities: Yakʔitʸutʸu (Student Housing South), North Mountain Halls, South Mountain Halls, Sierra Madre Towers, and Yosemite Towers; and existing housing for sophomore and upper division students includes Cerro Vista and Poly Canyon Village. Table 3.11-5 shows housing trends and demand since 2000 and shows both the number of beds based on the design capacity of student housing and the occupied number of beds during the fall quarter, which is typically higher as Cal Poly converts double rooms into triples when the freshman class is large and demand for housing on campus is high.

Table 3.11-5 Cal Poly Housing Trends from 2000 to 2018

Year	Cal Poly Total Enrollment	Cal Poly Students Living in Campus-Provided Housing	Permanent Beds as Designed	Cal Poly Students Living Off Campus	Percent of Cal Poly Students Living on Campus
2000	16,877	2,816	2,783	14,061	17%
2001	18,079	2,934	2,783	15,145	16%
2002	18,453	2,775	2,782	15,678	15%
2003	18,303	3,551	3,579	14,752	19%
2004	17,582	3,668	3,579	13,914	21%
2005	18,475	3,618	3,579	14,857	20%
2006	18,722	3,629	3,579	15,093	19%
2007	19,777	3,868	3,579	15,909	20%
2008	19,471	5,355	5,110	14,116	28%
2009	19,325	6,470	6,219	12,855	33%
2010	18,360	6,387	6,220	11,973	35%
2011	18,762	6,947	6,232	11,815	37%
2012	18,679	6,642	6,902	12,037	36%
2013	19,703	7,234	6,232	12,469	37%
2014	20,186	7,137	6,239	13,049	35%
2015	20,944	7,370	6,239	13,574	35%
2016	21,306	7,107	6,323	14,199	33%
2017	22,188	7,794	6,323	14,394	35%
2018	21,812	7,762	7,758	14,050	36%

Source: Allison-Bullock, pers. comm., 2019

Approximately two-thirds of undergraduate students reside in off-campus housing, most of which live within the San Luis Obispo city limits or in the adjacent portions of the unincorporated county. Some undergraduate students live off campus in housing intended specifically for students, including the fraternities along California Boulevard and the Mustang Village and Stenner Glen complexes bounded by the railroad tracks, Foothill Boulevard and Santa Rosa Street. As of 2018, Cal Poly housed approximately 36 percent of the total fall student headcount on-campus and approximately 14,050 Cal Poly students resided off campus in the city or in other areas in the county (Allison-Bullock, pers. comm., 2019). According to the 2018 Campus Transportation Survey, approximately 7 percent of students living off campus reside outside the city in the county.

Faculty and Staff Housing

Historically, Cal Poly faculty and staff have primarily lived off campus. In 2005, the residential community Bella Montaña was developed by the Cal Poly Corporation, a nonprofit corporation affiliated with Cal Poly, to allow faculty and staff to live more affordably in San Luis Obispo, a generally high-cost housing area. Bella Montaña is located in unincorporated San Luis Obispo County at the northwest corner of Highland Drive and North Santa Rosa Street, adjacent to the city limit. Bella Montaña comprises condominiums on a 5.3-acre leased site adjacent to single-family residences and multi-family homes. This structure enables the homes to be sold at below-market prices and helps ensure that homes remain owned by persons affiliated with Cal Poly. Bella Montaña offers 69 homes with 10 flexible floor plans, ranging from two-bedroom/one-bathroom homes to three-bedroom/three-bathroom homes, and from 1,029 to 1,614 square feet. All homes have garages, with some floor plans offering a two-car garage. As units become available, preference is first given to Cal Poly faculty and staff; however, if a unit remains available for more than 120 days, vacant units may be made available to members of the general public (Bella Montaña Homes 2019).

As of March 2017, 56 of the 69 Bella Montaña units were owned and occupied by Cal Poly faculty and staff; the remaining 13 units were owned by members of the general public. As of November 2018, 61 of the 69 Bella Montaña units were owned and occupied by Cal Poly faculty and staff, with the remaining eight units occupied by members of the general public (Ryan, pers. comm., 2019). With the exception of the 61 faculty and staff members that live on campus in the Bella Montaña community, the remainder of Cal Poly faculty/staff live off campus (approximately 3,111 faculty and staff members). The 2018 Campus Transportation Survey queried Cal Poly faculty/staff regarding their commute behaviors. Survey results show that approximately 51 percent of faculty/staff commute in from outside of the city of San Luis Obispo, 38 percent of faculty/staff reside within the city, and approximately 10 percent did not identify their residence location (Cal Poly 2018b).

EMPLOYMENT AND EMPLOYMENT CENTERS

According to the California Employment Development Department (EDD), employment within the county increased by more than 20 percent between 2000 and 2015. Educational and health services, professional and business services, and accommodation each experienced the highest growth rates: 65.4 percent, 44.5 percent, and 42.7 percent, respectively. As of 2015, the top four industries in terms of share of total employment are government (19.7 percent), education and health services (12.3 percent), retail trade (11.6 percent), and professional and business services (10.6 percent). From 2000 to 2015, the education and health services industry gained 5,808 new employees, resulting in the highest share of new employment at 28.8 percent (SLOCOG 2017:129–131).

Unemployment rates have followed a cyclical pattern as reflected in the economic recessions in the early 1990s, early 2000s, and the Great Recession of 2008–2013. EDD data show the unemployment rate in the county has generally been 1-4 percent lower than the state unemployment rate. In 2013, the statewide unemployment rate was 10.4 percent while the countywide unemployment rate was 6.8 percent (SLOCOG 2017:132). The countywide unemployment rate has steadily decreased since 2010, when it peaked at 10.1 percent. In 2015, the countywide unemployment rate was 4.6 percent and has continued to drop to 2.9 percent in 2018 (SLOCOG 2017:132; EDD 2019).

As of 2015, Cal Poly employed approximately 2.5 percent of the county's labor force: 1,166 instructional faculty and 1,982 staff and management. Cal Poly is thus considered a key employer and economic driver in the region. One of two polytechnic universities in the CSU system, Cal Poly attracts students from all over California with strong programs in engineering, architecture, construction management, and agriculture (SLOCOG 2017:136).

3.11.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

To evaluate the potential impacts of the 2035 Master Plan on population and housing, the existing campus population and housing availability was compared to population and housing anticipated under buildout of the 2035 Master Plan. This examination of population, employment, and housing conditions is based on information obtained from review of the plans for the project and review of available population, employment, and housing projections from Cal Poly, the City, the County, SLOCOG, the U.S. Census Bureau, the California Department of Finance, and other sources. In determining the level of significance, the analysis assumes compliance with relevant federal and state laws, regulations, and ordinances.

Most Cal Poly students are enrolled as full-time students, so their demand for facilities and services is evaluated based on the number of individuals, or headcount, and doesn't change if some students take an additional class. This pattern is very different from an urban commuter campus where part-time and full-time students have very different attendance patterns. Headcount is consistent with other kinds of population and demographic analyses and is a better-understood metric than an abstraction like full-time equivalent students (FTES). Student, faculty, and staff headcount represents the most conservative scenario and is the metric consistently used for purposes of analysis in this EIR. Fall 2018 headcount data are used as the baseline in the environmental analysis conducted for this EIR.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considered continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. They are organized by topic heading in the 2035 Master Plan as Guiding Principle (GP), Academic Mission and Learn by Doing (AM), Design Character (DC), Implementation (I), Implementation Program (IP), Other Recommendation (OR), Sustainability and Environmental Stewardship (S), Transportation and Circulation (TC), or Residential Community and University Life (UL). The following principles were identified as being relevant to population and housing:

- **General Principle (GP) 04:** The percentage of students living in on-campus housing should be increased and Cal Poly should continue to develop into a livable residential campus, where academic facilities, housing, recreation, social places, and other support facilities and activities are integrated.
- **GP 16/I 04**: Cal Poly should consider potential impacts – including but not limited to traffic, parking, noise and glare – on surrounding areas, especially nearby single-family residential neighborhoods, in its land use planning, building and site design, and operations.
- **Implementation Program (IP) 22:** On-campus housing should be designed to accommodate bicycle parking that is indoors or otherwise protected from the elements.
- **Other Recommendations (OR) 03:** University provided housing must be self-supporting.
- **OR 05:** Faculty and staff housing should be considered for appropriate on-campus sites, but off-campus options may also be suitable.
- **Sustainability and Environmental Stewardship (S) 01:** On-campus residential neighborhoods should include spaces and facilities that support a sustainable lifestyle.
- **Transportation and Circulation (TC) 04:** On-campus residential neighborhoods should have convenient access to public transportation.
- **TC 11:** On-campus residential neighborhoods should be designed with convenient access to the core of campus, including safe and convenient pedestrian and bicycle paths; consideration should be given to a shuttle service or other intra-campus alternatives when residential developments are beyond convenient walking distance.
- **Residential Community and University Life (UL) 01:** Housing for first-year students should generally be dormitory-style, in proximity to other first-year housing, campus dining and other support services.
- **UL 02:** Housing for students other than first-year students, should emphasize apartment-style living.
- **UL 03:** Support services and facilities should be incorporated into new housing neighborhoods.
- **UL 05:** Residential neighborhoods should support learning.
- **UL 07:** Commercial services should be provided on campus that support residents and help reduce the need for students, faculty and staff to leave campus during the day.
- **UL 11**: Recreational spaces and facilities should be provided to serve needs of the campus community. Existing deficiencies should be addressed to the extent practical, and facilities provided prior to or in conjunction with new on-campus housing or significant increases in student enrollment.

THRESHOLDS OF SIGNIFICANCE

A population, employment, and housing impact would be significant if implementation of the project would:

- induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- displace substantial numbers of existing people or homes, necessitating the construction of replacement housing elsewhere.

ISSUES NOT DISCUSSED FURTHER

Displace Substantial Numbers of Existing People or Homes

No housing would be permanently removed by the project, nor does the 2035 Master Plan propose or involve any actions that would displace substantial numbers of people. Consistent with existing practice and as development occurs within the campus as part of the 2035 Master Plan, Cal Poly would monitor on-campus population and stagger opening of new housing facilities, where plan implementation may involve the redevelopment of existing on-campus housing, such that the level of on-campus housing availability is maintained or increased year-to-year and does not decrease. If an unexpected increase in enrollment were to occur and sufficient housing was not available, Cal Poly's practice of converting double rooms to triple rooms would be used to meet housing demand. Thus, there would be no impacts associated with displacement of substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. This topic is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: Directly or Indirectly Induce Substantial Unplanned Population Growth and Housing Demand

The projected increase in student enrollment and availability of on-campus housing for new and existing students, under the 2035 Master Plan, would increase the on-campus population up to a planned cap in response to CSU systemwide and campus enrollment growth directives and corresponding funding, the effects of which are evaluated throughout this EIR (refer to Sections 3.1 through 3.10, Sections 3.12 through 3.14, and Chapters 4 and 5). The 2035 Master Plan would provide substantially more student beds than are necessary to accommodate the planned increase in student enrollment. For these reasons, the enrollment increase would not directly or indirectly induce substantial unplanned population growth on campus beyond what is projected by the 2035 Master Plan, or result in a shortage of housing to accommodate this increase. This impact would be **less than significant**.

Direct Growth

The 2035 Master Plan is designed to serve a projected fall academic quarter headcount of 25,000 students, along with sufficient faculty and staff to provide instruction and support services that would accommodate the demand of this increased headcount. The 2035 Master Plan enrollment represents a net increase of 3,188 students from 2018 conditions, which represents a growth rate of approximately 15 percent over 17 years, or just under 1 percent per year. This is consistent with California Department of Finance enrollment growth projections for the CSU during this period (DOF 2019a) and with recent annual enrollment increases for the campus as determined during annual consultation with the CSU Office of the Chancellor.

Additionally, Cal Poly expects to increase the staff- and faculty-to-student ratios in the future, including increasing the percentage of tenured and tenure-track faculty to 75 percent, and providing time for scholarship (particularly for new faculty). These changes would enhance student success and result in a proportionate increase in faculty; a faculty-to-student ratio of 0.0646 is anticipated under the 2035 Master Plan. In addition, Cal Poly acknowledges that some student services also need to be expanded to support student success, and the staffing ratio would be increased accordingly. As noted in Chapter 2, "Project Description," the 2035 Master Plan anticipates a staff-to-student ratio of

0.0965. It is important to note that the number of faculty depends on the total amount of instruction (Full-Time Equivalent Students or FTES taught), whereas the number of staff depends on student headcount. For reference, Table 3.11-6 shows the hypothetical annual growth for student enrollment, faculty, and staff if they were to increase uniformly, although, as noted earlier, growth is more likely to occur unevenly due to the availability of funding and facilities. It should also be noted that faculty numbers exclude administrators and students who teach but are already counted in their primary role (i.e., as students and administrators first).

Under the 2035 Master Plan, summer enrollment growth is anticipated to correspond with the regular academic year enrollment and remain at a proportion of approximately 10 percent of fall student enrollment. Cal Poly would continue to expand online course offerings for summer enrollment to support students participating in summer employment, internships, or other commitments located outside of the San Luis Obispo region. Summer instructional faculty is anticipated to remain at approximately 20 percent of fall instruction faculty, and faculty conducting funded research is anticipated to be approximately 30 percent of tenured/tenure-track faculty.

New student orientation would continue to occur during July and August and future participation is expected to be commensurate with the size of the new freshman class. Summer program participants are also anticipated to grow proportionately. An increase in on-campus housing would provide more overnight accommodations. However, growth in CEP summer programs is constrained by three factors, according to CEP staff: policy as a public university, access to facilities, and the academic calendar. Policy and law limit activities to those that are sponsored by non-profit organizations and related to education. The size and number of summer athletic camps are constrained by access to the Sports Complex and other recreation and athletic facilities and are limited to July and early August so as not to conflict with the academic year. Pre-college and professional programs offered in collaboration with several of the colleges are sometimes constrained by the size of venues and availability of appropriate indoor space – especially during July and early August when new student orientation is also underway.

Table 3.11-6 Student Enrollment and Faculty and Staff Growth Projections - Headcount Projections

Enrollment Year	Student Population[1] MP Projected - Fall	Faculty/Staff Population Total - Fall	Faculty/Staff Population Faculty	Faculty/Staff Population Staff
2018	21,812[2]	3,266	1,219	2,047
2019	21,720	3,305	1,237	2,068
2020	21,925	3,345	1,255	2,090
2021	22,130	3,384	1,273	2,111
2022	22,335	3,423	1,291	2,133
2023	22,540	3,463	1,308	2,154
2024	22,745	3,502	1,326	2,176
2025	22,950	3,542	1,344	2,198
2026	23,155	3,581	1,362	2,219
2027	23,360	3,620	1,380	2,241
2028	23,565	3,660	1,397	2,262
2029	23,770	3,699	1,415	2,284
2030	23,975	3,738	1,433	2,305
2031	24,180	3,778	1,451	2,327
2032	24,385	3,817	1,469	2,348
2033	24,590	3,856	1,486	2,370
2034	24,795	3,896	1,504	2,391
MP Projections (2035)	*25,000*	*3,935*	*1,522*	*2,413*

1 Includes both undergraduate and graduate students.

2 Actual student population numbers.

Source: Cal Poly 2019a

Summer population and housing projections, including 2035 Master Plan assumptions, are shown in Table 3.11-7 below.

Table 3.11-7 Student, Faculty, and Staff Populations During the Academic Year and Summer

Population	2018	Master Plan Assumption	2035 Master Plan	Net Change from 2018
Summer Population				
Summer Student Headcount	2,181	10% of Fall Students	*2,500*	*319*
Summer Employee Headcount				
Instructional Faculty	244	20% of Faculty	*304*	*60*
Faculty Conducting Funded Research	167	30% of T/TT Faculty	*342*	*175*
Administrators and Staff	2,047		*2,413*	*366*
Average Weekday Summer Program Participants	1,184	Proportionate Growth	*1,522*	*338*
Summer Total Population (Weekday Average)	**5,823**		***7,082***	***1,259***
Summer Population as Percentage of Fall	***23.2%***		***24.5%***	
Housing Occupancy				
Fall Student Housing Occupancy	7,762		*15,000*	*7,238*
Summer Housing Occupancy				
Student Housing Occupancy	298	20% of Summer UG	*475*	*177*
Summer Program Housing Occupancy (Weekday Average)	428	Proportionate Growth	*609*	*181*
Summer Total Housing Occupancy (Weekday Average)	**726**		***1,084***	***358***
Summer Housing Occupancy as Percentage of Fall	**9.4%**		***7.2%***	

Source: Cal Poly 2019a

In fall 2018, Cal Poly provided approximately 7,760 beds in 14 on-campus residence halls and two apartment-style complexes, Cerro Vista and Poly Canyon Village, which together provide space for 3,500 students (Cal Poly 2019b:1-4, 2-57). These facilities house approximately 35 percent of Cal Poly's undergraduate students on campus. A major goal of the 2035 Master Plan is to construct enough student housing to house all freshman and sophomore students on campus, as well as approximately 30 percent of upper division students. To do so, the 2035 Master Plan provides for approximately 15,000 student beds on campus. These expanded residential facilities would house all freshmen and sophomore students on campus and would accommodate approximately 63 percent of Cal Poly's undergraduate students. The new student housing would include both student dormitories and apartments and would accommodate specialty housing. The dormitories would be located predominantly within the East Campus subarea near existing student housing, and the apartments in the North Campus subarea would be located across Brizzolara Creek within easy walking and biking distance of the Academic Core subarea. Table 3.11-8 shows the projected growth rate of student beds on campus.

In addition to proposed student housing, the 2035 Master Plan proposes on-campus housing for faculty, staff, and other non-students, including workforce housing and a retirement community. With implementation of the 2035 Master Plan, a residential neighborhood intended primarily for workforce housing (particularly faculty and staff) would be constructed within the East Campus subarea, northeast of the intersection of Slack Street and Grand Avenue (see Figures 2-4 and 2-5, Building #176). The development would consist of 380 rental units, including 59 studio, 168 one-bedroom, 147 two-bedroom, six three-bedroom units, to support an on-site residential population of approximately 800 faculty/staff and their families.

Table 3.11-8 Student Housing Phasing and Growth Projections

Enrollment Year	On-Campus Student Housing Projection (Number of Beds)
2018	7,762[1]
2019	7,812
2020	7,812
2021	7,812
2022	9,812[2]
2023	9,812
2024	10,412[3]
2025	10,412
2026	10,412
2027	11,912[4]
2028	11,912
2029	11,912
2030	11,912
2031	13,412
2032	13,412
2033	13,412
2034	13,412
MP Projections (2035)	15,012

1 Actual student beds provided.

* Goal for number of beds = 100 percent of new freshmen + 100 percent of second-year undergraduates + 30 percent of other undergraduate headcount (e.g., third-year sophomores, upper division) excluding other graduate students.

Source: Cal Poly 2019b

The 2035 Master Plan also proposes a University-Based Retirement Community of approximately 200 units. The development would consist of senior living units (approximately 120 independent living units, 50 assisted living units, and 30 memory care units). Assuming a density for independent living units of 1.2 persons/unit and one person/unit for assisted living and memory care, the community would have a population of approximately 250 residents and approximately 60 employees. The development would provide priority occupancy to retired Cal Poly faculty, staff, and alumni. If faculty, staff, and alumni demand is low, remaining units would be rented to the broader retirement community among the general public.

The 2035 Master Plan proposes increases in on-campus housing, academic/administrative space, and supporting uses, including utility-related uses, related to the projected increase in student enrollment and associated faculty/staff increases. In that respect, the 2035 Master Plan would accommodate planned population growth, which is inherent to a long-term campus plan.

Indirect Growth

With respect to the potential for the Master Plan to indirectly induce substantial unplanned population growth beyond the capacity of the facilities identified in the plan, such that additional physical environmental impacts would occur outside the campus, student enrollment under the 2035 Master Plan is projected to increase by 3,188, while on-campus student housing is projected to increase by 7,238 beds. Thus, the Master Plan proposes more than twice the number of beds than is necessary to accommodate the planned increase in student enrollment through 2035. This new housing would accommodate the projected increase in student enrollment as well as all new freshman and second-year undergraduates and 30 percent of upper division students. Through implementation of the 2035 Master Plan, this increase in on-campus housing would reduce the total number of students and the percentage of total enrollment that would otherwise live off-campus. In addition, the proposed workforce and retirement housing developments would reduce off-campus housing demand for employee and non-student housing, including projected demand associated with the 2035 Master Plan (e.g., housing demand for new faculty/staff generated by enrollment increases).

The projected increase in student enrollment and availability of on-campus housing for new and existing students, under the 2035 Master Plan, would increase on-campus population. It would also necessitate development of additional on-campus facilities (e.g., academic/administrative, recreation, dining, parking, and utility-related facilities), the effects of which are evaluated throughout this EIR (refer to Sections 3.1 through 3.10, Sections 3.12 through 3.14, and Chapters 4 and 5). However, because the 2035 Master Plan would house substantially more residents than would be generated through the 2035 Master Plan, it would not induce substantial unplanned population growth or housing on campus beyond what is projected by the 2035 Master Plan.

Taking into consideration the projected increases in enrollment shown above in Table 3.11-6, student enrollment could increase initially without the provision of new housing on campus, thus resulting in the temporary need for some additional students (up to 208 students within the fall quarter per academic year until 2022) to live off-campus. However, as noted above in Section 3.1.2, housing vacancy rates are approximately 6.3 percent (1,340 vacant units) and 12.3 percent (15,015 vacant units) within the City and County, respectively. Thus, vacant housing is available in the area that could accommodate the temporary increase in enrollment projections prior to the provision of additional on-campus housing without inducing or necessitating the provision of additional housing beyond what is currently planned in the City and the County. Beginning in 2022, the provision of on-campus housing at Cal Poly is projected to occur at a faster rate than the anticipated increases in enrollment, thus providing on-campus housing for new and existing students to a greater degree and reducing demands on existing local housing stock in nearby communities, including the City. Therefore, due to the provision of additional housing on-campus in excess of the anticipated enrollment under the 2035 Master Plan, as well as the availability of housing in the local communities to temporarily accommodate some students between 2018 and 2022, implementation of the 2035 Master Plan would not induce substantial unplanned population growth in an area, either directly or indirectly. The impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

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3.12 PUBLIC SERVICES AND RECREATION

This section provides an overview of existing public services and evaluates the potential for implementation of the 2035 Master Plan to affect availability, service level, and/or capacity of public services, including fire-protection services, police-protection services, public schools, parks and recreation, and other public facilities, and, if such an effect is determined to occur, whether new or expanded facilities would be required that could result in a potentially significant impact to the environment. Other publicly provided utility services, such as water and wastewater treatment, stormwater management, electricity, and natural-gas services, are addressed in Sections 3.9, "Hydrology and Water Quality" and 3.15, "Utilities and Service Systems."

Comments related to public services that were received during public review of the Notice of Preparation (NOP) included acknowledgement of existing agreements between the City and Cal Poly, as well as the potential need for additional police services during special events.

3.12.1 Regulatory Setting

FEDERAL

Higher Education Opportunity Act

The Campus Fire Safety Right-to-Know Act in the Higher Education Opportunity Act was signed on August 1, 2008. Specifically, the legislation requires that a Fire Safety Report be distributed by the University containing statistics concerning the following in each on-campus student housing facility during the most recent calendar year for which data are available:

- The number of fires and the cause of each fire.
- The number of injuries related to a fire that resulted in treatment at a medical facility.
- The number of deaths related to a fire.
- The value of property damage caused by a fire.
- A description of each on-campus student housing facility's fire safety system, including the fire sprinkler system.
- The number of regular mandatory supervised fire drills.
- Policies or rules on portable electrical appliances, smoking, and open flames (such as candles); procedures for evacuation; and policies regarding fire safety education and training programs provided to students, faculty, and staff.
- Plans for future improvements in fire safety, if determined necessary by such institution.

STATE

California Fire Code

The 2016 California Fire Code, which is codified at Part 9 of Title 24 of the CCR, incorporates by adoption the 2015 International Fire Code and contains regulations related to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety. The California Building Standards Code, including the California Fire Code, is revised and published every three years by the California Building Standards Commissions.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building and childcare facility standards, and fire-suppression training.

California Department of Forestry and Fire Protection

Under Title 14 of the CCR, the California Department of Forestry and Fire Protection (CAL FIRE) has primary responsibility for implementing wildfire planning and protection for State Responsibility Areas (SRAs). CAL FIRE develops regulations and issues fire-safe clearances for land within a fire district of an SRA. More than 31 million acres of California's privately-owned wildlands are under CAL FIRE's jurisdiction.

CAL FIRE adopted Fire Hazard Severity Zone maps for SRAs and Local Responsibility Areas (LRAs) in November 2007. Fire hazard is a way to measure the physical fire behavior so that people can predict the damage a fire is likely to cause. Metrics for evaluating fire hazard include the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning firebrands that the fire sends ahead of the flaming front.

In addition to wildland fires, CAL FIRE is considered an "all-risk" agency whose planning efforts involve responding to other types of incidents, including major disaster- or property-related and medical emergencies that may occur on a daily basis, including residential or commercial structure fires, automobile accidents, heart attacks, drowning victims, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties; this includes San Luis Obispo County.

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment," the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all firefighting and emergency medical equipment.

California Fire Plan

The California Fire Plan is the state's "road map" for reducing the risk of wildfire. The overall goal of the plan is to reduce total costs and losses from wildland fire in California through focused pre-fire management prescriptions and increased initial attack success. The current plan was finalized in 2010. The plan provides guidance to local jurisdictions in meeting state goals.

California Building Standards Code (Title 24)

Energy consumption of new buildings in California is regulated by State Building Energy Efficiency Standards contained in the CCR, Title 24, Part 2, Chapter 2-53. Title 24 applies to all new construction of both residential and nonresidential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. The 2016 Building Energy Efficiency Standards have improved efficiency requirements from previous codes and the updated standards are expected to result in a statewide energy consumption reduction.

Effective January 1, 2011, CALGreen became California's first green building standards code. It is formally known as the California Green Building Standards Code, Title 24, Part 11, of the California Code of Regulations. CALGreen establishes mandatory minimum green building standards and requirements for construction and demolition (C&D) material diversion. Under Section 5.408 of the CALGreen Code, projects involving C&D activities are required to recycle and/or salvage for reuse a minimum of 65 percent of their nonhazardous C&D material. Applicable projects, such as the 2035 Master Plan, are required to prepare and implement a construction waste management plan.

Quimby Act

The Quimby Act (California Government Code Section 66477) preserves open space and parkland in urbanizing areas of the state by authorizing local governments to establish ordinances requiring developers of new subdivisions to dedicate land for parks, pay an in-lieu fee, or perform a combination of the two. The Quimby Act provides two standards for the dedication of land for use as parkland. If the existing area of parkland in a community is 3 acres or more per 1,000 persons, then the community may require dedication based on a standard of 5 acres per 1,000 persons residing in the subdivision. If the existing amount of parkland in a community is less than 3 acres per 1,000 persons, then the community may require dedication based on a standard of only 3 acres per 1,000 persons residing in the subdivision. The Quimby Act requires a city or county to adopt standards for recreational facilities in its general plan recreation element if it is to adopt a parkland dedication/fee ordinance.

The amount of land dedicated, or fees paid shall be based upon the residential density, which shall be determined on the basis of the approved or conditionally approved tentative map or parcel map and the average number of persons per household. There shall be a rebuttable presumption that the average number of persons per household by units in a structure is the same as that disclosed by the most recent available federal census or a census taken pursuant to Chapter 17 (commencing with Section 40200) of Part 2 of Division 3 of Title 4. Cal Poly is not subject to Quimby Act requirements because it is not a local government entity. The Quimby standards are used as a guidepost but are not a requirement under the impact analysis.

LOCAL

Cal Poly is an entity of the CSU, which is a constitutionally created state agency, and is therefore not subject to local government planning and land use plans, policies, or regulations. Cal Poly may consider, for informational purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project would be subject to state and federal agency planning documents described herein but would not be bound by local or regional planning regulations or documents such as the City's General Plan or municipal code.

County of San Luis Obispo General Plan

The County of San Luis Obispo General Plan comprises several elements that include strategic growth principles and policies to manage public services (e.g., fire protection services, police service, libraries, schools, and parks/recreation areas) within the county. The following policies from these elements are considered as part of the EIR's analysis.

<u>Land Use Element</u>

Principle 1: Preserve open space, scenic natural beauty and natural resources. Conserve energy resources. Protect agricultural land and resources.

- **Policy 2:** Keep the amount, location and rate of growth allowed by the Land Use Element within the sustainable capacity of resources, public services and facilities.

Principle 2: Strengthen and direct development toward existing and strategically planned communities.

- **Policy 7:** Phase urban development in a compact manner, first using vacant or underutilized "infill" parcels and lands next to or near existing development, so that urban land, transportation and services are developed and used in an efficient pattern.

The following additional policy related to public services and recreation is identified in the Land Use Element:

- **Policy 3:** Provide additional public resources, services and facilities in sufficient time to avoid overburdening existing resources, services and facilities while sustaining their availability for future generations.

<u>Parks and Recreation Element</u>

- **Policy 2.1:** Provide parks which are aesthetic and consistent with community needs.
- **Policy 2.4:** Preserve County parkland for active and passive recreation. Community facilities, which have little to no recreational component, shall be placed outside of an existing or proposed park.

- **Policy 2.5:** Encourage private development of parklands and facilities, to assist with meeting park needs.
- **Policy 3.1:** To provide an equitable distribution of recreation throughout the County, County Parks should attempt to provide new or expanded recreation (as a first priority) in those Planning Areas that have:
    1. Experienced faster growth rates.
    2. Very limited existing park acreage and/or recreation opportunities in relation to population density. When assessing existing park acreage and/or recreation opportunities consider parks and recreation offered by all entities provided that entity offers comparable service to the County's unincorporated population.
- **Policy 3.2:** Provide recreation at the County's parks consistent with community needs.
- **Policy 3.3:** See joint use agreements, volunteer and other partnership opportunities to augment recreational services and reduce project costs.
- **Policy 3.6:** Recognize that many legitimate recreation activities are possible even though they may not be provided by the County. From bowling alleys to off-road vehicle courses, private enterprise offers a greater potential to supply various recreation needs. The County will work to assist private enterprise in providing these activities while at the same time it will work to ensure that they are appropriately located so as not to necessarily impact the environment or negatively burden surrounding land uses.
- **Policy 4.3:** When addressing changes in natural areas:
    1. Be consistent with an approved master plan. Within the master plan include items such as environmental education, passive recreation, and methods for resource protection and restoration.
    2. Provide adequate buffers between the natural area and adjacent urban or rural uses.
    3. See joint use opportunities and adopt-a-natural area programs as they are available.
- **Policy 6.3:** The County should enact and maintain an ordinance pursuant to the Quimby Act that will require a dedication of land and/or payment of fees in lieu thereof, for park and recreational purposes as a condition to the approval of a tentative tract or parcel map for residential subdivisions.
- **Policy 6.5:** Ensure that County parks receive a net benefit to the County park and recreation system when a park or recreation facility is impacted by private or quasi-public infrastructure and other easements.
- **Policy 6.6:** Require new development adjacent to parks, recreation and natural areas to be designed to function with and enhance park resources. Adjacent, new private development should not detract from or use adjacent park or natural area resources for their own private use.

City of San Luis Obispo General Plan

The City of San Luis Obispo General Plan Safety Element and Parks and Recreation Element provide policies to address public services and recreation within the city and to guide sustainable development that meets the City's needs. The following policies from these elements are considered as part of the EIR's analysis.

<u>Safety Element</u>

- **Policy 3.0: Adequate Fire Service.** Development shall be approved only when adequate fire suppression services and facilities are available or will be made available concurrent with development, considering the setting, type, intensity, and form of the proposed development.
- **Policy 9.0: Emergency Preparedness and Response.** There should be adequate planning, organization, and resources for emergency preparedness and emergency response.
- **Policy 9.13: Emergency Access and Evacuation.** Substantial development will be allowed only where multiple routes of road access can be provided, consistent with other General Plan policies on development location and open space protection. "Substantial development" means industrial, commercial, and institutional uses,

multifamily housing, and more than ten single-family dwellings. " Multiple routes" include vehicle connections that provide emergency access only, as well as public and private streets.

Parks and Recreation Element

- Policy 3.13.1: The City shall develop and maintain a park system at the rate of 10 acres of parkland per 1,000 residents. Five acres shall be dedicated as a neighborhood park. The remaining five acres required under the 10 acres per 1000 residents in the residential annexation policy may be located anywhere within the City's park system as deemed appropriate.
- Policy 3.13.5: Park amenities (such as athletic fields, play equipment, skateboarding area, amphitheaters) will be developed, based on funding availability and community demand.
- Policy 3.14.1: There will be sufficient athletic fields within the City to accommodate practice and competition demands for organized and informal activity.
- Policy 3.14.4: New significant residential developments and annexations, shall provide sufficient athletic fields to meet the demands of the youth who will reside in the development.
- Policy 3.15.3: All residential annexation areas shall provide developed neighborhood parks at the rate of 5 acres per 1000 residents.
- Policy 3.21.1: The City will encourage interaction with and the coordinated participation of other public and nonprofit recreation service providers in meeting public facilities demands.
- Policy 3.21.4: The City will avoid providing facilities that unnecessarily duplicate similar amenities available in the private sector.
- Policy 4.2.4: The Parks and Recreation Department will actively coordinate with private/non-profit, commercial, educational institutions and service clubs to ensure that recreation services are not duplicated.
- Policy 4.3.1: The Parks and Recreation Department and Police Department shall collaborate in planning and share resources in providing activities that focus on crime prevention and intervention in the community.

3.12.2 Environmental Setting

FIRE PROTECTION

In 2018, Cal Poly, the City, the County, and CALFIRE entered into a 5-year agreement for enhanced emergency services, as part of which the City and Cal Poly agreed that the City would continue to provide enhanced fire and emergency response services to the main campus (Cal Poly 2018a). CAL FIRE, contracted under the San Luis Obispo County Fire Department (County Fire), responds to calls for service within the SRA of campus, including the outlying agricultural facilities and surrounding lands (County of San Luis Obispo 2017). Both agencies (City and CAL FIRE) participate in mutual aid agreements to ensure complete and timely response to any fires on or near the campus property (Cal Poly 2018b).

Additionally, the City and County Fire/CAL FIRE have an adopted "Automatic Aid Agreement," which provides for the closest fire engine to respond to a new emergency regardless of jurisdictional boundaries. This allows for enhanced service without increasing the number of fire stations or firefighters by deploying existing resources regionally, rather than just within jurisdictional boundaries. The City and County Fire/CAL FIRE have documented their automatic mutual aid agreement through an Operational Plan and Agreement for Automatic Aid, dated January 30, 2012 ("Automatic Aid Agreement"). Through the Automatic Aid Agreement, the SLOFD serves as the primary first responder to the main campus, with support from County Fire/CAL FIRE as needed. The Automatic Aid Agreement exists independent of any agreement between Cal Poly and the City and obligates the SLOFD to provide fire and emergency response services to Cal Poly. In exchange, the City receives support from County Fire/CAL FIRE for its more rural locations and/or where County Fire/CAL FIRE is the closest responder.

San Luis Obispo City Fire Department

The SLOFD provides fire prevention and protection services, emergency medical services, rescue services, and hazardous materials mitigation services. The SLOFD operates four fire stations, located throughout the City, with 57 full-time employees authorized to provide assistance to area residents. Total response time (TRT) is a sum total that begins with receipt of a report of an emergency by the City Emergency Communications Center and ends with the arrival of the first emergency response crew at the dispatched incident location. The City's TRT goal is 7 minutes to 90 percent of all emergency incidents of substantial risk to warrant the use of lights and sirens during response. The 4-minute travel time goal for 95 percent of incidents, a component of the TRT, is used to determine the locations of fire stations. Travel time is influenced by road size, configuration, and topography; posted speed limits; vehicle, bike and pedestrian traffic; traffic calming features; stop lights and signs; intersections; and activity in and around roadways, including congestion and road closures (Codron, pers. comm., 2018:48; City of San Luis Obispo 2019a).

Fire Station 2 is located at 126 North Chorro and is the closest fire station to campus. The station is the City's oldest and was built in 1953. The station is staffed with a three- or four-person crew and provides paramedic-level services, as well as ladder truck operations. The station calls for emergency service on the campus account for approximately one-quarter of the station's total service calls (City of San Luis Obispo 2019b). When Fire Station 2 is otherwise assigned to an emergency incident or unable to serve the campus, the following stations may serve the campus:

- Fire Station 1, located at 2160 Santa Barbara Avenue, approximately 2 miles south of campus;
- Fire Station 3, located at 1280 Laurel Lane, approximately 3 miles south of campus; and
- Fire Station 4, located at 1395 Madonna Road, approximately 4 miles west of campus.

Fire Station 2 has a travel time of approximately 2 to 2.5 minutes, followed by Fire Station 1 with a response time of 4 to 5 minutes. These response times reflect the time required to access the south end of the Academic Core subarea. Response times to buildings north of the football field and the Administration building, specifically the North Campus subarea, are longer. Emergency response times are estimated to be between 0 and 8 minutes for the developed portions of campus; however, response times for undeveloped hillsides are estimated to be between 5 and 15 minutes (Codron, pers. comm., 2018:49).

San Luis Obispo County Fire Department/CAL FIRE

The closest County Fire/CAL FIRE station is Station 23, which is located on Cal Poly property at 635 North Santa Rosa Street and across Highway 1 from campus. Station 23 is staffed daily with a minimum of one fire captain and one firefighter. During peak fire season, Station 23 responds to emergencies with a minimum of four crew members on Engine 3484. In addition to the on-duty crew, Station 23 has a 15-member Paid-Call-Firefighter program, available daily via radio pager. Company 23 is also responsible for operating and staffing Engine 23 when needed (San Luis Obispo County Fire Department 2019). The County's General Plan Land Use Element recommends appropriate response times of 4 to 6 minutes within urban areas, 6 to 7 minutes within suburban areas, and 10 minutes within rural areas (County of San Luis Obispo 2015:7-13).

An important requirement for fire suppression is adequate fire flow, which is the amount of water, expressed in gallons per minute (gpm), available to control a given fire and the length of time this flow is available while still leaving the required amount of residual flow in the hydrant. The total fire flow needed to extinguish a structural fire is based on a variety of factors, including building design, internal square footage, construction materials, dominant use, height, number of floors, and distance to adjacent buildings. Minimum requirements for available fire flow at a given building are dependent on standards set in the California Fire Code.

LAW ENFORCEMENT

University Police Department

The Master Plan Area is under the primary jurisdiction of the CSU-operated University Police Department (UPD), which provides police protection services to the entire campus and the surrounding area within 1 mile of the campus. The mission of the UPD is to promote a safe and secure learning environment by working cooperatively with the campus community to enforce the laws, preserve the peace, maintain order, and provide exceptional professional services to the campus community (Cal Poly 2019a). The UPD is responsible for responding to and handling all calls for service, as well as processing and investigating all crimes committed on property and grounds owned, operated and controlled or administered by the CSU. The matters the UPD investigates are referred to the appropriate prosecutorial agency (County District Attorney, State Attorney General, or US Attorney's Office) for a decision regarding whether or not to prosecute the matter.

In addition to police patrol, the UPD provides the following services:

- Bicycle patrol;
- 9-1-1 communications;
- Investigations;
- Campus safety reports;
- Escort van service and mustang patrol (safe walking escort);
- Property registration; and
- Special events/event security.

Cal Poly is located in a moderately urbanized setting with a relatively low crime rate. Crime levels on campus tend to mimic those in the surrounding area. Crime statistics for the years 2015 through 2018, as reported in Cal Poly's 2018 and 2019 Annual Security Reports (Cal Poly 2018c:5-6, 2019b:5-6), are summarized in Table 3.12-1.

Table 3.12-1 Crime Statistics for Cal Poly (2015-2018)

Criminal Offense	2015	2016	2017	2018
Murder/non-negligent manslaughter	0	0	0	0
Negligent manslaughter	0	0	0	0
Rape	7	7	10	7
Fondling	0	3	7	2
Incest	0	0	0	0
Statutory rape	0	1	0	0
Robbery	0	1	0	0
Aggravated assault	1	1	2	1
Burglary	7	12	13	8
Motor vehicle theft	7	0	7	4
Arson	2	1	0	2
Dating violence	2	1	0	0
Domestic violence	0	2	0	1
Stalking	1	2	5	4
Liquor law arrests	30	35	40	40
Liquor law referrals	327	216	292	124
Drug law arrests	16	21	12	11
Drug law referrals	22	7	5	7
Weapons law arrests	2	1	3	3
Weapons law referrals	3	0	1	1
Unfounded crimes	2	1	3	1

Sources: Cal Poly 2018c, 2019b

UPD headquarters are located in Building 36 on Safety Way West in the Academic Core subarea. The UPD currently staffs 18 officers operating nine patrol cars, two of which are K9 patrol cars and can only be used by K9 officers (Trobaugh, pers. comm., 2019). Current response times are approximately 3 to 4 minutes for emergency calls and 5 to 8 minutes for non-emergency calls. These response times do not meet the UPD's goal response times of 2 to 3 minutes for emergency calls and 3 to 4 minutes for non-emergency calls. Emergency response may be hindered during high periods of campus activity, especially at the top of the hour (10 before and 10 after the hour) when students are going to and from classes due to safety precautions (Trobaugh, pers. comm., 2019).

The UPD monitors campus growth, resident population, calls for service, response times, and reactive and proactive patrol times to assess the need for additional staff. As the campus population grows and calls for service increase, the UPD's ability to proactively patrol is reduced. As such, the UPD has grown as the campus has. For example, when the newest housing development constructed on campus at the Grand Avenue entrance (named yakʔitʸutʸu, a 1,475-person facility) opened in September 2018, the UPD increased staffing by two new officers to accommodate the anticipated increase in demand for service (Trobaugh, pers. comm., 2019).

The UPD patrol officers work with numerous allied agencies including the City of San Luis Obispo Police Department (SLOPD), the San Luis Obispo County Sheriff's Department, Parole Services, California Highway Patrol (CHP), and the Narcotics and Gang Task Forces to solve crimes and provide agency assistance (referred to as mutual aid). The UPD has a Memorandum of Understanding with the SLOPD and the County Sheriff's Department that enables the different agencies to coordinate and assist with response as necessary; there is no expiration or renewal date associated with this mutual aid agreement. For example, the UPD works closely with SLOPD in and around the Cal Poly campus neighborhoods and supports the SLOPD by proactively patrolling land within a 1-mile radius of campus that is technically within SLOPD's jurisdiction to deter disorderly conduct. UPD officers may also respond to citizen calls for service within the jurisdictional responsibility of the SLOPD and the UPD partners with SLOPD in enforcement efforts for major events on campus. Data provided by the UPD for response to off-campus incidents is shown in Table 3.12-2.

As shown in Table 3.12-2, the frequency of calls for response off-campus has changed from year to year but is not directly correlated with fluctuations in campus enrollment or the number of students living off-campus.

Table 3.12-2 Off-Campus UPD Response (2012-2018)

Off-Campus Activity	2012	2013	2014	2015	2016	2017	2018
Fall student headcount	18,679	19,703	20,186	20,944	21,306	22,188	21,812
Number of students living off-campus	12,037	12,469	13,049	13,574	14,199	14,394	14,050
Proactive off-campus patrols	n/a	n/a	1,040	949	1,201	1,001	881
Off-campus calls for service (reports taken)	70	56	101	79	114	128	130
Off-campus arrests	144	68	116	43	120	84	53
Off-campus citations	200	111	283	140	148	134	103
Total off-campus calls for service	3,306	2,269	3,548	3,326	3,134	2,469	2,795

Notes: n/a = not available

Source: Cal Poly 2019a

City of San Luis Obispo Police Department

The SLOPD Station is located approximately 1 mile southwest of campus at 1042 Walnut Street (refer to Figure 4.10-3). The SLOPD consists of 87.5 employees, 61 of which are sworn police officers, and operates 19 patrol vehicles (Amoroso, pers. comm., 2019). The SLOPD increased its staff from 59 to 61 sworn police officers in April 2019 to address the increase in demand related to new statewide cannabis regulations. However, retirements and lengthy hiring and training times limit the department's ability to remain at full staff throughout periods of transition (Amoroso, pers comm., 2019). Neither the General Plan nor the SLOPD establishes staffing ratio goals for the Department; instead, the SLOPD uses the International Association of Chiefs of Police Model (not a per-capita model) to assess the need for officers and equipment based on many factors related to the amount of police officer time spent on different activities.

The SLOPD provides police response on campus in the event of a call for unexpected additional support as well as planned calls for additional support for specific events. When requested, planned assistance for specific events on campus is provided by off-duty officers that volunteer their time for an extra shift; therefore, these requests do not affect SLOPD's regular operations, response time, or staffing. According to data collected by the SLOPD, SLOPD staff dedicated 350 hours of police protection services (provided by off-duty officers) during the 2016-2017 academic year, 432 hours during the 2017-2018 academic year, and 270 hours during the 2018-2019 academic year (as of January 17, 2019) for planned events that necessitated additional support on the Cal Poly campus (Staley, pers. comm., 2019). According to SLOPD Police Captain, Chris Staley, the frequency of requests for SLOPD service on campus for planned events tends to fluctuate based on politics rather than changes in enrollment or on-campus residential population (Staley, pers. comm., 2019). The SLOPD also provides police protection services and response to members of the Cal Poly community that live off-campus within the City's jurisdiction. The SLOPD responded to 813 law incidents involving Cal Poly students in 2017 and 1,081 incidents involving Cal Poly incidents in 2018 within the SLOPD service area (Staley, pers. comm., 2019).

San Luis Obispo County Sheriff's Department

The San Luis Obispo County Sheriff's Office is located approximately 2.8 miles northwest of campus at 1585 Kansas Avenue, San Luis Obispo and currently provides response services to the Bella Montaña residential facility on campus. In the event of an on-campus emergency, either of these law enforcement agencies can be called upon for additional assistance. If additional aid is needed, the CHP can also be called upon for assistance.

SCHOOLS

San Luis Coastal Unified School District

The San Luis Coastal Unified School District (SLCUSD) provides educational services to the communities of Avila, Edna Valley, Los Osos, Morro Bay, and San Luis Obispo. Cal Poly staff, faculty, and/or students with children may enroll their children in the SLCUSD to receive educational services. SLCUSD serves approximately 7,500 students in 15 schools. The schools that serve the project vicinity are Bishops Peak Elementary School (K-6), Pacheco Elementary School (K-6th grade), Teach Elementary School (4th-6th grade), Laguna Middle School (7th-8th grade), and San Luis Obispo High School (9th-12th grade) (SLCUSD 2019).

San Luis Obispo High School is currently undergoing renovations and is anticipated to be complete in late 2022 (Pinkerton, pers. comm., 2019). Renovations will improve facility, education, and recreation services at the school and will increase school capacity (SLCUSD 2015). A summary of total capacity and available projected enrollment capacity for the San Luis Coastal Unified School District schools serving the project area is provided in Table 3.12-3, below.

Table 3.12-3 San Luis Coastal Unified School District Enrollment at Nearby Schools

Community / Grade Level	Number of Students						Available Capacity?
	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	School Capacity	
Bishop's Peak Elementary School (K-6th)	426	453	463	468	466	600	Yes
Pacheco Elementary School (K-6th)	541	549	562	551	542	600	Yes
Teach Elementary School (4th-6th grade)	182	185	182	158	156	600	Yes
Laguna Middle School (7th-8th grade)	688	703	732	817	842	1000	Yes
San Luis Obispo High School (9th-12th grade)	1,433	1,395	1,406	1,526	1,558	2000	Yes

Sources: California Department of Education 2019; Pinkerton, pers. comm. 2019

LIBRARIES

Cal Poly

Cal Poly has one main library on campus, the Robert E. Kennedy Library (also referred to as the Kennedy Library), located southwest of the intersection of North Perimeter Road and University Drive in the Academic Core subarea. In 2018, the Kennedy Library aligned its strategic goals to support Cal Poly's Vision 2022, as discussed in Chapter 1, "Project Description." The Kennedy Library's strategic plan provides a general framework for library faculty and staff to plan continuous improvement of the library's services and resources in support of the Cal Poly mission. The plan is one way for the library to communicate its future directions with the Cal Poly community. The strategic plan redefines the library's mission, describes the values that its staff brings to the realization of that mission, and provides a vision. The library's strategic goals address financial viability and sustainability, technology and data, student learning and success, inclusivity and diversity, and the excellence of library faculty and staff (Cal Poly 2018d).

The library received 1,475,205 visits in the 2017-2018 academic year and provided over 350,000 print materials, as well as eBooks and technical equipment and software. The library includes over 30 study rooms, computer spaces, and tech spaces for student use and is open 24 hours per day 7 days a week throughout the academic year (Cal Poly 2019c).

County of San Luis Obispo

The County's network of public libraries includes 14 libraries located in communities throughout the county (County of San Luis Obispo 2018a). The closest regional library to the Cal Poly campus is the San Luis Obispo Public Library, located approximately 1.25 miles southwest of the campus at 995 Palm Street in San Luis Obispo. The San Luis Obispo Library serves as the regional library for the coastal region of the county library system and features a reading patio, reference and local history collections, large print and Spanish language collections, and a large collection of movies, music on CD, and books on CD. The library has study rooms, a computer lab, and a bookstore sponsored by the Friends of the Library (County of San Luis Obispo 2018b). Despite the fact that the County provides library services in several communities throughout the county, including Los Osos and Morro Bay; the city of San Luis Obispo is a large employment center for the county; therefore, county residents from various communities, such as Los Osos, south county, and Morro Bay, visit the San Luis Obispo Library frequently. The library was recently renovated in 2017 and currently occupies a total space of 22,814 square feet. No further renovations are planned for the facility in the foreseeable future (McMunn, pers. comm., 2019).

RECREATION AND PARKS

Cal Poly

The Cal Poly campus includes numerous recreational facilities providing both active and passive recreation to support the physical and emotional health of students, faculty, and staff. Additionally, recreational and athletic facilities on campus are necessary to support the instructional programs involved with physical education and intercollegiate sports. In some instances, design standards differ for intercollegiate athletic facilities; however, intramural recreation, physical education, and athletics can share many multipurpose outdoor fields and indoor facilities.

On-campus facilities include the recreation center, track and field facilities, tennis courts, aquatic center, outdoor recreation fields, sports complex, trails, and open space areas. Many of Cal Poly's existing indoor athletic facilities are aging; for example, the Natatorium has been filled in and converted to office space and Crandall Gym is in need of repair. The Mott Athletic Center continues to house the basketball and other indoor athletic programs in an obsolete facility, although the competition swimming pool has recently been rebuilt. The Bob Janssen softball and Baggett Stadium baseball fields were built in 2001 as part of the larger Sports Complex north of Brizzolara Creek. The recreational playing fields are composed of artificial turf, which will require repair or replacement in the foreseeable future.

In contrast, the recreation center, built with student funds in 1993, was fully renovated and expanded in 2012 and accommodates the most up-to-date facilities and exercise equipment, an indoor track, an Olympic size recreational swimming pool, and a large leisure pool. Poly Canyon Village has a small multi-purpose indoor facility and recreational pool that is open to all students, not just student residents. Additionally, the newest housing development constructed on campus at the Grand Avenue entrance (a 1,475-person facility, named yakʔitʸutʸu) which opened in September 2018, included new recreational facilities such as a sand volleyball court, a half basketball court, and a variety of small paved patios for use by the residents. The campus currently provides a total of 63.9 acres of outdoor recreational facilities, 65,930 linear feet of informal recreation trails, and 115,160 net assignable square feet (asf) of indoor recreation space (e.g., gyms, weight rooms, bowling alley and locker rooms). Net asf does not include support space such as offices, equipment storage, mechanical rooms, etc. A summary of existing recreation facilities and their capacity is provided in Table 3.12-4.

Table 3.12-4 Existing On-Campus Recreational Land Uses and Facilities

Facility	Indoor Seats	Outdoor Seats
Recreation Center		
MAC Center (multipurpose)	750	
Martial Arts Room	1,580	
Martial Arts Room	270	
Rec Center Plaza		250
Robert A. Mott Athletics Center		
Main Gym (bleacher capacity)	3,032	
Mott Lawn		500
Track Field		600
Sports Field by Track		200+
Alex G. Spanos Stadium (football)		
President's Suite	142	
Stadium (bleacher capacity)		10,000
Memorial Field		500
Mustang Memorial Plaza		150
Bagget Stadium (baseball) (bleacher capacity)		1,772
Bob Janssen Stadium (softball) (bleacher capacity)		800
Sports Complex		
Turf Fields 1, 2, 3		200
Lower Soccer Fields 4, 5, 6, 7		200
Lower Softball Fields 4, 5, 6		200

Source: Cal Poly 2019d:4-38.

City of San Luis Obispo

The City's park system consists of 28 parks, including community parks, neighborhood parks, and mini-parks, and 15 special recreation facilities, encompassing a total of approximately 206 acres. In addition to City-owned facilities, the City has joint-use agreements with five school sites to offer youth recreation and classes and with the County for the use of baseball/softball fields at El Chorro Regional Park. In addition to the City's parks and recreational facilities, the City owns and manages 12 open spaces and recreational trails encompassing nearly 4,000 acres, including trailheads within Bishop Peak (although the summit is owned by California State Parks) and portions of the Bob Jones Trail within the city limits (City of San Luis Obispo 2019c:25).

The City's General Plan Parks and Recreation Element established a goal for the City to develop and maintain a rate of 10 acres of parkland per 1,000 residents. The city currently has 205.6 acres of park and recreation facilities, not including the city's open space areas, and serves a population of 46,741, as described in Section 3.11, "Population and Housing." This equates to 4.4 acres per 1,000 residents. The City also established a target for residents to have access to a neighborhood park within a one-half-mile to 1-mile walking distance of their residence (City of San Luis Obispo 2001:7-16, 7-17).

In 2019, the City prepared a Community Needs Assessment, which determined that over 75 percent of the city's park features were in good condition and functioning as intended. Santa Rosa Park and Emerson Park both included features found to be non-functional or in need of replacement (City of San Luis Obispo 2019c:41). Improvements to the city's parks system are planned, including approximately 25 new parks, park expansion, and facility improvements defined in specific or master plans. Improvements at Emerson Park are planned within the Downtown Concept Plan and the City's 2019-2021 Capital Improvement Plan (City of San Luis Obispo 2019c:44–48). The Community Needs Assessment also identified gaps in park access in the neighborhood directly south of the Cal Poly campus. No planned development was identified that would improve park access in the neighborhood south of the Cal Poly campus (City of San Luis Obispo 2019c:50). With respect to operations and maintenance, the City prepared an Open Space Management Plan in 2002, as well as Conservation Guidelines for Open Space in 2015, that assist the City in ensuring the provision of adequate and safe recreation opportunities within the city's limits.

The City also offers organized recreational activities, including leagues and drop-in opportunities for softball, baseball, basketball, volleyball, and others, at City and County facilities that are open to students and faculty/staff, depending on the specific league's age requirements. City leagues include fees that are attributed to facility costs, as well as league equipment and organizational costs.

County of San Luis Obispo

According to the Parks and Recreation Element of the County's General Plan, the County provides roughly 23 parks, 3 golf courses, and eight special places (natural areas, coastal access, and historic facilities) currently operated by the County Parks and Recreation Department. Urban regional parks account for 644 acres, rural regional parks for 11,398 acres, and mini, neighborhood and community parks for 214 acres. There are very few neighborhood parks within the county's unincorporated areas. Many of the county's community parks, such as Los Osos Community Park and San Miguel Park, are less than 10 acres in size and provide the only park facilities in that community. Due to the limited availability of funding for parkland acquisition and maintenance, "community park" status at a particular park often evolves by need rather than original design. By contrast, some of the county's community and regional parks also serve dual functions. For example, regional parks located within or directly adjacent to an urban area often provide a mix of park uses. The nearest county park to the Cal Poly campus is Cuesta Park, which encompasses approximately 5 acres located at 2400 Loomis Street in San Luis Obispo. Cuesta Park provides picnic areas, volleyball court, playground, and barbecue areas. El Chorro Regional Park is located on Highway 1 between San Luis Obispo and Morro Bay and includes a botanical garden, dog park, and ballfields. The County also maintains trail systems including the Bob Jones Trail, which provides access to Avila Beach, and Bishop's Peak Trail, a 4-mile round-trip hike providing views of the mountains and coastline (County of San Luis Obispo 2006:12, 13).

The County does not have an adopted standard ratio for parks per 1,000 population. However, the County utilizes the 1983 National Recreation and Park Association Standards (1983 NRPA Standards) with community input, local surveys, and a review of state and national trends to assess deficiencies in park and recreational resources. The 1983 NRPA Standards have been applied to the county's current inventory of park facilities to identify the calculated need and deficiency of parkland in Table 3.12-5.

Table 3.12-5 County of San Luis Obispo Recreational Facilities

Facility Type	1983 NRPA Standard (acres/1,000 population)	2000 Population	Acres Needed	Existing Acreage (2003)	Deficiency (acres)
Neighborhood Park	1-2 acres	103,990	104-208	134	490-906
Community Park	5-8 acres	103,990	52-832		
Regional Metropolitan Park (Urban)	5-10 acres	246,681	1,233-2,466	644	589-1,822
Regional Park Reserve (Rural)	Variable	246,681	N/A	11,398	N/A

Notes: natural area acreage is not included in these figures. Populations are for urban areas (103,990) and county-wide (246,681).

Source: County of San Luis Obispo 2006:17.

Other Regional or State Recreation Facilities

Park facilities are also provided by state and Federal agencies. These parks tend to be passive in nature, and thus, do not provide organized recreational facilities or improvements such as soccer fields or tennis courts, but they do provide important areas for nature appreciation and often coastal access. State agencies such as the California Department of Parks and Recreation ("State Parks") provide large, typically passive parks. These parks include items such as trails, camping, access to historic facilities, and/or nature appreciation throughout San Luis Obispo County and California. Examples of State Parks facilities within San Luis Obispo County include Hearst San Simeon State Historical Monument, Montaña de Oro State Park, Oceano Dunes State Vehicular Recreational Area, and Morro Bay State Park.

3.12.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Evaluation of potential public service impacts was based on a review of documents identifying current level of service standards for the local jurisdictions, including the City of San Luis Obispo General Plan and the San Luis Obispo County General Plan (as general reference points); consultation with appropriate public service providers, such as SLOFD, San Luis Obispo Police Department, UPD, and County Public Library Services; and aerial review of the project study area and surroundings. Impacts on public services that would result from the project were identified by comparing existing service capacity and facilities against future demand associated with project implementation.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considering continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process as well as overarching directives relevant to all or most 2035 Master Plan topics. They are organized by topic heading in the 2035 Master Plan as General Principle (GP), Academic Mission and Learn by Doing, Design Character (DC), Implementation, Implementation Program (IP), Other Recommendation (OR), Sustainability and Environmental Stewardship (S), Transportation and Circulation, or Residential Community and University Life (UL). The 2035 Master Plan includes the following principles related to public services and recreation:

- GP 15: In cases where an activity must be relocated, new sites should be identified, and replacement facilities developed prior to the move.
- DC 13: Public services and utilities should support the University efficiently, with the flexibility to meet changing needs, and designed for ease of maintenance and renovation.
- DC 14: Public facilities and utility support structures should be concealed from view unless their visibility serves an explicit educational function.
- IP 09: A trail plan should be developed to provide access to Cal Poly's natural resources and open spaces where appropriate considering factors such as safety, avoidance of degradation of the resources and interference with educational priorities; such a plan should address design, management and signage to addressing appropriate use and signage, including possible links between off campus public lands.
- IP 12: Cal Poly should incorporate pedestrian, bicycle and transit plans into a comprehensive and updated multi-modal active transportation plan designed consistent with leading standards.
- IP 14: As a regional leader in fostering active transportation, Cal Poly should partner with local, regional and national public and private organizations (including but not limited to the City, County, Caltrans, SLOCOG, RTA, Amtrak, and Union Pacific Railroad) to make San Luis Obispo a model for modal shift from single occupancy autos to a complete active transportation system.
- IP 20: Cal Poly should partner with the City to help develop off-campus bicycle improvements as prescribed in the city's bike plan and that improve connections between the campus and community.

- IP 21: Convenient bicycle routes throughout the campus, as well as bike parking located as near as practical to campus origins and destinations, should be provided to encourage bicycle use.
- OR 09: Support services should be planned with a holistic approach using collaborative interactive processes to involve all parties delivering and receiving services.
- OR 10: Campus services and facilities must be designed to meet or exceed applicable legal guidelines such as access for those with physical or learning disabilities, fire safety, and emergency response systems.
- OR 13: Infrastructure development should maximize resource conservation, leverage current policy and practice in support of sustainable design, consider long-term return on energy investment, and establish a foundation for future revenue potential.
- OR 16: Cal Poly should plan for solid waste management, and in particular for recyclables, in all future development.
- S 06: Development of campus facilities and utility infrastructure should incorporate strategies to minimize impacts on the environment.
- UL 04: Entertainment, recreation, and social facilities should be provided to support a 24-hour community.
- UL 06: The following types of services should be provided on campus: (1) services that are needed specifically by students (e.g., library, advising, bookstore); (2) services that require coordination with academics or other campus services (e.g., financial aid, academic assistance, disability resources, personal counseling for students); and (3) services used frequently by a considerable number of students, faculty or staff (e.g., food service, banking, health care).
- UL 08: Support services should be sized and designed to accommodate peak demand, where necessary, or demand managed to reduce peaks.
- UL 11: Recreational spaces and facilities should be provided to serve needs of the campus community. Existing deficiencies should be addressed to the extent practical, and facilities provided prior to or in conjunction with new on-campus housing or significant increases in student enrollment.
- UL 12: Recreation and athletic facilities should be designed to meet specific standards when necessary for intercollegiate competitions.
- UL 13: Recreation and athletic spaces should be designed for multiple users and a variety of activities and be managed through mutual use agreements.
- UL 14: Recreation and athletics field and facility design should incorporate space for spectators, ancillary facilities, and access to field maintenance equipment.
- UL 15: Recreational and athletic facilities should be in close proximity to the population they are intended to serve.
- UL 16: As expansion and academic core redevelopment is planned, leisure and programmed recreation should be incorporated.
- UL 17: Future intercollegiate facilities and large programmable recreation facilities (fields, gyms, courts) should be located outside of the academic core with integrated amenities promoting access.

THRESHOLDS OF SIGNIFICANCE

A public services and recreation impact would normally be considered significant if implementation of the project would:

- result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

- fire,
- police protection,
- schools,
- parks, and
- other public facilities;

- increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or
- include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

ISSUES NOT DISCUSSED FURTHER

All issues applicable to public services and recreation listed under the significance criteria above are addressed in this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision or the Need for New or Physically Altered Fire Facilities, to Maintain Acceptable Service Ratios

Implementation of the project would result in an increase in on-campus facilities and population. New facilities would be constructed within the main campus in compliance with fire and emergency safety requirements and would not result in an expansion of service area. Nor would the increase in population result in an increase in service calls beyond the capacity of existing fire protection services and facilities. SLOFD would continue to provide fire protection services to campus through various agreements. This includes Cal Poly's agreement to receive enhanced fire protection services from SLOFD is in effect through 2023 and Cal Poly is committed to diligently pursue the extension of the agreement. Therefore, existing fire facilities would be adequate and impacts would be **less than significant**.

Fire protection and emergency medical services would be provided to the project by SLOFD, with support from CAL FIRE/County Fire, as outlined by the Agreement for Enhanced Emergency Services between CSU, the City, the County, and CAL FIRE (Cal Poly 2018a). Although the 2035 Master Plan would increase the campus population and would result in an increase in campus buildings and facilities, such project activities would occur within the main campus and would not result in an expansion of the main campus beyond its existing boundaries. An increase in population, by itself, would not increase demand for fire protection services, but rather an expansion of geographic distribution may impair emergency response times, and therefore, potentially require additional services and facilities.

As stated in the Environmental Setting, SLOFD received 329 on-campus incident calls and 454 incident calls from Cal Poly students within the city in 2017. Based on the 2017 student population of 20,944, this represents 0.016 incident calls per student on-campus and 0.021 calls per student within the city. Master Plan implementation would result in the continuation of existing academic programs, extra-curricular activities, and similar housing and instructional facilities and would not fundamentally change the nature of campus operations. Therefore, Master Plan implementation is not anticipated to result in any change in incident calls per capita. Therefore, the anticipated 2035 student population of 25,000 at project buildout is projected to result in approximately 400 on-campus incident calls, equivalent to 0.016 calls per student and 525 incident calls within the city, equivalent to 0.021 calls per student (Aggson, pers. comm., 2019). This represents an increase of 21.5 percent and 15.6 percent for incident calls on-campus and within the city over the number of incident calls in 2017, respectively. Note that incident calls are tracked by location from which the call is made, so an increase in students living on campus would not necessarily result in a decrease in calls originating from within the city. As student population increases, it is likely that communal areas in the city (e.g., restaurants, recreational/entertainment venues) would receive more visits from students and other on-campus residents. However, this increase would not be substantial and would not require new or expanded fire department facilities. Existing facilities would be adequate to serve additional call volume as a result of increased student enrollment and no additional facilities or expansion of facilities would be required (Aggson, pers. comm., 2019). In addition, SLOFD including Fire Station 2, located nearest to the project, provide paramedic services and ladder trucks sufficient to serve multi-story buildings.

All new buildings proposed under the 2035 Master Plan would be designed to meet minimum fire and emergency safety requirements identified in the California Building Code and California Fire Code and would include appropriate fire safety measures and equipment, including but not limited to, use of fire retardant building materials, inclusion of emergency water infrastructure (fire hydrants and sprinkler systems), installation of smoke detectors and fire extinguishers, emergency response notification systems and provision of adequate emergency access ways for emergency vehicles.

Development under the project would be located within the main campus and adequately serviced by existing fire stations and facilities and the project is not anticipated to result in a substantial increase in service calls that would require new or expanded fire protection employees or facilities.

The Agreement for Enhanced Emergency Services between CSU, the City, the County, and CAL FIRE is currently effective through June 30, 2023 and ensures the City's provision of enhanced fire protection services to the campus. The City is also obligated to support and provide additional fire and emergency services to campus through its Automatic Aid Agreement with the County/CAL FIRE. In addition, Cal Poly is committed to pursuing an extension of the Agreement for Enhanced Emergency Services to 2035 to ensure the level of fire and emergency service responses from SLOFD are maintained during implementation of the 2035 Master Plan. In the unlikely event that the Agreement for Enhanced Emergency Services is not renewed, Cal Poly would pursue other means of enhanced fire protection services through CAL FIRE/County Fire. Because the campus would continue to receive fire protection services from the City and/or CAL FIRE/County Fire, no additional facilities would be required. Because the Master Plan would not require new or physically altered fire facilities to maintain acceptable service ratios, there would be no substantial adverse physical construction-related effects and therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.12-2: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision or the Need for New or Physically Altered Police Facilities, to Maintain Acceptable Service Ratios

Implementation of the 2035 Master Plan would result in an increase in campus population requiring additional on-campus police services. The UPD would require additional staff to maintain adequate police response and service, resulting in the construction of a new police facility, the effects of which are evaluated throughout this EIR. No additional facilities would be required to serve the project. Therefore, this impact would be **less than significant**.

Under the 2035 Master Plan, the primary police protection responsibility would continue to be provided by the UPD, which has jurisdiction over campus. The UPD would continue to be responsible for responding to and handling all calls for service, as well as processing and investigating crimes committed within the campus. Cal Poly's Patrol Officers would continue to work with numerous allied agencies including SLOPD, the San Luis Obispo Sheriff's Department (which would continue to provide service to the Bella Montaña residential facility on campus), Parole Services, and the Narcotics and Gang Task Forces to solve crimes and provide agency assistance through the existing mutual aid agreement. The UPD would also continue to work closely with SLOPD proactive patrol to deter crimes and enhance enforcement efforts in and around campus neighborhoods throughout the academic school year and during major events.

As demand for police response services increases, the University would continue to monitor campus growth, on-campus residential population, calls for service, response times, and reactive and proactive patrol times to assess the need for additional staff and associated facilities. For example, in response to the opening of the yakʔitʸutʸu residence halls in fall 2018, UPD increased staff by two officers (Trobaugh, pers. comm., 2019) but no new facilities were constructed. UPD would continue this practice and when the need for additional staff and/or facilities is identified to maintain response times and regular proactive controls, the University would increase resources as necessary. Therefore, demand on UPD services would be met by the continued implementation of operating procedures, campus safety training, and appropriate staffing based on ongoing evaluation of demand and needs.

However, current UPD staff and operations have outgrown the existing campus police station. The expansion or construction of a new facility would be required to meet the needs of the increased population under the project (Trobaugh, pers. comm., 2019). The project would include construction of a new facility, which would likely be located within the Academic Core subarea (Palazzo and Sandman, pers. comm., 2019). Construction and operations of this facility are included in the project footprint and are analyzed within this EIR (refer to Section 3.1 through Section 3.11 and Section 3.13 through 3.14 and Chapters 4 and 5). No further construction or expansion of police facilities would be required to maintain acceptable service ratios, response times, or other performance objectives for UPD services.

While the population of Cal Poly students living off campus is expected to decrease over time as new housing facilities are developed on campus, the overall increase in enrollment, staff, and faculty over the course of buildout of the 2035 Master Plan would also result in increased numbers of people visiting communal areas in the city, which could result in an increased demand on SLOPD for response to public areas in the SLOPD service area. However, because campus growth would be relatively modest compared to the existing campus and city population, and because the majority of university-related policing would continue to be conducted by the UPD, the additional demand on SLOPD for response on and off campus would be limited. Police and emergency response services for any incidents within the SLOPD or San Luis Obispo County Sheriff's Department service areas would continue to be provided by the responsible agency (Amoroso, pers. comm., 2019). SLOPD response services are expected to continue to function in accordance with the Mutual Aid Agreement. Police services for planned events on campus would continue to be requested but would continue to be staffed by off-duty officers such that they would not affect SLOPD response times. The 2035 Master Plan would not generate a need for new or expanded law enforcement facilities.

Independent of Cal Poly's proposed 2035 Master Plan, the City of San Luis Obispo is planning to construct a new police station (Amoroso, pers. comm., 2019). The existing SLOPD facility is over 50 years old, in significant disrepair, and lacks adequate facilities and storage for current operations. The new station will undergo separate environmental review, with the City as lead agency. If the City elects to construct a new or additional facility in a new location, adverse changes to response times could result. However, adverse physical impacts associated with the provision of new or altered SLOPD facilities are unlikely as any new or reconstructed facility would be required to meet community design guidelines, state and local building codes, and its location would need to meet the response time and service ratio needs of the community. These factors would be considered by the City as part of the separate environmental review of any new proposed SLOPD facilities. The City's proposed SLOPD station is planned separately and irrespective of the 2035 Master Plan; the project is not driving the need for new or expanded law enforcement facilities.

Implementation of the 2035 Master Plan would result in an increase in demand for on-campus police protection services. The project would include a new UPD station constructed on campus to meet existing needs as well as serve the increase in demand associated with the buildout of the 2035 Master Plan, and the environmental impacts of this new station is addressed in this EIR's impact analysis. As explained above, This increase in demand would largely be accommodated by the UPD and would result in minimal demand for services from SLOPD and the San Luis Obispo County Sheriff's Department. The project would not modify or increase the county's or the city's existing service area or result in the need for construction of new facilities. Therefore, impacts related to the construction of new public police and emergency facilities under the 2035 Master Plan would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.12-3: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision or the Need for New or Physically Altered Schools, to Maintain Acceptable Service Ratios

Master Plan implementation would increase the campus residential population through the introduction of faculty and staff workforce housing and the creation of new employment opportunities that could induce new residents to relocate to the area, both of which could generate students and increase school attendance within SLCUSD. However, the increase in demand would be modes and is not, in and of itself, expected to result in the need for new or expanded school facilities. Therefore, this impact would be **less than significant**.

Under the 2035 Master Plan, the campus residential population would increase which may introduce additional faculty, staff, and/or students with school-aged children and could contribute additional primary and secondary students to local school districts. For the purposes of this analysis a conservative approach was used; it is assumed that all students would be attributed to a single school district, which in this case is SLCUSD. As discussed above in Section 3.12.2, "Environmental Setting," public schools within the vicinity of the Master Plan Area include Bishop's Peak Elementary School, Pacheco Elementary School, Teach Elementary School, Laguna Middle School, and San Luis Obispo High School. Pacheco Elementary School currently experiences the highest enrollment levels out of the local elementary schools and operates at approximately 90 percent of capacity. Laguna Middle School and San Luis Obispo High School each operate at approximately 84 percent and 78 percent of capacity, respectively. As shown in Table 3.12-6, the total available remaining capacity of the schools located within the vicinity of the project is approximately 1,200 students. School-aged children associated with the project would attend various schools throughout the SLCUSD and would not impact one individual school. Based on student yield averages established by SLCUSD, a new single-family residential unit would generate 0.302 elementary students, 0.064 junior high students, and 0.119 high school students (SLCUSD 2016). Based on the projected increase in faculty/staff of 669 and conservatively assuming that all new faculty/staff would occupy single-family residences and have school age children, implementation of the 2035 Master Plan is estimated to generate approximately 202 elementary school students, 43 junior high school students, and 80 high school students. As such, and based on the current capacity of public schools in the area, adequate capacity within existing schools is available to serve the potential needs of the 2035 Master Plan, and no construction of additional facilities or expansion of existing facilities is anticipated to be necessary as a result of the 2035 Master Plan.

Table 3.12-6 Enrollment and Capacity of Nearby Schools in the San Luis Coastal Unified School District

	Capacity	Enrollment	Available Capacity
Elementary Schools	1,800	1,164	636
Middle Schools	1,000	842	158
High Schools	1,600	1,558	442

Source: Data interpreted based on student yield averages provided in SLCUSD 2016.

Because the population increase associated with the project would primarily be university-aged students enrolled at the campus and because adequate capacity is available within local public schools, implementation of the 2035 Master Plan would not substantially affect the capacity of the nearby public school systems, and would not require the construction of new schools or expansion of existing facilities, the project would result in **less-than-significant** impact.

Mitigation Measures

No mitigation is required.

Impact 3.12-4: Result in Substantial Deterioration of Neighborhood and Regional Parks, or Require Construction or Expansion of Recreational Facilities

The project would result in increased enrollment and campus population growth and would, therefore, increase demand for park and recreational services. Improvements, expansion, and construction of recreational facilities would be included under the project and would adequately serve the campus population. Additionally, the 2035 Master Plan Guidelines would address the deterioration of on-campus facilities and address potential increased demand for off-campus facilities by providing new recreational facilities. This impact would be **less than significant**.

As discussed under Section 3.12.2, "Environmental Setting," several on-campus recreational facilities are in need of repair. Enrollment growth would result in an increase in the use of existing recreational facilities and could accelerate the deterioration of such facilities. However, the 2035 Master Plan would address existing deficiencies (UL 11) through the the construction and renovation of new and expanded recreational facilities in order to accommodate the increase in campus population. The project would retain the Recreation Center, Mott Athletics Center, Alex G. Spanos Stadium and the softball and baseball fields. Alex G. Spanos Stadium would be renovated and enlarged to allow for an additional 4,000 seats increasing capacity to 16,000. The proposed Creekside Village, located in the Academic Core subarea, would include a recreation center as well as several informal, passive, indoor and outdoor recreation areas. Additional sports fields would be constructed in the North Campus subarea, including a running track, soccer fields, softball fields, and volleyball courts. Implementation of the 2035 Master Plan would also provide several informal and passive recreation areas, such as local and regional trail connectors, lounge areas, bocce ball courts, and other smaller scale activities throughout the Master Plan area. Overall, the 2035 Master Plan would result in an increase in the acreage of outdoor athletic and recreation space from 63.9 acres to 82.5 acres, as well as additional indoor athletic facilities within the Academic Core subarea.

Although the Quimby Act does not apply to the 2035 Master Plan, it is used as a reference point to ensure an appropriate level of recreation facilities are provided. Under the Quimby Act, if the existing area of parkland is 3 acres or more per 1,000 persons, then the standard of up to 5 acres per 1,000 persons should be used for new development. If the existing amount of parkland in a community is less than 3 acres per 1,000 persons, then the community may require dedication based on a standard of only 3 acres per 1,000 persons residing in the subdivision. Cal Poly currently provides 63.9 acres of outdoor recreational facilities to service the existing campus population of almost 25,000 (21,812 students, 1,486 faculty, and 1,670 staff). This results in approximately 2.5 acres of recreational land per 1,000 population. Implementation of the project would result in a total campus population of 28,935 and a total of 82.5 acres of outdoor recreational facilities. Considering the increase in campus population of 3,967, new recreational uses on-campus would be provided at a rate of 4.7 acres per 1,000 persons. Taking the existing campus and its population into consideration, buildout of the 2035 Master Plan would improve the current ratio to 2.85 acres of recreational land per 1,000 persons. Therefore, implementation of the 2035 Master Plan is considered to improve recreational opportunities compared to existing conditions and would provide adequate recreational opportunities for students, faculty, and staff within the Master Plan area.

The Cal Poly population is also served by parks, trails, and recreation areas managed by the City, County, and the state. Students, faculty, and staff may access nearby recreation features such as El Chorro Regional Park, Cuesta Park, Bishop Peak Trail, Bob Jones Trail, and local beaches. Students, faculty, and staff may also access city parks including the Laguna Lake Golf Course, the Damon-Garcia Sports Complex, and the San Luis Obispo Swim Center. Although all students may access these facilities, the highest demand would likely occur from students living off-campus, faculty, and staff. However, under the 2035 Master Plan, the increased student population would be housed on-campus, and new on-campus residents would likely use available on-campus recreational facilities. While some use of off-campus recreational facilities by students is likely, there is no evidence to suggest that such use would contribute substantial physical deterioration of off-campus recreational facilities.

As with on-campus student housing, construction of on-campus workforce housing proposed under the 2035 Master Plan would increase the proportion of faculty and staff living on campus, as discussed in Section 3.11, "Population and Housing." While some use of off-campus recreational facilities by faculty/staff is likely, there is no evidence to suggest that such use would contribute substantial physical deterioration of off-campus recreational facilities.

In addition, further residential development in nearby communities, including in the city of San Luis Obispo, would be required to meet Quimby Act requirements, which ensure adequate open space is provided based on anticipated population. The potential need for new recreational facilities would be addressed at the site of the new housing development or through the collection of development impact fees. The City's development program, including parks and recreational facilities, is regularly evaluated and impact fees collected, as determined necessary, would be used to provide additional recreational opportunities. Therefore, any necessary recreational facility improvements within neighboring communities would either be addressed through compliance with the Quimby Act and/or through the collection of development impact fees of the respective community. Consequently, the potential increased off-campus population associated with the 2035 Master Plan is not expected to cause substantial deterioration of off-campus recreation facilities.

In addition and with respect to further recreational improvements that would benefit both Cal Poly and local communities, principles included in the 2035 Master Plan recommend that a trail plan be developed (IP 09), that Cal Poly partner with local, regional, and national organizations to shift to a complete active transportation system (IP 14); and that Cal Poly partner with the City and develop bicycle improvements and connections between the campus and the community (IP 20). The project would include local and regional trail connectors. As required by Mitigation Measure 5.5-1e, a trail management plan would be prepared to reduce impacts to special status plants and sensitive habitat. This plan would have a secondary benefit of assisting in the maintenance of passive recreation opportunities in and around campus. In addition, Cal Poly has agreed in concept with the County of San Luis Obispo to make improvements to Mount Bishop Road, from Highland Drive north to Stenner Creek Road, and to dedicate right-of-way along this road for use as part of the Chorro Valley Trail.

The project would include the expansion of and construction of on-campus recreational facilities to serve the increase in population, including the increase in students, faculty and staff living on campus, and would include principles to ensure appropriate timing of construction and coordination with local jurisdictions. The impact of physical construction, resource demand, and employee population growth associated with these actions is included in the 2035 Master Plan growth projections and development analyzed in this EIR. Because the project would include maintenance, improvement, and construction of parks and recreation facilities and would not require the construction or expansion of facilities beyond what is proposed in the 2035 Master Plan, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.12-5: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision or the Need for New or Physically Altered Library Facilities, to Maintain Acceptable Service Ratios

The increase in campus population that is expected to occur under the 2035 Master Plan could result in an increased demand for public libraries. However, this increase in demand is covered as part of the 2035 Master Plan through the expansion of Kennedy Library and is not expected to result in the need for new or expanded public facilities beyond this facility. Therefore, this impact would be **less than significant**.

University students, faculty, and staff receive library services through the Kennedy Library located in the Academic Core subarea. The 2035 Master Plan includes expansion and renovation of the library, allowing for an additional 114,300 square feet to provide the necessary space for classroom and lecture facilities, as well as a 65 percent increase in study rooms, and an increase in seating from 2,400 to 3,500 seats. The proposed improvements are specifically designed to accommodate the increased demand associated with the anticipated increase in the Cal Poly population, consistent with the 2035 Master Plan; therefore, additional on-campus library facilities beyond what is proposed in the 2035 Master Plan would not be necessary.

The Slack and Grand Residential Neighborhood and the University-Based Retirement Community may introduce residents with families and senior residents that may obtain library services from the County's public library system. However, this population would be limited, and it is anticipated that most residents associated with these near-term projects would receive library services from the Kennedy Library as it provides a more convenient location with more robust library facilities and services. In addition, the 2035 Master Plan would provide for more students living on campus and would result in a decrease in students utilizing the County's public library system, including its city of San Luis Obispo branches, because the on-campus facilities would provide more convenient and suitable library facilities. The County also recently completed an expansion and renovation of the County's downtown San Luis Obispo branch library to increase library capacity and improve services for the public. Based on the use of the Kennedy Library and recent expansion of the County's City of San Luis Obispo branch library, it is expected that existing library services would be sufficient to adequately handle further growth (McMunn, pers. comm., 2019). Therefore, implementation of the 2035 Master Plan would not substantially affect the County's public library services and construction of additional library facilities as the result of an increase in the on-campus population would not be required as a result of the project. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

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3.13 TRANSPORTATION

This section identifies applicable regulatory requirements, describes the existing transportation system, and evaluates impacts pertaining to vehicle miles traveled (VMT); transit, bicycle, pedestrian, and facilities; roadway hazards; and emergency access resulting from implementation of the 2035 Master Plan. This section is primarily based on a VMT analysis prepared by Fehr & Peers in August 2019 to evaluate the effects of the 2035 Master Plan on VMT. The VMT impact analysis memo, data, and modeling are included as Appendix G.

When the Notice of Preparation (NOP) for the 2035 Master Plan was circulated in October 2016, level of service (LOS) was the metric by which physical environmental impacts related to transportation were evaluated. However, the California Natural Resources Agency has since amended CEQA statute and the State CEQA Guidelines, and as of December 28, 2018, VMT has replaced LOS as the appropriate metric for determining transportation impacts. For this reason, NOP comments received during the October 2016 scoping period that pertain to LOS analysis were considered but are not reflected in the analysis, as LOS is no longer the appropriate metric for determining physical environmental impacts. Cal Poly will continue to coordinate with the City and other jurisdictions regarding LOS with respect to maintaining target LOS established through policy in local planning documents. Other transportation-related comments that were received in response to the NOP included concerns regarding the need to expand bicycle and pedestrian facilities, trip reduction measures and their level of effectiveness, and impacts to local transit service. These issues are addressed in this section.

3.13.1 Regulatory Setting

FEDERAL

There are no federal laws or regulations addressing transportation and circulation that are relevant to the project.

STATE

Senate Bill 743

Senate Bill (SB) 743, passed in 2013, required the Governor's Office of Planning and Research (OPR) to develop new CEQA Guidelines that address traffic metrics under CEQA. As stated in the legislation (and Section 21099[b][2] of CEQA), upon adoption of the new CEQA Guidelines, "automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the [State] CEQA Guidelines, if any." The purpose of this change in CEQA is to lower VMT statewide, to encourage mixed-use development, and to encourage infill development.

OPR published its proposal for the comprehensive updates to the CEQA Guidelines in November 2017 which included proposed updates related to analyzing transportation impacts pursuant to SB 743. The Office of Administrative Law approved the updated CEQA Guidelines on December 28, 2018, and the changes are reflected in new CEQA Guidelines (Section 15064.3). Pursuant to the new CEQA Guidelines, VMT replaced congestion as the metric for determining transportation impacts. The Office of Administrative Law approved the updated CEQA Guidelines and lead agencies have an opt-in period until July 1, 2020 to implement the updated guidelines.

California State University Transportation Impact Study Manual

The CSU Transportation Impact Study Manual (TISM) was updated in March 2019 to provide guidance for the preparation of transportation impact assessments for projects on CSU campuses, including all lands owned by CSU, consistent with the SB 743 and the CEQA Guidelines update. The updated CSU TISM provides direction for analyzing transportation impacts relative to VMT, applicable significance thresholds, and recommended mitigation measures.

Projects that do not meet any of the VMT screening criteria described within the CSU TISM are required to determine if the project-generated VMT per service population (i.e., the sum of all residents, employees, and students) is less than 15 percent of the existing regional, sub-regional, or citywide VMT per service population to determine whether the project would result in any project-related significant VMT impacts (Fehr & Peers 2019). The CSU TISM also requires evaluation of the project's effect on VMT to demonstrate whether the project would result in an increase or decrease in the regional, sub-regional, or citywide VMT per capita which is used determine if the project would result significant cumulative impacts.

California State University Transportation Demand Management Manual

The CSU Transportation Demand Management (TDM) Manual (Nelson Nygaard 2012) addresses the unique transportation needs of different campuses and provide a system-wide framework for implementing sustainable transportation programs. The manual contains a set of goals, criteria, and best practices to guide the provision of programs, tools, and strategies that encourage students, faculty and staff to commute to and from campus via bus/rail transit, carpools, vanpools, bicycling and walking to lessen reliance upon single-occupant vehicle travel and reduce vehicle trips to campuses (Nelson Nygaard 2012). This manual is a resource designed to provide guidance in developing campus TDM plans and the associated programs and policies.

LOCAL

As detailed above, VMT replaces congestion (i.e., LOS) in the new CEQA Guidelines as the metric for determining automobile transportation impacts. Therefore, policies and objectives within local plans (e.g., City of San Luis Obispo General Plan) pertaining to LOS are not described herein or addressed within this section. However, local plans and policies as they relate to all other aspects of transportation as required under CEQA are summarized below.

Additionally, Cal Poly, as a state entity, is not subject to municipal regulations of surrounding governments for uses on property owned or controlled by Cal Poly that are in furtherance of the University's education purposes. However, Cal Poly may consider, for coordination purposes, aspects of local plans and policies for the communities surrounding the Master Plan Area when it is appropriate and feasible, but it is not bound by those plans and policies in its planning efforts.

San Luis Obispo Council of Governments 2019 Regional Transportation Plan

The San Luis Obispo Council of Governments (SLOCOG) is both a metropolitan planning organization and a regional transportation planning agency responsible for preparing and adopting a regional transportation plan (RTP) every four years. In response to this requirement, SLOCOG completed the 2019 RTP. The 2019 RTP outlines the region's transportation policies, programmed investments necessary to support growth expectations, and its overarching goals. The four primary elements of the 2019 RTP are as follows:

- The Policy Element includes a vision and goals, as well as action strategies necessary to attain the RTP's expectations.
- The Financial Element identifies the reasonably expected funding available for transportation investments through local, state, and federal funding sources.
- The Action Element describes all modes of travel, maintenance, investments, and improvements.
- The Sustainable Communities Strategy identifies how to accommodate the region's new and expected growth (SLOCOG 2019).

City of San Luis Obispo General Plan

The City of San Luis Obispo General Plan guides the use and protection of various resources to meet community purposes. The Circulation Element of the General Plan describes how the City plans to provide for the transportation of people and materials within San Luis Obispo with connections to county areas and beyond (City of San Luis Obispo 2014). The following General Plan Circulation Element policies pertain to traffic and transportation.

- **Policy 3.1.1: Transit Development.** The City shall encourage transit accessibility, development, expansion, coordination and marketing throughout San Luis Obispo County to serve a broad range of local and regional transportation needs.
- **Policy 3.1.4: Campus Service.** The City shall continue to work with Cal Poly to maintain and expand the "fare subsidy program" for campus affiliates. The City shall work with Cuesta College and other schools to establish similar programs.
- **Policy 3.1.7: Transit Service Access.** New development should be designed to facilitate access to transit service.
- **Policy 4.1.1: Bicycle Use.** The City shall expand the bicycle network and provide end-of-trip facilities to encourage bicycle use and to make bicycling safe, convenient and enjoyable.
- **Policy 4.1.2: Campus and School Site Trips.** The City shall encourage the use of bicycles by students and staff traveling to local educational facilities.
- **Policy 4.1.13: Campus Coordination.** The City shall consider the Cal Poly and Cuesta Master Plans to better coordinate the planning and implementation of safe and convenient bicycle access and facilities to local college campuses.
- **Policy 6.1.1: Complete Streets.** The City shall design and operate city streets to enable safe, comfortable, and convenient access and travel for users of all abilities including pedestrians, bicyclists, transit users, and motorists.

City of San Luis Obispo Bicycle Transportation Plan

The City of San Luis Obispo Bicycle Transportation Plan guides the planning, development, and maintenance of bicycle facilities and activities within the corporate limits of the city. Additionally, the plan represents the City's official policy for the design and development of bikeways in adjoining territory under County jurisdiction but within San Luis Obispo's Urban Reserve, or the anticipated outward limit of City growth. The plan describes the existing bicycle transportation network and facilities, presents the goals, objectives, and policies, and includes a list of projects and implementation measures intended to improve the City of San Luis Obispo cycling environment in the future.

San Luis Obispo Regional Transit Authority Short Range Transit Plan

The San Luis Obispo Regional Transit Authority (SLORTA) Short Range Transit Plan (SRTP) presents a 5-year plan intended to provide a detailed business plan to guide the transit organization over the coming years. The SLORTA SRTP is a comprehensive plan which details the planned service improvements, capital improvements, management and financial strategies, and implementation plan. The SLORTA SRTP includes the recommendation of expansion of service times and frequency along routes that access campus, including a mid-day weekday express service which is recommended to be implemented along Route 10 (a route with a stop at the Cal Poly Kennedy Library).

San Luis Obispo Transit Short Range Transit Plan

The San Luis Obispo Transit (SLO Transit) SRTP presents a 5-year plan which includes a review of demographics and its transit needs, a series of surveys and ridership counts conducted for all SLO Transit services, a review of the effectiveness and efficiency of existing services, a review of similar systems, analysis of a wide range of options, and the results of public input processes (LSC Transportation Consultants 2016). The SLO Transit SRTP was prepared jointly with the SLORTA SRTP in order to identify means to best coordinate the two services. The SLO SRTP is a comprehensive plan which details the planned service improvements, capital improvements, management, and financial strategies. The proposed service plan in the SLO Transit SRTP includes the realignment on the existing route structure designed to improve on-time performance by building more layover time into the routes, increases service frequency in the key neighborhoods near campus and to/from downtown, provides service to new neighborhoods and employment opportunities, and provides flexibility to expand services in the future to serve new developments.

3.13.2 Environmental Setting

The study area for transportation-related impacts extends beyond the Master Plan Area and was developed in consultation with City and California Department of Transportation (Caltrans) staff and was based on consideration of the project's expected travel characteristics (including number of vehicle trips and directionality of those trips), primary travel routes, mode split, and other considerations.

ROADWAY SYSTEM

U.S. Highway 101 (US 101) is a major north-south facility connecting California, Oregon, and Washington. In San Luis Obispo County, US 101 is classified as a Principal Arterial, acting as the primary regional connector for cities in the north, such as Paso Robles, Templeton, and Atascadero, to the City of San Luis Obispo, as well as to communities in the south, including Arroyo Grande, Grover Beach, Pismo Beach, and Nipomo. Near the study area, US 101 is a four-lane freeway with on and off ramps at California Boulevard and additional access ramps at Buena Vista Avenue, Grand Avenue, and Monterey Street.

Santa Rosa Street (State Route [SR] 1) is a north-south facility connecting Northern California to Southern California along the Pacific coastline. The facility also serves as a regional connector to Morro Bay, Los Osos, and Cayucos with four lanes in the study area. Santa Rosa Street (SR 1) connects to US 101 via access ramps at Olive Street and Walnut Street.

California Boulevard is a north-south arterial road connecting campus to US 101. California Boulevard is primarily three to four lanes wide; however, it narrows to two lanes north of the Campus Way entrance. California Boulevard is one of the three primary campus gateways.

Grand Avenue is a north-south, four-lane arterial road that provides access into campus at its intersection with Slack Street; north of Slack Street it is a two-lane local road. Grand Avenue connects surrounding residential areas and the University with US 101. Grand Avenue is one of the three primary campus gateways.

Highland Drive is an east-west, two-lane road defined as a residential collector west of Chorro Street and an arterial east of Chorro Street. Highland Drive connects residential areas and the University to Santa Rosa Street (SR 1). Highland Drive is one of the three primary campus gateways.

Boysen Avenue is two-lane local road running east-west from Chorro Street to Santa Rosa Street (SR 1).

Broad Street is a north-south, two-lane collector and arterial road. Throughout the study area, it is a residential collector. Broad Street connects the residential areas to the north and the downtown core to the south. Broad Street terminates at its intersection with Foothill Boulevard to the north. South of South Street, Broad Street becomes Highway 227.

Chorro Street is a north-south, two-lane collector and arterial road. In the study area, Chorro Street is a residential collector. Chorro Street terminates at Highland Drive and at Broad Street and connects residential uses with downtown San Luis Obispo.

Foothill Boulevard is an east-west, two- to four-lane road. West of its intersection with Broad Street, it is classified as a residential arterial, between Broad Street and California Boulevard, it is classified as an arterial, and east of California Boulevard it is a local road. Foothill Boulevard is a main connection between the residential areas to the west, Santa Rosa Street, and Cal Poly to the east.

Monterey Street is an east-west, two-lane arterial. Monterey Street connects US 101, Grand Avenue, California Boulevard, and Santa Rosa Street to Downtown San Luis Obispo.

Slack Street is an east-west, two-lane residential road running parallel to the southern border of campus. Temporary two-hour on-street parking is available along the north side of Slack Street.

Taft Street is an east-west, two-lane collector road. Taft Street connects southbound US 101 traffic to the University and other commercial and residential areas via California Street.

TRANSIT SYSTEM

Cal Poly has three transit stops on campus located at North Perimeter Road and University Drive adjacent to Kennedy Library, Grand Avenue at North Perimeter Road near the Performing Arts Center, and Highland Drive at Mt. Bishop Road. The stops located in front of Kennedy Library and near the Performing Arts Center are served by both the City of SLO Transit and the SLORTA. The stop located near the intersection of Highland Drive and Mt. Bishop Road is served by SLO Transit.

SLO Transit operates up to seven fixed-hour bus routes in the vicinity of the campus and study area which are summarized below:

- Route 3A is a weekday and weekend bus service that operates on a loop around the city, beginning and ending at the Downtown Transit Center. This route acts as a primary connector between campus and residential areas along Foothill Boulevard and Los Osos Valley Road, commercial areas along Madonna Road, and downtown San Luis Obispo. Route 3A enters and exits campus via California Boulevard, with one stop at Kennedy Library. Route 3A has three separate service schedules: 1) the weekend service schedule, running from 8:15 a.m. – 8:20 p.m. with 60-minute headways; 2) the weekday academic service schedule, running from 6:00 a.m. – 11:10 p.m., with alternating 15- and 30-minute headways from 6:00 a.m. – 12:15 p.m., followed by 60-minute headways; and 3) the weekday summer service schedule, running from 6:00 a.m. – 8:20 p.m. with 60-minute headways.
- Route 3B is a weekday-only bus service that operates along the same loop as Route 3A but in the opposite, outbound direction. Route 3B enters and exits campus via California Boulevard, with one stop at Kennedy Library. Route 3B operates on 60-minute headways and has two different service schedules: 1) the weekday academic service schedule, running from 6:45 a.m. – 10:30 p.m., with six additional buses at the hour from 1:00 p.m. – 6:00 p.m.; and 2) the weekday summer service schedule, running from 6:45 a.m. – 6:40 p.m.
- Route 4A is a weekday and weekend bus service that operates along a loop around the northeast portion of the City of San Luis Obispo, connecting the University with residential neighborhoods west of Santa Rosa Street (SR 1) and the downtown core. Route 4A begins and ends at the Downtown Transit Center. Route 4A enters the campus via Highland Drive and exits via Grand Avenue, with stops at the Kennedy Library and the Performing Arts Center. Route 4A operates on 45-minute headways and has three separate service schedules: 1) the weekend service schedule, running from 8:15 a.m. – 8:06 p.m.; 2) the weekday academic service schedule, running from 6:00 a.m. – 11:00 p.m.; and 3) the weekday summer service schedule, running from 6:00 a.m. – 8:06 p.m.
- Route 4B is a weekday-only bus service that operates along the same loop as Route 4A but in the opposite, outbound direction. Route 4B stops at Kennedy Library, the Performing Arts Center, and near the intersection of Highland Drive and Mt. Bishop Road. Route 4B enters the campus via Grand Avenue and exits via Highland Drive. Route 4B operates on 45-minute headways and has two different service schedules: 1) the weekday academic service schedule, running from 6:15 a.m. – 10:30 p.m.; and 2) the weekday summer service schedule, running from 6:15 a.m. – 6:40 p.m.
- Highland Tripper is a weekday-only bus service with three trips per day connecting the Ramona, Foothill, and Highland residential areas to the campus. The Highland Tripper begins in the Ramona residential area and ends at Kennedy Library. The Highland Tripper enters the campus via Highland Drive and exits via California Boulevard. It has 30-minute headways and service spans from 7:45 a.m. – 9:00 a.m.
- Laguna Tripper is a weekday-only bus service with two trips per day that connects Laguna Middle School and the residential and commercial areas along Los Osos Valley Road with the Foothill neighborhood and downtown core. On Monday mornings, it runs from 8:50 – 9:15 a.m., while on the remaining weekdays, it runs from 7:35 a.m. – 8:00 a.m. In the mornings, the Laguna Tripper begins at the Downtown Transit Center and ends at the intersection of Los Osos Valley Road and Froom Ranch Way. On all weekday afternoons, it runs from 3:10 – 3:40 p.m., beginning at the intersection of Los Osos Valley Road and Auto Park Way and ending at the Downtown Transit Center.

- Route 6 Express (Route 6X) is a Thursday-only bus service that operates along a loop from the downtown core to campus, entering from California Boulevard and exiting via Grand Avenue. Route 6X begins and ends at the Downtown Transit Center, stopping at the Performing Arts Center. Route 6X operates on 30-minute headways and runs from 6:00 – 9:20 p.m. This route was only in service from September 20, 2018 to November 15, 2018.

Cal Poly funds an annual subsidy to SLO Transit that grants Cal Poly students, faculty, and staff free ridership. From July 2017 to June 2018, Cal Poly riders accounted for nearly 580,000 total trips, constituting over 61 percent of the total SLO Transit ridership.

SLORTA operates three fixed bus routes in the vicinity of the campus and study area:

- Route 9 and Route 9 Express connect campus to North County areas, including Santa Margarita, Atascadero, Templeton, Paso Robles, and San Miguel. Service to campus on weekdays includes five southbound arrivals at Kennedy Library between 6:10 a.m. and 8:11 a.m., four of which are express, and six northbound departures from Kennedy Library at between 4:21 p.m. and 8:40 p.m., two of which are express. On weekends, there is only one northbound trip per day departing from Kennedy Library in the evening and no southbound trips departing from campus.
- Route 10 Express (Route 10X) and Route 10 Orcutt Express connects campus to South County areas, including Pismo Beach, Arroyo Grande, Nipomo, Santa Maria, and Orcutt. Route 10X has one trip per day that serves campus, with the northbound trip from South County arriving at Kennedy Library at 6:49 a.m. and the southbound trip departing from Kennedy Library at 5:15 p.m. Route 10 Orcutt Express also has one run a day that serves campus, with the northbound trip arriving at Kennedy Library at 7:12 a.m. and the southbound trip departing from Kennedy Library at 4:08 p.m.
- Route 12 connects Los Osos and Morro Bay to Cuesta College, campus, and downtown San Luis Obispo. Service to Cal Poly runs once a day, with the southbound trip arriving at Kennedy Library at 7:30 a.m. and the northbound trip departing from Kennedy Library at 5:20 p.m.

Additionally, Amtrak buses pick up and drop off at Cal Poly at the Amtrak San Luis Obispo - Cal Poly stop and provide supporting train connections to most northbound, southbound, and the San Joaquin Valley trains.

BICYCLE AND PEDESTRIAN NETWORK

Bicycle Facilities

Bicycle facilities in the study area consist of Class I, II, and III bikeways. The bikeway facility classification system is described as follows:

- **Class I bikeways** are facilities with exclusive right-of-way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized. In some areas, pedestrian facilities are separated from the bikeway.
- **Class II bikeways** are bike lanes established along streets and are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel.
- **Class III bikeways** are shared routes for bicyclists on streets with motor traffic not served by dedicated bikeways to provide continuity to the bikeway network.

The existing bikeways in the project vicinity are described as follows:

- California Boulevard has a Class I bike path along the western side from Taft Street to Alex G. Spanos Stadium which connects the campus to the City of San Luis Obispo bicycle network. The remaining portion of the western segment, as well as the entire eastern segment of California Boulevard, has Class II bike lanes.
- Foothill Boulevard has Class II bike lanes on both sides of the road west of California Boulevard. East of California Boulevard to Campus Way there is an eastbound Class II bike lane, and a Class III bikeway in the westbound direction.

- Grand Avenue has Class II bike lanes from the northerly to southerly terminus.
- Highland Drive is designated as a Class III bike route from Patricia Drive to Ferrini Road. East of Ferrini Road, there are Class II bike lanes to the easterly terminus.
- Santa Rosa Street (SR 1) has Class II bike lanes on both sides of the road south of Highland Drive.
- Broad Street, Chorro Street, Slack Street, and Monterey Street are all designated as Class III bike routes in the study area. There are no existing bikeways on Boysen Avenue or Taft Street.

Pedestrian Facilities

Pedestrian facilities within the study area include sidewalks, crosswalks, and pedestrian signals. Existing pedestrian facilities at study intersections within the project study area are summarized below:

- N4 Project Driveway/Santa Rosa Street (SR 1): No marked crosswalks or pedestrian facilities.
- Highland Drive/Santa Rosa Street (SR 1): Traffic signal with crosswalks and pedestrian signal on west and south legs only. No sidewalks north of the intersection on Santa Rosa Street or east of the intersection on the north side of Highland Drive.
- Boysen Avenue/Santa Rosa Street (SR 1): No marked crosswalks.
- Foothill Boulevard/Broad Street: No crosswalk or pedestrian signal on east leg. Intersection of Foothill Boulevard/Chorro Street is located approximately 200′ east of the intersection.
- Foothill Boulevard/Chorro Street: No crosswalk or pedestrian signal on west leg. Intersection of Foothill Boulevard/Broad Street is located approximately 200′ west of the intersection.
- Foothill Boulevard/Santa Rosa Street (SR 1): Crosswalks, pedestrian signals and sidewalks are located on all legs.
- Foothill Boulevard/California Boulevard: No crosswalk or pedestrian signal on north leg. Signal has a bike phase.
- Taft Street/California Boulevard: No marked crosswalks.
- US 101 NB Ramps/California Boulevard: No marked crosswalks.
- Slack Street/Grand Avenue: Marked crosswalks on all legs.
- Loomis Street/US 101 SB On-Ramp/Grand Avenue: Marked crosswalk on US 101 On Ramp.
- US 101 NB Ramps/Abbott Street/Grand Avenue: No crosswalk or pedestrian signal on north leg.
- Monterey Street/Grand Avenue: No marked crosswalks on the north, south, or west legs. However, all legs have pedestrian signals.

Existing pedestrian facilities on study area roadways within the project study area are summarized below:

- Grand Avenue (Slack Street to Monterey Street): Continuous sidewalk on both sides of roadway.
- Slack Street (Longview Lane to Grand Avenue): Continuous sidewalk on south side of roadway, no sidewalk on north side of roadway.
- Foothill Boulevard (Broad Street to Carpenter Street): Continuous sidewalk on both sides of roadway.
- California Boulevard (Foothill Boulevard to US 101): Continuous sidewalk or Class I path on both sides of roadway.

Existing bicycle and pedestrian volumes per day in the vicinity of the Master Plan Area are shown in Table 3.13-1.

Table 3.13-1 Existing Bicycle and Pedestrian Volumes

Roadway	From	To	Average Daily Volume (Existing Conditions) Bicyclists	Average Daily Volume (Existing Conditions) Pedestrians
Grand Avenue	Slack Street	US 101 Northbound	532	639
E Foothill Boulevard	California Boulevard	Santa Rosa Street	1,344	1,806
California Boulevard	Campus	E. Foothill Boulevard	656	603
California Boulevard	E. Foothill Boulevard	Hathway Avenue	562	505
Railroad Safety Trail (along California Boulevard)	Campus	E. Foothill Boulevard	918	499
Railroad Safety Trail (along California Boulevard)	E. Foothill Boulevard	Hathway Avenue	1,517	1,230
Highland Drive	Mount Bishop Road	Santa Rosa Street	831	639

Source: City of San Luis Obispo 2019a

TRAVEL SAFETY

The Master Plan Area is located adjacent to and north of the City of San Luis Obispo, which tracks travel safety and collision information as part of its ongoing Annual Traffic Safety Program. Based on the data collected each year, the City provides recommendations for future safety improvements in areas where collisions involving vehicles, bicyclists, and pedestrians occur. Eighty-five percent of incidents/collisions in the city since 2013 involved solely vehicles, with the remaining involving either a bicycle (10 percent) or a pedestrian (5 percent) (City of San Luis Obispo 2018). The average number of traffic collisions per year has generally been decreasing, from a 5-year average in 2015 of 572 collisions per year to a 5-year average in 2017 of 525 collisions per year (City of San Luis Obispo 2016a, 2018). In addition, the proportion of collisions by travel mode (i.e., vehicle, bicycle, pedestrian) exhibits a decrease in the percentage of bicycle-related collisions (City of San Luis Obispo 2016a, 2018). With respect to pedestrian-related collisions, between 3 and 5 pedestrian-related collisions per year have occurred within a half-mile of campus over the past three years, with one fatal collision in 2016 at the intersection of Foothill and California Boulevards. No locations in the vicinity of campus have experienced more than one collision per year (City of San Luis Obispo 2016a, 2016b, 2018). With respect to bicycle-related collisions, between 12 and 16 bicycle-related collisions per year have occurred within a half-mile of campus over the past three years. None of the bicycle-related collisions resulted in fatality, per City data (City of San Luis Obispo 2016a, 2016b, 2018). However, the City, based on data collected, has identified Foothill Boulevard, generally between California Boulevard and Tassajara Drive as having a high collision rate for all travel modes (City of San Luis Obispo 2018).

3.13.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The estimated regionwide VMT and project-generated VMT was calculated using the SLOCOG regional traffic model. The SLOCOG regional traffic model uses land use alternatives as an input and, using San Luis Obispo region's transportation network, produces analysis outputs such as VMT through trip assignments to meet the demands of those land uses.

The project-generated VMT calculated by the SLOCOG regional traffic model accounts for all vehicle trips, and all trip purposes and types, and is calculated by adding the VMT originating from and traveling to the Master Plan Area. Additionally, the SLOCOG regional traffic model accounts for VMT generated by the following trip types as follows:

- Internal to Internal Trips: The full length of all trips made entirely within the geographic area limits is counted.
- Internal to External Trips: The full length of all trips with an origin within the geographic area and destination outside of the area is counted.

- External to Internal Trips: The full length of all trips with an origin outside of the geographic area and destination within the area is counted.

The SLOCOG regional traffic model considers both intra-zonal VMT and VMT between traffic analysis zones, and adjustments were made to the modeling outputs to more accurately predict campus-related travel. The intra-zonal VMT and VMT between traffic analysis zones, or TAZs, that are both in the study area are double counted. To account for this, the project-generated VMT is divided by the service population (residential population, employment population, and student population), the generators of both trip ends of the VMT. Additional details related to this adjustment to the model are provided in Appendix G.

The methodology for establishing a VMT significance threshold for the project is consistent with and based on the guidance provided by the CSU TISM. As detailed in the CSU TISM, and consistent with the OPR Technical Advisory, a project that does not achieve a VMT reduction of 15 percent below existing regional, sub-regional, or citywide VMT per capita would result in a significant transportation impact.

The SLOCOG regional traffic model was used to quantify existing VMT per service population for the San Luis Obispo County region as a whole. As shown in Table 3.13-2 the existing VMT per service population for San Luis Obispo County is 22.61. For the purposes of this evaluation and by applying the CSU TISM and OPR Technical Advisory recommended methodology, if the project-generated VMT per capita for the campus as a whole with implementation of the 2035 Master Plan exceeds 19.22 (i.e., 22.61*.85=19.22), a significant transportation impact would occur.

In addition, the SLOCOG modelling assumptions results in a more conservative analysis of VMT and potential VMT per capita in comparison to the assumptions used in the City of San Luis Obispo's model. Use of the City's VMT model in this analysis would have considered land use information inherent to the citywide model, which accounts for additional vehicle travel efficiencies associated with increased density within the city. If the City's model was applied to the 2035 Master Plan, it would likely result in a lower estimate of VMT for the campus. For example, the SLOCOG model anticipates that countywide VMT would be approximately 12,700,000 VMT in 2035 versus 12,000,000 VMT that would be anticipated using the City's VMT model (City of San Luis Obispo 2019b). This represents a difference of approximately 6.5%. The increased VMT estimates under the SLOCOG model are partly attributable to the region's strong rural character with urban areas that are linked by north-south transportation corridors (US 101, SR 1, SR 227) (SLOCOG 2019). That is, the campus community's geographic distribution and the nature of campus uses (e.g., high proportion of on-campus housing, relatively high use of alternative transportation) would generate lower VMT per capita as compared to the SLOCOG region as a whole. Nonetheless, because there are students, faculty and staff who reside off-campus and outside the City of San Luis Obispo, use of the SLOCOG model was considered the most conservative and therefore appropriate model.

Table 3.13-2 Existing VMT

	Existing Conditions
Campus	
Vehicle Miles Traveled (A)[1]	957,900
Service Population (B)[1,2]	32,840
VMT per Service Population (A/B = C)	29.17
San Luis Obispo County	
Vehicle Miles Traveled (D) [1]	9,906,300
Service Population (E)[1,2]	438,100
VMT per Service Population (D/E = F)	22.61

Notes:

1 Rounded service population and VMT to nearest 10.

2 Service population is defined as the sum of all employees, residents and students.

Source: Data compiled and provided by Fehr & Peers 2019.

Cal Poly 2035 Master Plan

The following "Guiding Principles" were developed early on in the process by the 2035 Master Plan professional team with input from campus leadership, including the college deans, and considering continuity with the 2001 Master Plan. Guiding Principles can be thought of both as starting points for the plan process and as overarching directives relevant to all or most Master Plan topics. The following principles are relevant to air quality:

- **Guiding Principle (GP) 13:** Access to an around campus should be safe, efficient and effective for all modes, while shifting to an active transportation system that gives priority to walking, bicycles, emerging mobility technologies, and transit over cars.
- **GP 16:** Cal Poly should consider potential impacts – including but not limited to traffic, parking, noise, and glare – on surrounding areas, especially nearby single-family residential neighborhoods, in its land use planning, building and site design, and operations.
- **Academic Mission and Learn by Doing (AM) 03:** Instructional facilities (apart from outdoor teaching and learning areas) should be located within a 10-minute walk in the campus Academic Core.
- **Design Character (DC) 05:** The design of campus facilities should maintain and incorporate a pedestrian sense of scale.
- **DC 06:** The Academic Core should be primarily pedestrian oriented with simple, cohesive and straightforward pedestrian circulation and appropriate amenities, scale, and design at the ground level.
- **DC 08:** Services with frequent off-campus interaction should be located close to off-campus circulation routes and parking facilities.
- **DC 11:** Campus design and wayfinding should reflect an enhanced connection to, and interaction with, the surrounding City of San Luis Obispo.
- **Implementation Program (IP) 04:** Cal Poly should consider potential impacts – including but not limited to traffic, parking, noise, and glare – on surrounding areas, especially nearby single-family residential neighborhoods, in its land use planning, building and site design, and operations.
- **IP 11:** Educational programs that promote safety in all modes should be improved and better directed to target audiences.
- **IP 12:** Cal Poly should incorporate pedestrian, bicycle and transit plans into a comprehensive and updated multi-modal active transportation plan designed consistent with leading standards.
- **IP 13:** Cal Poly should be a national leader in multi-modal transportation best practices, related research and technology transfer, and should develop a multidisciplinary center or institute focused on transportation issues including planning, research and modeling actual practices.
- **IP 14:** As a regional leader in fostering active transportation, Cal Poly should partner with local, regional and national public and private organizations (including but not limited to the City, County, Caltrans, SLOCOG, RTA, Amtrak, and Union Pacific Railroad) to make San Luis Obispo a model for modal shift from single occupancy autos to a complete active transportation system.
- **IP 15:** Cal Poly should strengthen policies that discourage people from bringing cars to campus, especially for first- and second-year students living on-campus, and other students who reside on or near campus, and should concurrently provide the services, infrastructure and incentives for using active transportation options so that most students will not want a car.
- **IP 16:** Education, incentives and the use of emerging technologies such as dynamic matching should all be supported and utilized to improve ridesharing and the choice of active transportation modes.
- **IP 17:** Educational and information campaigns related to modal shift should be compelling, consistent, effective and across multiple media.

- **IP 18:** Measurable objectives should be established to track progress toward shifting modes to an active transportation system including social science metrics related to attitudinal as well as behavior shifts.
- **IP 19:** For the desired modal shift to be expeditiously implemented, more robust and sustainable funding sources must be identified.
- **IP 20:** Cal Poly should partner with the City to help develop off-campus bicycle improvements as prescribed in the City's bike plan and that improve connections between the campus and community.
- **IP 21:** Convenient bicycle routes throughout the campus, as well as bike parking located as near as practical to campus origins and destinations, should be provided to encourage bicycle use.
- **IP 22:** On-campus housing should be designed to accommodate bicycle parking that is indoors or otherwise protected from the elements.
- **IP 23:** Cal Poly should continue to work with the City and RTA to make public transportation more convenient than automobile use through such improvements as shorter headways, increased evening and weekend services, and greater convenience for on-campus residents.
- **IP 24:** Cal Poly should work toward restoring, expanding and publicizing extra-regional bus service.
- **IP 25:** Parking should be efficiently managed to reduce the need for parking spaces through real time information regarding space location and availability, variable time pricing, and other best practices.
- **IP 26:** A system should be established whereby sponsored guests can obtain parking passes without crossing the campus to a single staffed kiosk.
- **IP 27:** Any future or renovated parking facility should meet the certification standards of the Green Parking Council or similar organization.
- **IP 28:** Where activities are located beyond walking distance from the Academic Core, alternative transportation options should be provided.
- **IP 29:** If intra-campus shuttles or similar future services are provided, they should be low or zero emission (such as electric, CNG or gas hybrid).
- **Transportation and Circulation (TC) 11:** On-campus residential neighborhoods should be designed with convenient access to the core of campus, including safe and convenient pedestrian and bicycle paths. Consideration should be given to a shuttle service or other intra-campus alternatives when residential developments are beyond convenient walking distance.
- **TC 12:** Campus wayfinding should clearly identify places, routes, and destinations; and enable people to orient themselves to find their destination.
- **TC 13:** Parking should be provided in appropriate amounts and locations depending on the purpose.
- **TC 14:** Major parking facilities should be located to "intercept" cars outside the Academic Core. Drivers should be able to conveniently transition to other active modes or intra-campus shuttles or other options.
- **TC 15:** Parking facilities should be sited and designed to reduce visual obtrusiveness while maintaining safety.

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines, the CSU TISM, and the OPR Technical Advisory. The 2035 Master Plan could have a significant effect related to transportation if it would:

- conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, or bicycle and pedestrian facilities;
- conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);

- substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- result in inadequate emergency access.

With respect to the issue of CEQA Guidelines Section 15064.3, Cal Poly, as part of the CSU system, would consider a VMT impact to be significant if the project would:

- result in project-generated VMT per service population for the campus as a whole that exceeds 19.22 (i.e., 15 percent below countywide VMT per service population [22.61]) under Existing plus Project conditions.

ISSUES NOT DISCUSSED FURTHER

Level of Service

In accordance with the December 28, 2018 amendments to the State CEQA Guidelines, VMT is the most appropriate measure of transportation impacts, supplanting vehicular LOS (i.e., delay). Therefore, the evaluation of LOS is not discussed further.

Roadway Hazards Due to Design Features or Incompatible Uses

The 2035 Master Plan does not include new major/primary entrances or modifications to existing campus entrances from the City of San Luis Obispo, however, some modification of existing roadways, including bicycle, pedestrian, and transit improvements, may be necessary as the 2035 Master Plan is implemented. Roadway improvements or modifications of facilities, which may require temporary road closures, associated with the 2035 Master Plan would be constructed in accordance with all applicable design and safety standards so as to allow for the safe and efficient movement of various modes of travel to, from, and through the campus. Additionally, the vehicles types associated with operation of the land uses proposed in the 2035 Master Plan are consistent with those currently utilizing the circulation network within the Master Plan area. Therefore, the project would not increase hazards because of a design feature or incompatible uses. This issue is not discussed further.

Emergency Access

The 2035 Master Plan would require that site design be compliant with all applicable emergency access requirements, including Uniform Fire Code requirements; thus, emergency access for future projects under the 2035 Master Plan would be subject to review by all appropriate responsible emergency service agencies. Additionally, all CSU projects are required to follow the State University Administrative Manual which requires the State Fire Marshal to review all projects prior to implementation. Therefore, future projects under 2035 Master Plan would be designed to meet applicable emergency access and design standards, and adequate emergency access would be provided. This issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: Result in Vehicle Miles Traveled That Exceed Regional Vehicle Miles Traveled Targets

With implementation of the 2035 Master Plan, Cal Poly, as a whole, would exceed the countywide VMT per service population target of 19.22 (15 percent below existing regional VMT per service population). Although implementation of the 2035 Master Plan would reduce VMT per capita compared to existing conditions due to the location of all new and a greater proportion of total student enrollment in on-campus housing, this impact would be **significant**.

VMT generated by Cal Poly, as a whole, with implementation of the 2035 Master Plan was conservatively modeled using the SLOCOG regional traffic model. The results of this modeling and conversion of total VMT to VMT per capita are shown in Table 3.12-3. Based on the modeling conducted, overall VMT would increase due to the increase in campus population that would in total generate 7,495 new daily vehicle trips. Importantly, however, VMT per service population – which is the governing threshold of significance – for the entire campus would decrease substantially. As shown in the Table 3.12-3, implementation of the 2035 Master Plan would result in 24.26 VMT per service population for the entire campus, representing a reduction of 16.8 percent from an existing level of 29.17 VMT per service population. This reduction reflects the benefits (i.e., reductions in daily trips and VMT per service population compared to existing conditions) of providing on-campus student, staff, and faculty housing and neighborhood residential uses, which would serve to reduce the number and length of vehicular trips to and from campus. Moreover, the per-capita VMT associated solely with implementation of the 2035 Master Plan (i.e., net new VMT per net new service population) would be 10.95, demonstrating the effectiveness of on-campus housing and management strategies to reduce the number and length of vehicle trips.

Table 3.13-3 Existing plus Project VMT

	Existing Conditions	Existing plus Project Conditions
Campus		
Vehicle Miles Traveled (A)[1]	957,900	1,090,800
Service Population (B)[1,2]	32,840	44,970
VMT per Service Population (A/B = C)	29.17	24.26
VMT per New Service Population[3]		10.95
San Luis Obispo County		
Vehicle Miles Traveled (D) [1]	9,906,300	
Service Population (E)[1,2]	438,100	
VMT per Service Population (D/E = F)	22.61	

Notes:

1 Rounded service population and VMT to nearest 10.

2 Service Population is defined as the sum of all employees, residents and students.

3 New Service Population is defined as the net increase in faculty/staff, residents, and students that are anticipated under the 2035 Master Plan)

Source: Data compiled and provided by Fehr & Peers 2019.

However, using the 22.61 VMT per service population for San Luis Obispo County under the SLOCOG model, the VMT per service population of Cal Poly with implementation of the 2035 Master Plan at 24.26 VMT per service population would still exceed the significance threshold of 15 percent below the regional VMT, or 19.22 VMT per service population. As a result, this impact would be **significant**.

Mitigation Measures

Mitigation 3.13-1: Develop and Implement a Transportation Demand Management Plan

Using the CSU TDM Manual (Nelson Nygaard 2012) as a guide, Cal Poly shall develop and implement a TDM plan to reduce daily trips and VMT generated by campus employees, residents, and students by a minimum of 5.04 VMT per service population. TDM measures best suited for college towns generally include measures intended to reduce driving on campus such as subsidized transit passes, improved transit and shuttles, parking management, encouraging bicycle and pedestrian travel, and locating student housing on-campus. TDM policies that could reduce vehicle trip generation and VMT include, but are not limited to, the following:

- Expand and/or maximize the efficiency of the local and regional public transit service. This includes coordination and fair-share contributions towards additional SLO Transit and SLORTA transit routes, as well as potential expansion of facilities (e.g., the Government Center transfer point).
- Support active transportation projects on and near campus through infrastructure improvements to enhance safety and efficiency of these travel modes. This would include additional on-campus shuttle service or separated facilities for active transportation, including bike and transit. In addition, campus would expand information programs to educate students about transportation options.

- Implement carpool and/or vanpool incentive programs. This could include expanded programs/incentives for both faculty/staff and students, including trip credits, the emergency ride home program, and rideshare.
- Offer remote working options for employees. This could include offering online courses/lectures for students where faculty/staff could work and students would participate remotely.

As part of the TDM plan, Cal Poly shall develop and implement a parking management plan. The parking management plan shall implement policies that focus on reducing academic and residential parking demand. Parking management strategies that would reduce vehicle trip generation and VMT include, but are not limited to the following:

- Restrict parking spaces by student class – Reduce the availability of or eliminate on-campus parking for freshman and/or sophomores.
- Adjust the cost of parking permits – Increase the cost of on-campus resident parking permits, implement tiered parking pricing based on the distance to campus or time of day, and/or employ a tiered pricing from limited days (1-day, 2-day, etc.).
- Designate parking locations – Establish designated parking locations by academic program to manage the academic parking demand.
- Establish pick-up/drop-off parking district(s) – To account for emerging forms of transportation, such as transportation network companies (e.g., Uber and Lyft) and the associated VMT generated, develop a parking district or districts that charge for pick-up and drop-off on campus.

As part of the parking management plan, to better understand the commute patterns of students, residents, and employees Cal Poly shall study the distribution of VMT by commute-shed (e.g., intra-county trips, inter-county trips, on-campus trips) to help develop appropriate TDM and parking management policy responses.

On a biannual (every two years) basis, Cal Poly shall monitor and evaluate the efficacy of the TDM Plan and its strategies. If necessary and in order to achieve the target VMT reduction, Cal Poly shall increase the level of implementation and/or scope of TDM measures in order to ensure the 5.04 or greater VMT standard is met.

Significance after Mitigation

The proposed development under the 2035 Master Plan, which would locate housing (student, faculty, and staff), closer to on-campus destinations, represents precisely the type of synergistic development envisioned by SB 743 to reduce VMT. As demonstrated above, the VMT associated with the existing campus baseline would be reduced from 29.17 to 24.26 VMT per service population, a reduction of 16.8 percent VMT per service population. In addition, net growth under the 2035 Master Plan would be 10.95 VMT per new service population, representing a 43 percent reduction in VMT as compared to the target of 19.22 VMT per service population. Implementation of Mitigation Measure 3.13-1 would reduce campuswide VMT by a minimum of 5.04 VMT per service population by further decreasing the demand for vehicular travel, incentivizing active transportation modes, and modifying commute patterns. Further, the proposed development under the 2035 Master Plan, which would locate housing (student, faculty, and staff), closer to on-campus destinations, represents the type of development envisioned by SB 743 to reduce VMT. Because implementation of this measure would further reduce campuswide VMT by an additional 5.04 VMT and achieve a 15% reduction in VMT (or 19.22 VMT per service population) using the conservative County/SLOCOG baseline standard, and because the type and level of development proposed under the 2035 Master Plan would inherently reduce VMT, this impact would be reduced to a **less-than-significant** level.

Impact 3.13-2: Conflict with a Program, Plan, Ordinance, or Policy Addressing Circulation and Transit

Implementation of the 2035 Master Plan would increase demand for transit, which may require investments in additional transit service and/or facilities to maintain the level and quality of service necessary to retain and expand ridership. Failure to maintain quality service could lead to losses of ridership and increases in travel by other modes (e.g., automobiles) that could result in environmental effects such as increased emissions. This impact would be **significant**.

Growth of Cal Poly's student population, faculty, and staff under the 2035 Master Plan would increase demand for transit serving the campus. The 2035 Master Plan includes a multi-modal transit center in the vicinity of the proposed Creekside Village near the terminus of Highland Drive at University Road. The transit center would be the hub for multimodal transit for Cal Poly, and SLO Transit would provide service at the transit center. Additionally, as detailed in Chapter 2, "Project Description," the 2035 Master Plan includes a new transit stop near the southeast corner of campus at the Performing Arts Center to serve the proposed residential neighborhood and student housing and a new transit stop near the southwest corner of campus. The strategic location of the new transit stops at the edge of the campus would eliminate the need for buses to regularly enter the Academic Core subarea; thus, minimizing potential vehicular and bicycle/pedestrian conflicts. Any changes to the current transit routes, as well as the precise locations and designs of the transit center and future stops, would be determined in consultation and coordination with the SLO Transit and SLORTA.

The 2035 Master Plan would not interfere with the implementation of planned transit service or facilities identified in the City of San Luis Obispo General Plan, the SLO Transit SRTP, or the SLORTA SRTP. Both the SLO Transit and SLORTA SRTPs propose to implement transit service changes that will result in the expansion of service times and frequency along routes that access campus. The 2035 Master Plan would also not interfere with planned regional transit projects identified in the SLOCOG 2019 RTP as it would not reduce the availability to provide transit service in the area. The 2035 Master Plan emphasizes the need to coordinate with local and regional transportation agencies to support the implementation of TDM strategies, including expanded transit options for students, faculty and staff.

Multiple study segments operate with a high passenger load factor, relatively infrequent service, or the lack of bus stops along a segment (Fernandez, pers. comm., 2019). Field observations and discussions with transit agency staff indicate regular leave-behinds at bus stops near campus, where the buses are at capacity and cannot load all riders (Fernandez, pers. comm., 2019).

As detailed above, the SLO Transit and SLORTA short range transit plans identify planned expansion of transit service and/or facilities to accommodate current demand. However, it is not certain that planned or future expansion will adequately accommodate the additional ridership demand resulting from the implementation of the 2035 Master Plan. Thus, transit services could potentially operate below acceptable service level, quality, and/or performance targets with implementation of the 2035 Master Plan, which would be deleterious to the transit customer experience (e.g., chronic overcrowding issues) and potentially deter existing and prospective riders from utilizing transit. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.13-2: Monitor Transit Service Performance and Support Transit Improvements

Currently, SLO Transit regularly monitors transit service performance and adjusts service levels, as feasible, according to established service standards. Cal Poly shall work with SLO Transit staff to identify and support implementation of transit service and/or facility improvements (e.g., through fair share contribution[s] based on University-related ridership) necessary to adhere to applicable, established service standards (e.g., fewer than 125 percent of seated capacity) identified in the SLO Transit Short Range Transit Plan (SRTP) and, in turn, maintain a high-quality customer experience so as not to deter existing and potential ridership. Potential transit improvements could include modifying existing transit routes or adding new routes to serve areas of the campus underserved by transit, adding service capacity (through increased headways and/or larger vehicles) to prevent chronic overcrowding, improving terminal facilities to accommodate additional passengers and transit vehicles, and improving coordination between transit providers. In the event that SLO Transit updates its SRTP during implementation of the 2035 Master Plan, transit improvements shall result in service performance that meets the performance targets established in the latest SLO Transit SRTP.

Transit facility and roadway improvements shall be designed and constructed in accordance with industry best practices and applicable standards. Improvements shall be implemented or constructed in a manner that would not physically disrupt existing transit service or facilities (e.g., additional bus service that exceeds available bus stop or transit terminal capacity) or otherwise adversely affect transit operations.

Significance after Mitigation

Implementation of Mitigation Measure 3.13-2 would reduce potential significant impacts associated with transit service and facilities to a **less-than-significant** level by ensuring that transit service is sufficient to accommodate demand consistent with established SLO transit service standards, minimizing potential adverse effects on transit operations, and minimizing conflicts between transit and other travel modes.

Impact 3.13-3: Conflict with a Program, Plan, Ordinance, or Policy Addressing Bicycle Facilities

Implementation of the 2035 Master Plan would not interfere with implementation of planned bicycle facilities in the City and County of San Luis Obispo. It would increase bicycle travel on campus, which could generate bicycle volumes that physically disrupt the use of existing facilities. Implementation of the 2035 Master Plan would increase automobile, transit, bicycle, and pedestrian trips to, from, and within campus, which would increase the competition for physical space between the modes; thus, increasing the risk of collisions. This impact would be **significant**.

The 2035 Master Plan would not interfere with the implementation of planned bicycle facilities identified in the City of San Luis Obispo General Plan or the City of San Luis Obispo Bicycle Transportation Plan. It would also not interfere with planned regional bicycle projects identified in the SLOCOG 2019 RTP. Implementation of the 2035 Master Plan would allow for the addition of 669 new regular employees and 3,188 new students, and this increase would correspond to an increase in new bicyclists on campus. Based on existing daily bicycle volumes shown above in Table 3.13-1 and the projected increase in campus population under the 2035 Master Plan, average daily bicycle trips are anticipated to increase by 930 as a result of implementation of the 2035 Master Plan. New bicycle activity is expected to be concentrated near focal points for students and staff activities, including new on-campus housing developments, the Academic Core subarea, and on bicycle facilities connecting campus activity generators. New bicycle activity would also create additional demand for bicycle parking near activity generators.

Additional on-campus bicycle activity generated by growth identified in the 2035 Master Plan or from specific projects, together with increased automobile, transit, and pedestrian trips, could contribute to crowding of existing bicycle facilities and in shared right-of-way environments, particularly during peak travel periods such as the morning commute into the Academic Core subarea or passing periods between classes. Crowding would result in the competition for physical space between the modes, which in turn would increase the potential for collisions, including those involving bicyclists. Crowding would be exacerbated by increased differences in speed differentials on shared-use facilities, including those caused by increased use of eBikes, eScooters, eSkateboards, and other electronic personal mobility devices that are becoming more prevalent.

Bicycle facilities with high volumes or those with real or perceived safety issues could alter travel patterns and potentially deter existing and prospective bicyclists from biking to and from on-campus destinations, effectively limiting or reducing the overall number of campus-related bicycle trips. Additional bicycle demand on heavily trafficked segments generated by the buildout of the 2035 Master Plan could create crowding along existing bike lanes that could discourage bicycling in favor of other less crowded modes.

The 2035 Master Plan includes an enhanced pedestrian and bicycle circulation system with new and improved pedestrian and bicycle paths throughout the campus, new roadways with bicycle facilities, and additional bicycle parking located near major activity centers. Further, the planned system would increase safety by creating a pedestrian-only Academic Core subarea and eliminating conflicts between pedestrians, bicycles, and cars. However, implementation of the 2035 Master Plan would increase bicycle trips to, from, and within campus, which could lead to overcrowding of bicycle facilities and the increase in competition for physical space between modes; thus, increasing the risk of collisions. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.13-3: Monitor Bicycle-Related Collisions to Implement Countermeasures Minimizing Potential Conflicts with Bicycle Facilities

Following adoption of the 2035 Master Plan and every two years thereafter during implementation of the 2035 Master Plan, Cal Poly shall record on-campus bicycle volumes and collisions involving bicyclists and establish a bicycle collision rate. The rate should be sensitive to context (e.g., Academic Core subarea versus new student housing along the edge of current campus development) and facility type (e.g., intersection versus segment). Cal Poly shall determine the on-campus bicycle collision rate as part of its biennial mitigation monitoring program. In instances where the rate increases from the prior observation period, Cal Poly shall develop and implement countermeasures designed to reduce the rate and primary collision factors. Cal Poly shall also identify and develop countermeasures for locations where the change in the mix of travel patterns and behavior is determined to be incompatible with the facility as designed. Potential countermeasures include the following:

- Construct physically separated facilities for each mode in shared operating environments (particularly high- versus low-speed travel modes).
- Restrict select modes in certain areas where one mode is prioritized over another to minimize collision potential.
- Increase the number of bicycle parking facilities and distribute them to minimize crowding on connecting bicycle facilities.
- Enforce ‘rules of the road’ per the California Vehicle Code and applicable University policies.
- Educate existing and prospective bicyclists to give people the skills and abilities to ride.
- Control class schedules and passing periods to minimize effects of peak bicycle traffic.
- Expand core area restrictions on service vehicles.

Anticipated increases in bicycle activity would be concentrated near focal points for students and staff activities, including new on-campus housing developments, existing and new academic and recreational facilities (e.g., classrooms, lecture halls, athletic fields) in the Academic Core subarea, and along bicycle facilities connecting activity generators. Bicycle facility and roadway improvements that intend to minimize conflicts between bicyclists and other travel modes shall be designed and constructed in accordance with applicable CSU and California standards. In addition, Cal Poly shall coordinate with the City regarding the connection points and sizing of on-campus facilities at their intersection points with City facilities to ensure the safe transition of bicyclists between City and campus facilities and vice versa.

Cal Poly could prepare a Multimodal Transportation Management Plan that identifies the expected locations and types of bicycle improvements that may be necessary to accommodate growth resulting from the 2035 Master Plan. Potential modifications to the existing transportation network for active transportation modes should be based on, but not limited to, the following objectives:

- desired level of traffic stress or user experience, and
- the need for physical separation between the modes (to address either volume or speed differentials).

The plan should include an implementation program that identifies the prioritization and sequencing of improvements as they relate to specific on-campus facilities (e.g., new student residences). The plan should be flexible to respond to changing conditions during implementation of the 2035 Master Plan and should contain optional strategies and improvements that can be applied to specific problems that arise as the 2035 Master Plan’s implementation proceeds.

Significance after Mitigation

Implementation of Mitigation Measure 3.13-3 would reduce potential significant impacts associated with bicycle facilities to a **less-than-significant** level by supporting bicycling on campus and either adjusting the volume, capacity and design of existing and new facilities, so as to minimize the potential for conflicts between bicycles and other travel modes.

Impact 3.13-4: Conflict with a Program, Plan, Ordinance, or Policy Addressing Pedestrian Facilities

Implementation of the 2035 Master Plan would increase pedestrian travel on and off campus, which could generate pedestrian volumes that physically disrupt the use of existing facilities. Implementation of the 2035 Master Plan would increase automobile, transit, bicycle, and pedestrian trips to, from, and within campus, which would increase the competition for physical space between the modes, which increases the risk of collisions. This impact would be **significant**.

The 2035 Master Plan would not interfere with the implementation of planned pedestrian facilities identified in the City of San Luis Obispo General Plan or planned regional pedestrian projects identified in the SLOCOG 2019 RTP. Student, employee, and on-campus housing growth resulting from the implementation of the 2035 Master Plan would increase pedestrian activity on campus. Implementation of the 2035 Master Plan would allow for the addition of 669 new regular employees and 3,188 new students, each of whom would generate a variety of pedestrian trips within the campus during a typical day of the academic year. Based on existing daily pedestrian volumes shown above in Table 3.13-1 and the projected increase in campus population under the 2035 Master Plan, average daily pedestrian trips are anticipated to increase by 847 as a result of implementation of the 2035 Master Plan. New pedestrian activity is expected to be concentrated near focal points for students and staff activities, including new on-campus housing developments, the Academic Core subarea, and on pedestrian facilities connecting campus activity generators.

Additional on-campus pedestrian activity generated by the 2035 Master Plan, together with increased automobile, transit, and bicycle trips, could result in crowding on existing pedestrian facilities and in shared right-of-way environments, particularly during peak travel periods. Crowding would result in the competition for physical space between the modes, which in turn would increase the potential for collisions, including those involving pedestrians. The Academic Core subarea would experience increased opportunities for bicycle-pedestrian conflicts with the addition of 2035 Master Plan trips. Crowding would be exacerbated by increased differences in speed differentials on shared-use facilities, including those caused by increased use of eBikes, eScooters, eSkateboards, and other electronic personal mobility devices. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.13-4: Monitor Pedestrian-Related Collisions to Implement Countermeasures Minimizing Potential Conflicts with Pedestrian Facilities

Following adoption of the 2035 Master Plan and every two years thereafter during implementation of the 2035 Master Plan, Cal Poly shall record on-campus pedestrian volumes and collisions involving pedestrians and establish a pedestrian collision rate. The rate should be sensitive to context (e.g., Academic Core subarea versus new student housing along the edge of current campus development) and facility type (e.g., intersection versus segment). Cal Poly shall determine the on-campus pedestrian collision rate as part of its biennial mitigation monitoring program. In instances where the rate increases from the prior observation period, Cal Poly shall develop and implement countermeasures designed to reduce the rate and primary collision factors. Cal Poly shall also identify and develop countermeasures for locations where the change in the mix of travel patterns and behavior is determined to be incompatible with the facility as designed. Potential countermeasures include the following:

- Construct physically separated facilities for each mode in shared operating environments (particularly high- versus low-speed travel modes).
- Restrict select modes in certain areas where one mode is prioritized over another to minimize collision potential.
- Improve and/or expand existing pedestrian facilities.

Anticipated increases in pedestrian activity would be concentrated near focal points for students and staff activities, including new on-campus housing developments, existing and new academic and recreational facilities (e.g., classrooms, lecture halls, athletic fields) in the Academic Core subarea, and along pedestrian facilities connecting activity generators. Bicycle facility and roadway improvements that intend to minimize conflicts between pedestrians and other travel modes shall be designed and constructed in accordance with applicable CSU and California standards. In addition, Cal Poly shall coordinate with the City regarding the connection points and sizing of on-campus facilities at their intersection points with City facilities to ensure the safe transition of pedestrians between City and campus facilities and vice versa.

Cal Poly could prepare a Multimodal Transportation Management Plan that identifies the expected locations and types of pedestrian improvements that may be necessary to accommodate growth resulting from the 2035 Master Plan. Potential modifications to the existing transportation network for active transportation modes should be based on, but not limited to, the following objectives:

- desired pedestrian level of service or user experience, and
- the need for physical separation between the modes (to address either volume or speed differentials).

The plan should include an implementation program that identifies the prioritization and sequencing of improvements as they relate to specific on-campus facilities (e.g., new student residences). The plan should be flexible to respond to changing conditions during implementation of the 2035 Master Plan and should contain optional strategies and improvements that can be applied to specific problems that arise as Master Plan's implementation proceeds.

Significance after Mitigation

Implementation of Mitigation Measure 3.13-4 would reduce potential significant impacts associated with pedestrian facilities to a **less-than-significant** level by supporting walking on campus through new/expanded facilities and minimizing the potential for conflicts between pedestrians and other travel modes via barriers and other separation devices (e.g., landscaping).

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3.14 UTILITIES AND SERVICE SYSTEMS

This section evaluates the adequacy of existing and planned utilities to accommodate the demands and generation associated with implementation of the 2035 Master Plan. Specifically, this section addresses:

- water supply, distribution, and treatment;
- wastewater treatment and disposal;
- solid waste disposal; and
- energy facilities.

Refer to Section 3.6, "Energy," for an analysis of energy efficiency related to implementation of the project pursuant to State CEQA Guidelines, Appendix F requirements. Impacts related to storm water management, groundwater aquifers, and water quality are addressed in Section 3.9, "Hydrology and Water Quality."

Comments related to utilities and service systems that were received in response to the Notice of Preparation (NOP) included concerns regarding water supply and necessary coordination with the City regarding Whale Rock Reservoir, as well as requests for more details regarding the proposed campus water reclamation facility (WRF).

3.14.1 Regulatory Setting

FEDERAL

Clean Water Act

The Clean Water Act (CWA) employs a variety of regulatory and nonregulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The U.S. Environmental Protection Agency (EPA) established primary drinking water standards in Section 304 of the CWA. States are required to ensure that the public's potable water meets these standards.

Section 402 of the CWA creates the National Pollutant Discharge Elimination System (NPDES) regulatory program. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover various industrial and municipal discharges, including discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than 1 acre, and mining operations. All so-called "indirect" dischargers are not required to obtain NPDES permits. "Indirect" dischargers send wastewater into a public sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering a surface water.

Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary maximum contaminant levels (MCLs). MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs. EPA has delegated responsibility for California's drinking water program to the State Water Resources Control Board (SWRCB) Division of Drinking Water. SWRCB Division of Drinking Water is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

STATE

California Code of Regulations, Energy Efficiency Standards

Energy consumption in new buildings in California is regulated by State Building Energy Efficiency Standards (CALGreen) contained in the CCR, Title 24, Part 2, Chapter 2-53. Title 24 applies to all new construction of both residential and nonresidential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. The 2016 Building Energy Efficiency Standards have improved efficiency requirements from previous codes and the updated standards are expected to result in a statewide consumption reduction.

California Fire Code

The 2016 California Fire Code, which is codified at Part 9 of Title 24 of the CCR, incorporates by adoption the 2015 International Fire Code and contains regulations related to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety. The California Building Standards Code, including the California Fire Code, is revised and published every 3 years by the California Building Standards Commission.

California Water Code, Water Supply

According to California Water Code (CWC) Section 10910 (referenced in State CEQA Guidelines Section 15155), local lead agencies (such as Cal Poly), are required to identify the public water system(s) that would serve a project and assess whether the water supply is sufficient to provide for projected water demand associated with a project when existing and future uses are also considered (CWC Section 10910[c][3]). The definition of a water-demand project is the same as State CEQA Guidelines Section 15155.

California Water Code, Water Supply Wells and Groundwater Management

The CWC is enforced by the California Department of Water Resources (DWR). DWR's mission is "to manage the water resources of California in cooperation with other agencies, to benefit the state's people, and to protect, restore, and enhance the natural and human environments." DWR is responsible for promoting California's general welfare by ensuring beneficial water use and development statewide. The laws regarding groundwater wells are described in CWC Division 1, Article 2 and Articles 4.300 to 4.311; and Division 7, Articles 1-4. Further guidance is provided by bulletins published by DWR, such as Bulletins 74-81 and 74-90 related to groundwater well construction and abandonment standards.

Groundwater Management is outlined in the CWC, Division 6, Part 2.75, Chapters 1-5, Sections 10750 through 10755.4. The Groundwater Management Act was first introduced in 1992 as Assembly Bill (AB) 3030 and has since been modified by Senate Bill (SB) 1938 in 2002, AB 359 in 2011, and AB 1739 in 2014. The intent of the Groundwater Management Act is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing a Groundwater Management Plan. More information related to groundwater is provided in Section 3.9, "Hydrology and Water Quality."

Water Conservation Act of 2009

Requirements regarding per capita water use targets are defined in the Water Conservation Act of 2009 that was signed into law in November 2009 as part of a comprehensive water legislation package. Known as SB X7-7, the legislation sets a goal of achieving a 20-percent reduction in urban per capita water use statewide by 2020. SB X7-7 requires that retail water suppliers define in their 2010 urban water management plans the gallons-per-capita-per-day targets for 2020, with an interim 2015 target.

California's Integrated Waste Management Act of 1989

The California Integrated Waste Management Act (CIWMA) of 1989 created the California Integrated Waste Management Board, now known as the California Department of Resources Recycling and Recovery (CalRecycle). CalRecycle is the agency designated to oversee, manage, and track California's 92 million tons of waste generated each year. CalRecycle provides grants and loans to help cities, counties, businesses, and organizations meet the state's waste reduction, reuse, and recycling goals. CalRecycle promotes a sustainable environment in which these resources are not wasted but can be reused or recycled. In addition to many programs and incentives, CalRecycle promotes the use of new technologies to divert resources away from landfills. CalRecycle is responsible for ensuring that waste management programs are carried out primarily through local enforcement agencies.

The CIWMA is the result of two pieces of legislation: AB 939 and SB 1322. The CIWMA was intended to minimize the amount of solid waste that must be disposed of through transformation and land disposal by requiring all cities and counties to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000.

The 50 percent diversion requirement is measured in terms of per capita disposal expressed as pounds per day per resident and per employee. The per capita disposal and goal measurement system uses an actual disposal measurement based on population and disposal rates reported by disposal facilities, and it evaluates program implementation efforts.

Mandatory Recycling Requirements

AB 341 requires CalRecycle to issue a report to the legislature that includes strategies and recommendations that would enable the state to recycle 75 percent of the solid waste generated in the state by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by July 1, 2012, and also streamlines various regulatory processes.

Mandatory Commercial Organics Recycling Requirements

In October 2014, AB 1826 Chesbro (Chapter 727, Statutes of 2014) was signed into law, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings of five or more units (multifamily dwellings are not required to have a food waste diversion program, however). Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Short-Lived Climate Pollutant Reduction Strategy

In September 2016, SB 1383 (Lara, Chapter 395, Statutes of 2016) was signed into law, establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants in various sectors of California's economy. Actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

As it pertains to solid waste, SB 1383 establishes targets to achieve a 50-percent reduction in the volume of statewide disposal of organic waste from 2014 levels by 2020 and a 75-percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. To meet these goals, universities would be required to divert organic waste, including edible food, from disposal at landfills. Rulemaking activities associated with SB 1383 are currently in process.

Cal Poly Utility Master Plan

The Cal Poly Utility Master Plan assesses campus-wide water, wastewater, electricity, and gas infrastructure needs. The Utility Master Plan is currently undergoing updates to incorporate projected population growth and proposed development in accordance with the 2035 Master Plan with an expected completion date in early 2020. The Utility Master Plan will serve as a more refined analysis and detailed planning document of the projected campus utility needs based on the 2035 Master Plan. Importantly, this EIR generally takes into consideration and evaluate the potential impacts associated with the provision of new infrastructure contemplated in the Utility Master Plan. For example, the WRF, which is part of the Utility Master Plan, is included as a near-term project of the 2035 Master Plan. In addition, the impact analysis contained herein, as stated in Chapter 2, "Project Description," assumes that up to 1 linear mile of new/replacement utility lines would be constructed each year as part of 2035 Master Plan implementation.

California State University Sustainability Policy

The CSU energy policy, in place since 1978, has been revised over time to incorporate updated energy conservation, on-site and renewable power generation goals, and to elaborate on sustainable building design practices that support these efforts.

The CSU Board of Trustee's (Board's) longstanding policies in energy efficiency and utility management have reduced utility costs and provided campuses with greater control of energy intensive systems. In 2004, the Board adopted sustainable building and design practices to promote efficient buildings with a reduced environmental impact, while serving the campus.

Policies applicable to the 2035 Master Plan are listed below.

Energy Conservation and Utility Management

1. All CSU buildings and facilities, regardless of the source of funding for their operation, will be operated in the most energy efficient manner without endangering public health and safety and without diminishing the quality of education and the academic program.
2. All CSU campuses will continue to identify energy efficiency improvement measures to the greatest extent possible, undertake steps to seek funding for their implementation and, upon securing available funds, expeditiously implement the measures.
3. The CSU will cooperate with federal, state, and local governments and other appropriate organizations in accomplishing energy conservation and utilities management objectives throughout the state; and inform students, faculty, staff and the general public of the need for and methods of energy conservation and utilities management.
4. The CSU will monitor monthly energy and utility usage on all campuses and the Chancellor's Office, and will prepare a systemwide annual report on energy utilization and greenhouse gas emissions. The Chancellor's Office will maintain a systemwide energy database in which monthly campus data will be compiled to produce systemwide energy reporting. Campuses will provide the Chancellor's Office the necessary energy and utility data, such as electricity and natural gas consumption; water and sewer usage; fuel consumed by fleet vehicles, boats, and ships; waste disposal for the systemwide database in a timely manner.
5. Each CSU campus is encouraged to develop and maintain a campus-wide integrated strategic energy resource plan, which will include tactical recommendations in the areas of new construction, deferred maintenance, facility renewal, energy projects, water conservation, solid waste management, and an energy management plan. This plan will guide the overall energy program at each campus.

Water Conservation

1. All CSU campuses will pursue water resource conservation to reduce water consumption by 10 percent by 2016, and 20 percent by 2020 including such steps to develop sustainable landscaping, install controls to optimize irrigation water use, reduce water usage in restrooms and showers, and promote use of reclaimed/recycled water. In the event of a declaration of drought, the CSU will cooperate with the state, city, and county governments to the greatest extent possible to reduce water consumption.

Waste Management

1. Campuses shall seek to reduce the solid waste disposal rate by 50 percent (PRC §42921) by 2016, by 80 percent by 2020, and move to zero waste.
2. The CSU will encourage the reduction of hazardous waste to the extent possible while supporting the academic program.

Sustainable Procurement

1. Campuses will promote use of suppliers and/or vendors that reduce waste, re-purpose recycled material, or support other environmentally friendly practices in the provision of goods or services to the CSU under contract. This may include additional evaluation points in solicitation evaluations for suppliers integrating sustainable practices.
2. To move to zero waste, campus practices should: (1) encourage use of products that minimize the volume of trash sent to landfill or incinerators; (2) participate in the CalRecycle Buy-Recycled program or equivalent; and (3) increase recycled content purchases in all Buy Recycled program product categories.
3. Campuses shall continue to report on all recycled content product categories, consistent with PCC [Public Contract Code] § 12153–12217 and shall implement improved tracking and reporting procedures for their recycled content purchases.

Regarding the policies/goals of the sustainability policy, CSU is demonstrating ability to achieve the goals established. For example, in 2015, the CSU, systemwide, had achieved a 19 percent reduction in overall water consumption (CSU n.d.). In addition, Cal Poly was one of eight CSU campuses (out of 23 campuses) to achieve waste diversion rates of 89 and 86 percent in 2016 and 2017, respectively.

LOCAL

Cal Poly, as a state entity, is not subject to municipal regulations of local governments for uses on property owned or controlled by Cal Poly that are in furtherance of the University’s education purposes. However, Cal Poly may consider, for coordination purposes, aspects of local plans and policies for the communities surrounding the Master Plan Area when it is appropriate and feasible, but it is not bound by those plans and policies in its planning efforts.

San Luis Obispo County General Plan

The San Luis Obispo County General Plan contains the following goals and policies pertaining to utilities (County of San Luis Obispo 2010):

- **Policy WR 1.1: Protect Water Supplies**. Continue to coordinate with water suppliers and managers to identify water management strategies to protect existing and secure new water supplies.
- **Policy WR 1.2: Conserve Water Resources**. Water conservation is acknowledged to be the primary method to serve the county’s increasing population. Water conservation programs should be implemented countywide before more expensive and environmentally costly forms of new water are secured.
- **Policy WR 1.4: Use Reclaimed Water**. The County will be a leader in the use of reclaimed water. Support expanding the use of reclaimed water to make up at least 5 percent of total water use by 2015 and 10 percent of total water use by 2020.
- **Policy WR 1.5: Interagency Projects**. Help implement interagency projects, including emergency inter-ties between systems, jointly developed facilities, water exchanges, and other methods of enhancing reliability through cooperative efforts.
- **Policy WR 1.7: Agricultural Operations**. Groundwater management strategies will give priority to agricultural operations. Protect agricultural water supplies from competition by incompatible development through land use controls.

City of San Luis Obispo General Plan

The City of San Luis Obispo General Plan contains the following policies pertaining to utilities (City of San Luis Obispo 2014, 2018):

- **Policy 1.13.10: Solid Waste Capacity**. In addition to other requirements for adequate resources and services prior to development, the City shall require that adequate solid waste disposal capacity exists before granting any discretionary land use approval which would increase solid waste generation.
- **Policy A 3.2.1: Basis for Planning**. The City will plan for future development through the Land Use Element taking into consideration available water resources from the Salinas, Whale Rock, and Nacimiento Reservoirs and recycled water.
- **Policy A 3.2.2: Coordinated Operation**. The City will coordinate the operation of the Salinas, Whale Rock, and Nacimiento Reservoirs to maximize available water resources.
- **Policy A 3.2.3: Groundwater**. The City will continue to use groundwater to enhance the resiliency of the City's water supply portfolio.
- **Policy B 3.2.1: Treating Wastewater**. The City will treat all wastewater in compliance with approved discharge permits.
- **Policy B 3.2.2: Recycled Water Production**. The City will produce high-quality, dependable recycled water, suitable for a wide range of uses.
- **Policy B 3.2.3: Beneficial Use**. The City will pursue treatment and disposal methods which provide for further beneficial use of wastewater and biosolids.
- **Policy B 4.2.1: Collection System Maintenance**. The City will manage the collection system to ensure that the proper level of maintenance is provided and that the flow in sanitary sewers does not exceed design capacity.

3.14.2 Environmental Setting

WATER

Water Supply

Potable water is supplied to Cal Poly through surface water rights to Old Creek via Whale Rock Reservoir. Whale Rock Reservoir is located on Old Creek, approximately one-half mile east of the community of Cayucos. The Whale Rock Reservoir system was planned, designed, and constructed under the supervision of DWR, and became operational in 1961. The reservoir is jointly owned by the City, the California Department of Corrections and Rehabilitation's California Men's Colony, and Cal Poly. These three entities form the Whale Rock Commission, which is responsible for operational policy and administration of the reservoir. The City is responsible for its daily operation (City of San Luis Obispo 2016).

Whale Rock Reservoir is formed by an earthen dam and was estimated to have a capacity of 40,662 acre-feet (AF) at the time of construction. Facilities associated with the reservoir include a 30-inch pipeline, two pumping stations, maintenance facility and offices, and a building used as a private residence. The pipeline is approximately 17 miles long, connecting the reservoir to the member agencies, and terminating at the City's water treatment plant. The design capacity of the pipeline is 18.94 cubic feet per second. The conveyance system delivers water from the reservoir to the Whale Rock Commission member agencies (City of San Luis Obispo 2016).

The safe annual yield of Cal Poly's water right to Old Creek is 959 acre-feet per year (afy) or 856,082 gallons per day (gpd), which is provided to Cal Poly from Whale Rock Reservoir. Cal Poly's share is conveyed first to the City's water treatment plant (WTP), discussed in more detail below. The City then conveys potable water to Cal Poly, consistent with Cal Poly's water right. Currently, approximately 320 AF of Cal Poly's annual share of 959 AF of water from Whale Rock remains untreated and is conveyed via a contract line to campus for irrigation of agricultural uses on campus (Watearth 2019a).

Whale Rock Reservoir operates under an assumed Safe Yield, which is the quantity of water that can be sustainably withdrawn every year considering dry and multiple dry year conditions. The City maintains a model that estimates safe annual yield (SAY) from Whale Rock Reservoir, based on historical climatic conditions and reservoir operations. The model includes parameters for the historical record of inflows, evaporation, precipitation, and downstream releases, which are used to determine the maximum allowable annual withdrawal, or SAY.

In 2017, Cal Poly and the City began updating the SAY model. The update was intended to verify the historical input data, validate and document the calculations in the model, incorporate the full extent of the 2006–2016 drought, and generate scenarios that accounted for potential climate change impacts. This process indicated that the SAY is 4,910 afy, approximately 2,000 afy less than the 6,940 afy used in previous planning documents (Water Systems Consulting Inc. 2018, City of San Luis Obispo 2019).

A portion of Cal Poly's total nonpotable agricultural demand is currently met via the existing Whale Rock supplies, while the remainder of nonpotable water demands are met by groundwater pumped from groundwater wells managed by Cal Poly. Currently, Cal Poly pumps 120 afy of groundwater for agricultural purposes. All nonpotable water for agricultural use is managed on-campus through a series of reservoirs on campus for water storage (Watearth 2019a).

Water Treatment and Conveyance

The City provides water treatment and water conveyance to the campus for potable and nonpotable water. Cal Poly has agreements with the City to treat and convey up to 1,000 afy (892,682 gpd on an average day and 1.44 million gallons per day [mgd] during a peak day) of potable water from the City's WTP, which has a capacity to treat up to 16.0 mgd, at Stenner Canyon to the campus. The City's WTP is located on Stenner Creek Road, northwest of the campus. The facility was constructed in 1964 to provide treatment of surface water from Salinas and Whale Rock Reservoirs. The WTP is a conventional plant that includes ozone disinfection, coagulation, flocculation, sedimentation, and filtration. The capacity of the WTP is 16.0 mgd (City of San Luis Obispo 2016).

The City's 24-inch potable water main goes through campus, serving seven metered connections. The Academic Core subarea includes a 1,000,000-gallon in-ground storage tank, a 30,000-gallon elevated storage tank, and a 500,000-gallon elevated storage tank for reliable service of potable water demands and to provide adequate volume for firefighting purposes. Cal Poly owns and maintains water supply conveyance piping, including providing fire flows to their buildings, throughout the campus (Watearth 2019a).

Water Conservation Measures

As part of an indoor water audit, Cal Poly has identified fixtures, including toilets, urinals, faucets, and showerheads in existing buildings for replacement with low-flow alternatives. Approximately 50 percent of the fixtures were replaced by the end of 2018, and Cal Poly intends to replace the remaining fixtures within the next several years. In addition, irrigation water demands were reduced through system upgrades and replacement of turf with drought resistant plants and xeriscapes (Watearth 2019a).

Water Demand

Water demand rates associated with Cal Poly, similarly to other universities, varies throughout the year and relates to the academic calendar. Generally, potable water demand associated with on-campus development peaks from mid-September through mid-June when on-campus population is highest. Irrigation and other basic building demands vary throughout the year, including summer when most students leave campus, but irrigation needs may be higher during summer months due to higher temperatures and less rainfall. Based on water use data, campus water demand is provided in Table 3.14-1 (Watearth 2019a). Peak demands shown in Table 3.14-1 were derived from the City's 2015 Water Master Plan, which uses a peaking factor of 1.5 and 4.0 for peak daily and peak hourly demands, respectively. These peak demands are estimated to assist utility providers, like the City, in anticipating and being able to continue to provide reliable utility service during periods of high demand that may occur in a given day or at certain times of year. With respect to peak hourly demand, it is standard engineering practice to report peak hourly water demands in terms of mgd to provide an equivalent "estimated" peak hourly demand for ease of comparison and understanding. This factor can be readily converted to other units such as for minutes, days, or hours when useful for other purposes.

Table 3.14-1 Cal Poly Water Demand

	Annual Average Water Demand (gpd)	Academic Year Demand (gpd)	Summer Demand (gpd)	Peak Daily Demand (mgd)	Peak Hourly Demand (mgd)
Water Demand	813,288	729,805	938,685	1.220	3.253

Notes: gpd=gallons per day; mgd= million gallons per day. Peak factors of 1.5 and 4.0 were obtained from the City of San Luis Obispo 2015 Master Plan and applied to average daily demands.

Source: Watearth 2019a

WASTEWATER

Wastewater Treatment and Transmission Agreements between Cal Poly and the City

Since 1957, Cal Poly has purchased capacity rights to the City's wastewater transmission (collection) lines and treatment capacity at the City's Water Resource Recovery Facility (WRRF). Cal Poly has participated in cost-sharing of conveyance infrastructure and wastewater treatment improvements and has an agreement for rate structure and capacity share. The current treatment agreement was established in 1993 for a permanent wastewater treatment capacity share of 0.471 mgd from the City's WRRF, while Cal Poly's 1.2-mgd share of the wastewater transmission line capacity dates to 1986, when the City and Cal Poly passed Resolution 5961 agreeing to the capacity share.

A Memorandum of Understanding (MOU) between the City and Cal Poly in May 2007 reinforced this agreement. The MOU includes water treatment capacity average demand equivalent of 1,000 AF as calculated on an annual basis and wastewater daily dry weather flow as calculated on a monthly average of 0.471 mgd. The agreement includes sewer rates specific to Cal Poly, based on its capacity share in the wastewater system. The City's WRRF is designed for an average daily dry weather flow of 5.1 mgd, of which Cal Poly's interest is 9.2 percent. There are no specific peak daily or peak wet weather flow limitations for wastewater treatment capacity set forth in the MOU.

A pretreatment agreement between Cal Poly and the City is consistent with Cal Poly's Class I – Significant Industrial Waste Discharge Permit (Permit No. 259-S). Cal Poly's permit limits the concentration of common wastewater constituents found in the effluent from large facilities such as Cal Poly. The permit also contains provisions for monitoring and reporting requirements as well as compliance schedules.

Wastewater Collection and Treatment System

Cal Poly's wastewater system collects wastewater from residential, mixed-use, and academic buildings; recreational facilities; and other wastewater generating sources within the campus boundaries. Wastewater flows are primarily collected and conveyed by gravity lines and pumped by a lift station through a force main. Cal Poly's wastewater discharges to a single collection point near Mustang Drive, southwest of the campus's stadium, via a 15-inch sewer line. From this collection point, approximately 4 miles of pipeline ranging from 10 to 48 inches deliver wastewater from Cal Poly and university facilities outside the campus (e.g., Chorros Street Lofts, Bella Montaña Housing, and Chorro State Offices) to the City-owned and -operated WRRF. As noted above and per an existing agreement with the City, Cal Poly's share of the transmission capacity of the existing wastewater transmission line to the WRRF is 1.2 mgd, while Cal Poly has a 0.471-mgd share of the WRRF's average flow treatment capacity based on existing agreements (Watearth 2019b).

The City's WRRF is located on Prado Road, adjacent to U.S. Highway 101, in the southern portion of the city. The WRRF is currently designed for an average dry weather flow of 5.1 mgd, with a 2015 average daily flow of 2.74 mgd. As noted above, there is no specific peak daily or peak wet weather flow specified for treatment capacity at the WRRF, although the City considers wet weather to occur between December and March (Watearth 2019b). The WRRF modifies operations in the event of wet weather conditions that result in additional peak daily flows at the facility. The WRRF discharges a minimum of 1,807 afy to San Luis Obispo Creek to support habitat for anadromous fish species. In addition, the WRRF produces recycled water, which is used to irrigate landscaped areas along the highway corridor through the city (City of San Luis Obispo 2016). The City is also in the process of upgrading its WRRF to provide additional water recycling and some increase in average dry weather flow capacity (City of San Luis Obispo 2019b).

Wastewater Flows

Table 3.14-2 summarizes monthly average wastewater flows at Cal Poly.

Table 3.14-2 Wastewater Flows

Month	Average Flow (gpd)
September	169,558
October	282,597
November	239,447
December	118,931
January	275,585
February	293,6658
March	220,674
April	294,168
May	269,382
June	136,153
July	46,571
August	34,819
Average	197,557

Note: gpd=gallons per day.

Source: Watearth 2019b

Table 3.14-3 summarizes the annual average flow, average dry weather flow, peak dry weather flow, and peak wet weather flow from Cal Poly into the City's wastewater system as modeled in SewerCAD, a sanitary sewer modeling and design software product used by numerous municipalities, including the City. Based on use of the City's sewer model, current average flows from campus to the City are approximately 200,000 gpd with the potential for peak day wet weather flows of 2.3 mgd. Of note, measured peak flows between 2015 and 2017 from campus were substantially less than modeled. Measured peak day wet weather flows from Cal Poly into the City's wastewater system varied between a high of 374,892 gpd in 2015 and 665,702 gpd in 2017 (Veium, pers. comm., 2019).

Table 3.14-3 2015 Wastewater Generation at Cal Poly

Wastewater Flow Type	Daily Flow (gpd)
Average Annual Flow	197,557
Average Dry Weather Flow	284,482
Peak Dry Weather Flow	739,653
Peak Wet Weather Flow	2,308,597

Note: gpd=gallons per day.

Source: Watearth 2019b

SOLID WASTE

Cal Poly contracts with San Luis Garbage for the collection of solid waste and recycling of waste generated at the campus. Recycling containers are provided to faculty, staff, and students by Facility Services, and collection is performed by Custodial Services, Landscape Services, and the campus Recycling Coordinator. The total waste generated at Cal Poly in 2018, by waste stream, is provided in Table 3.14-3.

Table 3.14-3 Cal Poly Waste Generated in 2018

Waste Stream	Tons
Recycled	739
Composted	663
Donated/Resold	102
Solid Waste	2143
Total Consumer Waste Generated	3,647

Source: Nicole, pers. comm., 2019

San Luis Garbage hauls trash to one of three local/regional landfills (as shown in Table 3.14-4), recyclables to the Cold Canyon Materials Recovery Facility (MRF), and organics to a dry anaerobic digestion plant located near the San Luis Obispo Airport. There are three solid waste disposal facilities within San Luis Obispo County. The maximum permitted throughput, remaining capacity, estimated closure date, and facility type is shown in Table 3.14-4 below.

Table 3.14-4 Solid Waste Disposal Facilities

Name of Facility	Maximum Permitted Throughput	Remaining Capacity	Closure Date	Facility Type	Waste Type
City of Paso Robles Landfill	450 tons/day	4,216,402 cubic yards	10/1/2051	Solid Waste Facility	Agricultural, construction/demolition, green waste, industrial, metals, mixed municipal, sludge (biosolids), tires, wood waste
Cold Canyon Landfill	1,650 tons/day	14,500,000 cubic yards	12/31/2040	Solid Waste Facility	Agricultural, construction/demolition, contaminated soil, dead animals, industrial, inert, mixed municipal, sludge (biosolids), tires
Chicago Grade Landfill	500 tons/day	6,022,396 cubic yards	12/31/2039	Solid Waste Facility	Agricultural, asbestos, construction/demolition, contaminated soil, dead animals, food waste, green waste, industrial, inert material, metals, mixed municipal, other designated waste, sludge (biosolids), tires

Sources: CalRecycle 2019a, 2019b, 2019c

Recycling and Composting

Collected recyclable materials are sent to the Cold Canyon MRF for sorting and baling. The MRF, located in San Luis Obispo, accepts recyclables such as glass, aluminum (cans and foil), paper products (i.e., cardboard, pizza boxes, magazines, and office paper), and some plastics. Campus Dining and Facilities Management and Development partner with Engle and Gray, a licensed facility in Santa Maria, to compost pre-consumer food scraps from dining facilities and post-consumer compostable items from large events. About 200 tons of food waste from Campus Dining is composted annually. Food scraps are also collected at student apartments on an opt-in basis to ensure the highest quality and least contamination (Cal Poly 2019a).

Cal Poly Agriculture Operations performs onsite composting of manure, along with approximately 2,500 cubic yards of green waste generated from campus landscaping maintenance. The resulting 3,500 cubic yards of finished compost is used on the student-run organic farm, campus landscaping, and Cal Poly crops for soil amendment, reducing the need for chemical fertilizer (Cal Poly 2019a).

The recycling and composting practices are intended to reduce waste generation of ongoing consumables on campus by meeting a minimum waste diversion threshold of at least 50 percent of ongoing waste and at least 75 percent of all durable goods by volume (or weight), from all sources, except facility maintenance, construction and renovation projects. As described above, Cal Poly has a sustainability policy goal to reduce per-capita landfill disposal by 80 percent by 2020, with the ultimate goal of achieving zero net waste for the entire campus. Since 2006, Cal Poly has achieved a 38 percent reduction in per capita solid waste disposal. Cal Poly also achieved waste diversion rates of 89 and 86 percent in 2016 and 2017, respectively. Cal Poly operates an integrated waste management program that includes source use reduction, comingled recycling, composting of green waste and manure, resale of scrap metal and surplus equipment, and zero waste event catering (Cal Poly 2019b).

ENERGY FACILITIES

Electricity

Cal Poly purchases approximately 92 percent of its electricity from Pacific Gas and Electric Company (PG&E) and generates the other 8 percent on site from a combination of solar photovoltaics and cogeneration. Approximately 25 percent of this use is offset by Cal Poly's 4.5-megawatt Gold Tree solar farm. Cal Poly has implemented numerous energy conservation projects to reduce electrical usage, including fluorescent and light-emitting-diode (LED) lighting retrofits; occupancy sensors; heating, ventilation, and air conditioning (HVAC) equipment upgrades; variable frequency drives for pumps and fans; and installation of digital energy management systems. In spite of the fact that the campus square footage has grown dramatically in recent years, electricity use has remained relatively flat, indicating that conservation efforts have been able to offset growth (Cal Poly 2019c).

Electricity is supplied to the main campus through the University-owned Mustang Substation. Power is received from PG&E at a transmission level of 70,000 volts and is transformed at Mustang Substation to either 12,470 volts or 4,160 volts for distribution to campus buildings. Electrical distribution facilities in the campus core are all underground, while distribution to outlying agricultural areas is via overhead lines. Mustang Substation and all campus distribution systems are owned by the University and maintained by the campus Electric Shop (Cal Poly 2019c).

Natural Gas

Most natural gas use on campus is for space heating, production of domestic hot water, cooking, and heating of swimming pools. Natural gas is procured from the Southern California Gas Company and provided by the California Department of General Services (DGS), as part of a managed portfolio including nearly all CSU and University of California campuses, California state administrative buildings, California Department of Corrections and Rehabilitation, and various cities, counties, and school districts (Cal Poly 2019d).

Cogeneration

Cogeneration, or Combined Heat and Power, is a technology in which a single system and fuel source are used to provide two useful energy outputs at the same time. Conventional simple cycle utility power plants, such as the Diablo Canyon nuclear power plant, must dispose of waste heat to the atmosphere, ocean, lakes, or rivers. These large-scale utility power plants typically have total system efficiencies of approximately 35 percent, meaning that 65 percent of the energy available in the fuel is wasted, resulting in increased greenhouse gas emissions and other environmental impacts. Cogeneration systems seek to capture this waste heat and use it for space heating, production of hot water, heating of swimming pools, and other process use. Cogeneration systems are capable of total system efficiencies of 80 percent or more, resulting in substantial energy cost savings and reduced greenhouse gas emissions compared to conventional systems. Cal Poly has one cogeneration facility in the housing areas that provides Combined Heat and Power to student apartments (Cal Poly 2019d).

Telecommunications

ResNet is the system that provides a high-speed data connection to the Internet for on-campus residents. This includes all of the residence halls (Yosemite, Sierra Madre, South Mountain, North Mountain) and apartments (Cerro Vista and Poly Canyon Village). In addition, Cal Poly's Information Technology Services designs, installs, and maintains the wired network infrastructure on campus, including academic and administrative facilities. WiFi connections are also available on campus to students, staff, and visitors and are similarly managed by Cal Poly's Information Technology Services (Cal Poly 2019e, 2019f).

3.14.3 Environmental Impacts and Mitigation Measures

ANALYSIS METHODOLOGY

Water and Wastewater

The analysis of water and wastewater capacity is derived from technical studies originally prepared in 2016, when the master plan process began, and updated in 2019. The final Water Supply Assessment is included in Appendix H and the final Wastewater Analysis is included in Appendix I. These studies used a 2015 baseline to provide a full year of recent data. Although population levels, and thus demand for water supply and wastewater conveyance and treatment have increased at Cal Poly between 2015 and 2018, the technical studies provide adequate information to evaluate the environmental impacts related to water and wastewater because using a 2015 baseline in comparison to buildout of the 2035 Master Plan (expected in approximately 2035) would result in a conservative analysis.

Water

The analysis of water supply is based on information included in *Water Supply Assessment for California Polytechnic State University, San Luis Obispo for Master Plan 2035* (Watearth 2019a). The methodology is intended to identify increases in water demand on existing and proposed water sources. Several standard factors were calculated to identify impacts based on the proposed project elements compared to existing water demand. Key factors included proposed buildings by type of use and size, water conservation efforts by land use type, and future development and operation of the proposed on-campus WRF. The 2035 Master Plan elements are intended to be phased during the planning period to allow for analysis in 5-year increments including 2015 (baseline year), 2020, 2025, 2030, and 2035 (buildout). The City's existing water conveyance system was evaluated using the City-supplied WaterCAD model to conduct node-specific checks on capacity needs based on the proposed phases of development and changes in demand from the City's WTP, to the campus, and downstream of campus. In addition, the water supply and capacity analysis assumes that the nonpotable water demands of campus that are currently met via a portion of the existing Whale Rock water right would be transitioned over time to the nonpotable water supplies available via the on-campus WRF. Campus would then use the previous nonpotable Whale Rock water supplies to provide additional potable water supplies to meet the needs of campus under the 2035 Master Plan. Cal Poly would continue to pump up to 120 afy of groundwater for agricultural purposes (Watearth 2019a). As Cal Poly would not increase agricultural operations as part of the 2035 Master Plan, increases in nonpotable water demands associated with agriculture are not anticipated.

Wastewater

The wastewater analysis is based on information included in *Wastewater Analysis for California Polytechnic State University, San Luis Obispo for Master Plan 2035* (Watearth 2019b). The methodology is intended to identify potential increases in wastewater flow to the City's WRRF, the limit of which is established by the existing capacity agreement for wastewater treatment and conveyance between the City and Cal Poly. Several standard factors were calculated to identify impacts based on the proposed project elements compared to existing wastewater flows. Key factors included proposed buildings by type of use and size, water conservation efforts by land use type, and the proposed on-campus WRF. As described above for water, the 2035 Master Plan project elements are intended to be phased to allow for analysis in 5-year increments including 2015 (baseline), 2020, 2025, 2030, and 2035 (buildout). The City's existing wastewater collection system was evaluated using the City-supplied SewerCAD model to conduct node-specific checks on capacity needs based on the proposed phases of development and changes in flows to the City WRRF.

Solid Waste

This analysis evaluates the potential for increased waste generation under the 2035 Master Plan, based on the following generation rates, which were developed using Cal Poly data from CalRecycle's State Agency Reporting Center: 5.29 pounds/person/day for employees and 0.77 pounds/person/day for nonemployees (Nicole, pers. comm., 2019). In addition, campus policies and procedures were evaluated for consistency with attainment of solid waste reduction goals, and other statutes and regulations associated with solid waste.

Electricity, Natural Gas, and Telecommunications Facilities

The analysis pertaining to the construction and relocation of electrical, natural gas, and telecommunications facilities is based on discussions with Cal Poly staff regarding the current level of on-campus facilities, the current status of the Utility Master Plan, potential demands associated with the 2035 Master Plan, and potential improvements to on-campus facilities.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, a utilities and service systems impact would be significant if implementation of the 2035 Master Plan would:

- require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project’s projected demand, in addition to the provider’s existing commitments;
- generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

ISSUES NOT DISCUSSED FURTHER

As noted above, Section 3.9 “Hydrology and Water Quality,” reviews project impacts to stormwater drainage facilities. Therefore, this issue is not discussed further within this section.

Increases in Water Demands Associated with Fire Flow

The main line for fire flows connects to the City’s water distribution system by feeding into the 1,000,000- and 500,000-gallon storage tanks through the main connection. These storage tanks then connect to Cal Poly’s system through a 10-inch pipe to Cerro Vista and a 12-inch pipe that continues through the Cal Poly campus where it forms a loop beneath North Perimeter and South Perimeter roads, and connects under University Drive. The size of this main line varies from 10 to 12 inches. Each building has specific flow rate requirements based on size and installed sprinklers. On-campus tanks are operated and would continue to be operated as part of the 2035 Master Plan to ensure an adequate volume for firefighting purposes to meet or exceed flow rates established for each building under existing conditions and under the 2035 Master Plan consistent with California Fire Code requirements (Watearth 2019a). Thus, no additional instantaneous water demand associated with fire flow would occur with implementation of the 2035 Master Plan, and this issue is not discussed further.

Increases in Demand for Groundwater

Cal Poly pumps 120 afy of groundwater for agricultural purposes. Groundwater demand would not change under the 2035 Master Plan and is not evaluated further in term of water supply availability. See Section 3.9, “Hydrology and Water Quality,” for more information related to groundwater.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: Require or Result in the Relocation or Construction of New or Expanded Water Infrastructure

Implementation of the 2035 Master Plan would increase the volume of potable water conveyed through the existing City connections. Modeling indicates that there is adequate conveyance capacity to accommodate anticipated development associated with the 2035 Master Plan under average day demand, peak daily demand, and peak hourly demand. New campus development would require connections to water supply pipelines. Because the campus already contains substantial pipelines and water delivery infrastructure, construction of additional infrastructure to connect new academic buildings, student housing, and other development to the existing system is expected to be minor, consisting of relatively short pipeline connections to the existing delivery pipeline. Thus, the impact would be **less than significant**.

Water originating from Whale Rock Reservoir is pumped to the City's treatment plant and conveyed through City pipelines to Cal Poly. Implementation of new development in accordance with the 2035 Master Plan would increase the volume of water conveyed through the existing City infrastructure. Modeling indicates that the City could provide adequate potable conveyance capacity to accommodate anticipated development under average day demand, peak daily demand, and peak hourly demand. In addition, and as explained in further detail below (see Impact 3.14-3), the current agreement between the City and Cal Poly allows for Cal Poly to receive up to 1,000 afy (892,682 gpd) of treated water supplies from the City's Stenner Canyon Water Treatment Plan, which would not need to be increased with implementation of the 2035 Master Plan. While some adjustments to the system, such as increased pumping to reservoirs or storage tanks may be necessary, no new additional infrastructure upgrades would be needed to meet Cal Poly demands served by the City's potable water distribution system.

As it relates to on-campus pipelines and other infrastructure associated with development under the 2035 Master Plan, it is reasonable to assume that new facilities would be placed in areas where water supply utility infrastructure is available, such as adjacent to other developed uses. Connections to the existing water systems would be expected to occur within existing roadways or would consist of short connections to existing pipelines. Thus, because the City water conveyance system is adequate to meet increased demands associated with the 2035 Master Plan, and connections to new facilities would result in minimal disturbance, this impact would be **less than significant**. Further, the impacts associated with such new connections are generally assessed as part of the proposed development under the 2035 Master Plan, within the context of this EIR.

Mitigation Measures

No mitigation is required.

Impact 3.14-2: Require or Result in the Relocation or Construction of New or Expanded Electricity, Natural Gas, or Telecommunications Facilities

Implementation of the 2035 Master Plan could require new electrical infrastructure, natural gas, and telecommunication infrastructure to support new facilities. The construction impacts anticipated to result from implementation of the 2035 Master Plan, including the construction or undergrounding of energy transmission and/or distribution lines, are located within the 2035 Master Plan's development footprint, and comprehensively analyzed in this EIR. Thus, the potential impacts resulting from the extension of utility infrastructure to serve new/redeveloped land uses within the campus are considered to be evaluated within the scope of this EIR's analysis, and additional significant impacts would not occur. Thus, this impact would be **less than significant**.

Under the 2035 Master Plan, there would be a substantial increase in energy demand, particularly due to growth related to new residence halls, office space, and academic buildings. In addition, per Cal Poly's sustainability goals and as part of the Utility Master Plan, the campus is examining the potential for additional vehicle charging stations. The majority of new demand would be associated with electricity; natural gas use is not consistent with the goal of carbon neutrality by 2050. As a result, demand for natural gas is anticipated to decrease over time, thereby removing the potential need for new/expanded facilities. Telecommunication facilities would be installed to provide internet services to residential and nonresidential buildings.

Implementation of the 2035 Master Plan could increase energy usage as noted above, although electricity usage by Cal Poly in recent years has remained relatively flat. This is due, in part, to conservation/sustainability efforts that have offset the potential increase in electricity demand that would otherwise have occurred with the development of new campus facilities (Cal Poly 2019c). In addition, energy suppliers (PG&E, DGS, and Southern California Gas Company) periodically prepare load forecasts to ensure the reliability of electricity and natural gas distribution systems. As implementation of the 2035 Master Plan would occur over a multi-year period, the projected energy demands would be factored into load forecasts now and in the future. This, coupled with the energy conservation efforts of campus, would ensure that adequate services would be met over the planning period.

As part of 2035 Master Plan implementation, the following utility improvements may be necessary, (Murphy, pers. comms., 2019) and have been analyzed as part of the 2035 Master Plan EIR:

- potential development of an additional Central Plant with heat recovery chillers and hot thermal energy storage;
- installation of both heating and cooling piping to support new buildings on the campus;
- installation of distribution facilities to support new buildings on campus;
- replacement of the existing natural gas boilers and existing chillers in the existing main central plant with new heat recovery chillers backed up by high efficiency condensing boilers;
- expansion of Cal Poly’s electrical distribution infrastructure either through improvements at the existing Mustang substation, or through a combination of Mustang substation improvements and the addition of a remote substation to increase electrical capacity and resilience; and
- development of distributed energy resources, such as on-site solar and batteries, to address the electrical load growth.

Cal Poly is currently preparing a Utility Master Plan, which will refine the plan for the provision of upgraded and expanded energy and telecommunications infrastructure associated with the 2035 Master Plan. These improvements are located within the 2035 Master Plan development footprint and evaluated as part of this EIR. For example, the existing Mustang substation (refer to Building 75 of Figure 2-4 of Chapter 2, “Project Description”) may be expanded as part of plan implementation. In addition, and as noted in Chapter 2, “Project Description,” this EIR assesses the potential impacts associated with approximately 1 linear mile of new utility line construction/replacement, annually. The types of impacts anticipated to result from implementation of the 2035 Master Plan, including the construction of new electrical substations infrastructure and the construction or undergrounding of energy transmission and/or distribution lines, are comprehensively analyzed in this EIR (e.g., within Section 3.3, “Air Quality”; Section 3.5, “Biological Resources”; Section 3.9, “Hydrology and Water Quality”; Section 3.10, “Noise and Vibration”; and Section 3.13, “Transportation”). Further, as required by law, all utility connections would be constructed in accordance with all applicable building codes and applicable standards to ensure an adequately sized and properly constructed energy transmission and conveyance system. Any necessary connections would be constructed prior to occupancy and in a manner that would minimize the potential for utility service disruption of existing uses. Thus, the potential impacts resulting from the extension of utility infrastructure to serve new/redeveloped land uses within the campus are considered to be evaluated within the scope of this EIR’s analysis. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.14-3: Have Insufficient Water Supplies Available to Serve the Project and Reasonably Foreseeable Future Development during Normal, Dry and Multiple Dry Years

Development of the 2035 Master Plan would result in increased population levels and development of new buildings, which would increase demand for water supply. Campus water demand would be reduced through conservation measures, transfer of water supply service from Cal Poly to the City, and a new non-potable source would be provided through the development of the WRF. Under the 2035 Master Plan, adequate water supplies would be available to meet future demands if the first phase of the WRF is operational in 2022 and the second phase is operational in 2028. Without the availability of reclaimed water from the WRF, there would not be adequate supplies beginning in 2025. Because the design, timing, and other details of the WRF are not yet established, it cannot be determined with certainty that water supplies would be available to meet increased demand from implementation of the 2035 Master Plan. Thus, the impact on water supply would be **significant**.

Under the 2035 Master Plan, Cal Poly would develop residential and nonresidential (academic, administrative, recreational, and other support services) buildings in support of the projected increase in student enrollment and corresponding increase in academic and other support staff. Construction and operation of these buildings would increase demands on water supply by supporting an increased campus population. New buildings would include landscaping, which would also contribute to increased water demands. Table 3.14-5, below, provides a summary of the projected increases in water demands associated with proposed land uses under the 2035 Master Plan. As shown, total water demand would increase by 339,637 gpd by 2035.

Table 3.14-5 Increases in Water Demand by Year under 2035 Master Plan

	Water Demand (gpd)				
	2015	2020	2025	2030	2035
Residential Projects					
Student Housing Projects[1]	0	0	67,080	105,780	185,760
Nonstudent Housing Projects[2]	0	0	34,650	56,650	56,650
Nonresidential Buildings					
Academic Center Library Addition	0	0	1,745	3,925	6,106
Classroom and Offices Building	0	0	1,102	2,479	3,856
Beef Cattle Evaluation Center Expansion	0	0	434	976	1,518
Engineering Projects Buildings	0	0	1,449	3,260	5,071
Facilities Operations Complex	0	0	2,204	4,958	7,713
Davidson Music Center Renovation/Addition	0	0	346	778	1,211
Building 19 – Dining Commons Renovation and Addition	0	0	1,908	4,293	6,677
Operations and Farm Shop Relocation	0	0	2,211	4,976	7,740
IT Services Consolidation	0	0	230	516	803
Fermentation Building	0	0	372	838	1,303
Vista Grand	0	0	261	587	913
Health Center	0	0	1,422	3,200	4,977
Tech Park Expansion	0	0	2,232	5,021	7,811
Landscape Projects					
All Landscape Projects	0	0	25,890	31,246	43,744
Total Increased Water Demand	**0**	**0**	**142,900**	**228,058**	**339,637**

Notes: gpd=gallons per day; IT=Information Technology.

1 Consists of five student housing projects, ranging in size from 600 to 2,000 beds.

2 Consists of the Faculty and Staff Workforce Housing (Slack and Grand) by 2025 and the University-Based Retirement Community by 2030.

Water Demand Reductions

During the planning horizon of the 2035 Master Plan, campus is pursuing three major actions that would reduce campus water demand. These actions are summarized below and quantified in Table 3.14-6:

1. **Continued implementation of indoor and outdoor water conservation measures**. As described above in Section 3.14.2, "Environmental Setting," Cal Poly has initiated a comprehensive drought response water management program, including short-term policies and long-range measures, to conform to state-mandated water-efficiency programs and water use reductions. These measures include indoor water conservation measures, such as replacing toilets, urinals, faucets, and showerheads with low-flow alternatives; and outdoor water conservation measures, such as xeriscaping, drought-resistant landscaping, and use of computer-based irrigation controls.
2. **Transfer of water supply service from Cal Poly to the City.** Outside of the 2035 Master Plan process, Cal Poly is working with the City regarding the transfer of utility service for two of Cal Poly's properties (Chorro State and Chorro Lofts) that are located within the City from Cal Poly's water supply service to service by the City. Once executed, water demands associated with these two properties would no longer draw from Cal Poly's 959-afy water allocation from Whale Rock Reservoir.
3. **Development of the WRF.** Cal Poly plans to construct an on-campus WRF in the agricultural area in the West Campus subarea as part of the 2035 Master Plan. The WRF would consist of a plant that uses a bioreactive membrane filter with ultraviolet disinfection to treat Cal Poly's wastewater to tertiary standards for use as reclaimed water. The WRF would be developed over two phases: Phase 1 is planned to be operational in 2022. Phase 2 would be operational in 2028. Each phase would have capacity of 190 afy (169,621 gpd), creating a total of 380 afy (339,242 gpd) of reclaimed water, which would offset demand for raw water from Whale Rock Reservoir, thereby freeing up those potable supplies to serve 2035 Master Plan development (Watearth 2019a).

Table 3.14-6 provides a summary of the water demand reductions that would occur through 2035.

Table 3.14-6 Water Demand Reductions through 2035

Water Demand Reduction Source	Water Demand Reduction (gpd)				
	2015	2020	2025	2030	2035
Indoor Conservation	0	2,232	8,927	8,927	8,927
Outdoor Conservation	0	19,640	72,610	83,918	83,918
Off-campus Properties	0	1,178	1,178	1,178	1,178
On-campus WRF	0	0	169,621	339,242	339,242
Total	**0**	**23,050**	**252,336**	**433,265**	**433,265**

Notes: gpd=gallons per day; WRF=water reclamation facility.

Source: Watearth 2019a

Summary of Water Demand through 2035 under the 2035 Master Plan

Projected water demand through 2035 under the 2035 Master Plan is shown in Table 3.14-7. As indicated, the availability of adequate water supplies through buildout of the 2035 Master Plan is contingent on development of the WRF to reduce nonpotable water demands from Whale Rock Reservoir. As noted above, Cal Poly intends to transition the nonpotable water demands of campus that are currently met via a portion of the existing Whale Rock water right to the nonpotable water supplies available via the on-campus WRF, thereby providing up to 339,242 gpd of recycled water for agricultural purposes. Cal Poly would then use the previous nonpotable water supplies to provide additional potable water supplies to meet the needs of campus under the 2035 Master Plan. However, details related to the development and operation of the WRF, such as design and phasing, have not yet been established. Therefore, it is unknown if the WRF would be available by 2022 to reduce water demand related to Cal Poly's safe annual yield of 959 afy (856,082 gpd) from Whale Rock Reservoir.

Table 3.14-7 also provides a summary of the total water supply available from Whale Rock Reservoir; total water demands under the 2035 Master Plan through 2035; water supply reductions; and the difference between supply and demand, both with and without operation of the WRF.

Table 3.14-7 Summary of Water Supply and Demand through 2035 under the 2035 Master Plan

	Average Day (Gallons per Day)				
	2015	2020	2025	2030	2035
Water Supply					
Whale Rock Reservoir Supply	856,082	856,082	856,082	856,082	856,082
Potable Water Demand					
Baseline Demand	813,288	813,288	813,288	813,288	813,288
2035 Master Plan Demand	0	0	142,900	228,058	339,637
Potable Water Demand Reductions					
Conservation and Off-Campus Properties Demand Reductions	0	23,050	82,715	94,023	94,023
WRF[1]	0	0	169,621	339,242	339,242
Total Potable Water Demand					
Without WRF	813,288	790,238	873,473	947,323	1,058,902
With WRF	813,288	790,238	703,852	608,081	719,660
Adequate Potable Water Supplies Available?					
Without WRF	Yes	Yes	No	No	No
With WRF	Yes	Yes	Yes	Yes	Yes
Comparison of Water Supply and Demand					
Supply - Demand (Baseline + 2035 Master Plan, Without WRF)	42,852	65,844	-17,391	-91,241	-202,820
Supply - Demand (Baseline + 2035 Master Plan, With WRF)[1]	42,852	65,844	152,230	248,001	136,422

Note: WRF=water reclamation facility.

[1] Assumes that Phase 1 of the WRF will be online in 2022 and Phase 2 will be completed in 2028

Source: Watearth 2019a

Under the 2035 Master Plan, adequate water supplies would be available to meet future demands if the WRF is operational, such that the first phase is completed in 2022 and the second phase is completed in 2028. Further, based on Cal Poly's existing agreements with the City for water treatment capacity (i.e., up to 0.9 mgd on average and 1.44 mgd on a peak day), adequate treatment capacity would be available to handle the potable water demands of Cal Poly with implementation of the 2035 Master Plan. Without the availability of reclaimed water from the WRF, there would not be adequate supplies beginning in 2025. Because the design, timing, and other details of the WRF are not yet established, it cannot be determined with certainty that water supplies would be available to meet increased demand from implementation of the 2035 Master Plan. Thus, the impact on water supply would be **significant**.

Mitigation Measures

Mitigation Measure 3.14-3: Initiate Operation of the WRF to Ensure That It Can Meet the Offset Demand Associated with Campus Growth

If the initial phase of the WRF is not operational by 2022 or if other near-term 2035 Master Plan projects are constructed before operation of the first phase of the WRF, Cal Poly shall not initiate operation of any new facilities or developments until such time as the WRF's treatment capacity and recycled water supplies are available for use, or unless Cal Poly can demonstrate that, notwithstanding delay in WRF operation, adequate water supplies are available to serve the new development. Alternatively, Cal Poly could arrange for the purchase of temporary non-potable water supplies from the

City (within the limits of Cal Poly's existing agreement with the City related to treatment capacity) that could be used to offset the net increase in demand until such time as the first phase of the WRF is operational. If nonpotable water supplies are purchased, these supplies shall be dedicated to agricultural needs and potable water supplies currently used for agricultural purposes shall be diverted for treatment and delivery to the main campus to offset any increase in potable water demand.

Significance after Mitigation

Implementation of Mitigation Measure 3.14-3 establishes performance criteria, related to operation of the WRF, for near-term projects that require adequate water supplies to be available to support the campus through 2035. Because mitigation would prohibit operation of near-term projects without adequate water supplies, the impact would be reduced to a **less-than-significant** level.

Impact 3.14-4: Result in Inadequate Wastewater Treatment Capacity

Under the 2035 Master Plan, Cal Poly development and operation of proposed buildings and increased campus population levels would increase wastewater flows. Several conservation actions would reduce wastewater generation, such as replacing toilets, urinals, faucets, and showerheads with low-flow alternatives. Cal Poly plans to construct an on-campus WRF in two phases, each of which would have a treatment capacity of 190 afy (169,621 gpd), for a total capacity of 380 afy (339,242 gpd). Phases 1 and 2 are expected to be operational in 2022 and 2028, respectively. While general timing of WRF construction and operation are planned, specific timing and other details are yet unknown. Planned water conservation actions would not be sufficient in and of themselves to reduce wastewater generation such that capacity of the City's wastewater conveyance system could accommodate 2035 Master Plan development. Because the timing of adequate wastewater capacity is unknown and development of new campus buildings and facilities could exceed available wastewater treatment capacity, the impact would be **potentially significant**.

Under the 2035 Master Plan, Cal Poly would develop residential and nonresidential (academic, administrative, recreational, and other support services) buildings in support of the projected increase in student enrollment and corresponding increase in faculty and other supporting staff. Development and operation of these buildings would increase wastewater generation and flows by supporting an increased campus population. Table 3.14-8 summarizes the total annual average wastewater flow from Cal Poly and the additional annual average wastewater flow from all proposed residential and nonresidential projects through 2035. As shown, the total wastewater flow would increase by 290,411 gpd through buildout of the 2035 Master Plan.

Table 3.14-8 Increases in Wastewater Generation by Year under 2035 Master Plan

	Wastewater Generation (gpd)				
	2015	2020	2025	2030	2035
Residential Projects					
Student Housing Projects[1]	0	0	65,738	103,664	182,045
Nonstudent Housing Projects [2]	0	0	33,278	54,407	54,407
Nonresidential Buildings					
Academic Center Library Addition	0	0	1,710	3,847	5,984
Classroom and Offices Building	0	0	1,080	2,430	3,779
Beef Cattle Evaluation Center Expansion	0	0	425	956	1,487
Engineering Projects Buildings	0	0	1,420	3,194	4,969
Facilities Operations Complex	0	0	2,160	4,859	7,559
Davidson Music Center Renovation/Addition	0	0	339	763	1,186

	Wastewater Generation (gpd)				
	2015	2020	2025	2030	2035
Building 19 – Dining Commons Renovation and Addition	0	0	1,870	4,207	6,544
Operations and Farm Shop Relocation	0	0	2,167	4,876	7,585
IT Services Consolidation	0	0	225	506	787
Fermentation Building	0	0	186	419	652
Vista Grand	0	0	256	575	895
Health Center	0	0	1,394	3,136	4,878
Tech Park Expansion	0	0	2,187	4,921	7,655
Total Increased Wastewater Flow	**0**	**0**	**114,433**	**192,759**	**290,411**

Notes: gpd=gallons per day; IT=Information Technology.

1 Consists of five student housing projects, ranging in size from 600 to 2,000 beds.

2 Consists of the Faculty and Staff Workforce Housing (Slack and Grand) by 2025 and the University-Based Retirement Community by 2030.

Source: Watearth 2019b

Wastewater Flow Reductions

As noted above for water and during the planning horizon of the 2035 Master Plan, campus is pursuing three major actions that would reduce campus wastewater generation or meet additional wastewater treatment demand: indoor water conservation measures, transfer of wastewater treatment service from Cal Poly to the City for two off-campus Cal Poly properties (Chorro State and Chorro Lofts), and development of the WRF. Through implementation of water recycling and fixture improvements, overall wastewater generation would also be reduced. These actions, described above under Impact 3.14-1, would result in campus-related wastewater generation reductions ranging from 3,341 gpd in 2020 to 349,144 gpd in 2030 and beyond (Table 3.14-9). (See Table 3.14-6 for a summary of total water demand reductions through 2035 from conservation measures.)

Table 3.14-9 Wastewater Generation Reductions through 2035

Source of Reduced Campus Wastewater Generation	Wastewater Generation Reduction (gpd)				
	2015	2020	2025	2030	2035
Indoor Conservation	0	2,187	8,747	8,747	8,747
Off-campus Properties	0	1,154	1,154	1,154	1,154
On-campus WRF	0	0	169,621	339,242	339,242
Total	**0**	**3,341**	**179,523**	**349,144**	**349,144**

Notes: gpd=gallons per day; WRF=water reclamation facility.

Source: Watearth 2019b

Summary of Wastewater Flow through 2035 under the 2035 Master Plan

Table 3.14-10 provides an overview of projected wastewater flows generated by Cal Poly through 2035 with implementation of the 2035 Master Plan. With the existing agreement between Cal Poly and the City to convey and treat a daily dry weather flow of up to 471,000 gpd of wastewater from the campus and baseline wastewater generation of 197,557 gpd, ample capacity remains for some additional Master Plan development, particularly with implementation of planned water conservation measures and off-campus demand reductions (Table 3.14-10). With continued planned development, however, a capacity shortfall per the existing agreement would occur by 2035 unless the WRF is constructed and operational.

Table 3.14-10 Wastewater Generation Comparison from Cal Poly to the City through 2035

	Gallons Per Day				
	2015	2020	2025	2030	2035
Allowable Wastewater Flow to City					
Per Wastewater Flow Capacity Agreement	471,000	471,000	471,000	471,000	471,000
Wastewater Generation					
Baseline Flow	197,557	197,557	197,557	197,557	197,557
2035 Master Plan Capacity Requirement	0	0	114,433	192,759	290,411
Wastewater Treatment Flow Rate Reductions					
Conservation and Off-Campus Properties Demand Reductions	0	3,341	9,901	9,901	9,901
WRF[1]	0	0	169,621	339,242	339,242
Total Wastewater Generation					
Without WRF	197,557	194,216	302,089	380,415	478,067
With WRF	197,557	194,216	132,468	41,173	138,825
Adequate Wastewater Treatment Capacity Available?					
Without WRF	Yes	Yes	Yes	Yes	No
With WRF	Yes	Yes	Yes	Yes	Yes
Comparison of Wastewater Generation to Agreement					
Remaining Capacity under Agreement (Baseline + 2035 Master Plan Without WRF)	273,443	276,784	168,911	90,585	-7,067
Remaining Capacity under Agreement (Baseline + 2035 Master Plan With WRF)[1]	273,443	276,784	338,533	429,828	332,176

Note: WRF=water reclamation facility.

1. Assumes that Phase 1 of the WRF will be online in 2022 and Phase 2 will be completed in 2028

Source: Watearth 2019a

As shown in Table 3.14-10, adequate wastewater treatment capacity would be available to meet future demands if the WRF is operational as projected, with the first phase completed in 2022 and second phase completed in 2028. There is also adequate wastewater treatment capacity to meet future demand up through year 2030. However, without the capacity derived from reclaimed water production at the WRF, there would not be adequate treatment capacity at the City's WRRF at buildout in 2035. While general timing of WRF construction and operation are planned, specific timing, design, and other details of the WRF are not yet known. Therefore, it cannot be determined with certainty that wastewater capacity would be available to meet increased demand from implementation of the 2035 Master Plan.

Based on modeling of the City's wastewater collection system, peak wet weather flow (PWWF), peak dry weather flow (PDWF), and average dry weather flow (ADWF) were calculated. As noted above, measured peak flows between 2015 and 2017 from campus were substantially less than the City's modeled results. Measured daily PWWF from Cal Poly into the City's wastewater system varied between a high of 374,892 gpd in 2015 and 665,702 in 2017 (Veium, pers. comm., 2019). As a result, the modeled results represent a very conservative analysis. Table 3.14-11 provides a summary of modeled PWWF, PDWF, and ADWF, assuming the WRF is operational as planned.

Table 3.14-11 Modeled ADWF, PDWF, and PWWF from Cal Poly to the City's WRRF

Wastewater Flow Type	Flow (gpd)				
	2015	2020	2025	2030	2035
No WRF					
ADWF	284,482	279,671	435,007	547,797	688,415
PDWF	739,653	727,144	1,131,019	1,424,272	1,789,880
PWWF	2,308,597	2,296,088	2,699,963	2,993,216	3,358,824

Wastewater Flow Type	Flow (gpd)				
	2015	2020	2025	2030	2035
Operational WRF					
ADWF	284,482	279,671	265,386	208,555	349,173
PDWF	739,653	727,144	961,398	1,085,030	1,450,638
PWWF	2,308,597	2,296,088	2,530,342	2,653,974	3,019,582

Notes: gpd=gallons per day; ADWF=average dry weather flow; PDWF=peak dry weather flow; PWWF=peak wet weather flow; WRRF=Water Resource Recovery Facility; WRF=water reclamation facility.

Source: Watearth 2019b

Model results indicate that even with the WRF operational as planned, PWWF from Cal Poly to the City's wastewater collection systems would continue to exceed the 1.2 mgd of transmission capacity agreed to by the City and Cal Poly for all analysis years through 2035, including the 2015 baseline year (Watearth 2019b). While the WRF is likely to have additional peak capacity to accommodate higher than average annual flows, it may not be adequate to reduce PWWF to 1.2 mgd. In addition to anticipated wastewater treatment flow rate reductions actions, improvements to Cal Poly's wastewater collection system would be needed to reduce the potential for future wet months to exceed the 1.2-mgd conveyance capacity agreement between Cal Poly and the City. Because adequate wastewater transmission capacity is not available under the current agreement and the WRF would not have additional capacity to fully accommodate PWWF, the development of new facilities under the 2035 Master Plan could result in adverse environmental effects, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.14-4a: Initiate Operation of the WRF to Ensure That It Can Meet the Offset Demand Associated with Campus Growth

Implement Mitigation Measure 3.14-4a described above. If the initial phase of the WRF is not operational by 2022 or if other near-term 2035 Master Plan projects are constructed before operation of the first phase of the WRF, Cal Poly shall not initiate operation of any new facilities or developments until such time as the WRF is available for use, or unless Cal Poly can demonstrate that, notwithstanding delay in WRF operation, adequate wastewater capacity is available to serve the new development through contractual treatment rights at the City's WRRF and/or conservation or other flow reduction measures.

Mitigation Measure 3.14-4b: Implement Capital Improvement Projects to Reduce Wastewater Flows

Cal Poly, as part of its Utility Master Plan, shall include capital improvement projects that would reduce wastewater flows and implement such plans prior to the development of new facilities that have the potential to increase wastewater flows such that no net increase in wastewater flows above 2018/2019-academic-year levels will occur from Cal Poly to the city's infrastructure. Capital improvements shall include, but are not limited to, the following:

- implement inflow and infiltration (I/I) reduction projects, including the replacement of on campus wastewater transmission pipes and systems in order to reduce PWWF to 2018/2019 academic year levels or less. Note, the I/I projects, including wastewater transmission pipe replacement, are addressed as part of the overall 2035 Master Plan development program which includes up to 1 linear mile of annual pipeline infrastructure replacement.
- additional water conservation measures, such as additional water use restrictions and upgrades of existing fixtures for on-campus facilities.

Design and planning of improvements shall be completed in coordination with the City and in a compatible manner with the City's existing wastewater transmission and treatment network. Cal Poly shall not initiate operation of any new on-campus facilities that would increase wastewater flows as part of the 2035 Master Plan until Cal Poly completes upgrade projects to reduce PWWF and Cal Poly can demonstrate no increase in PWWF to the City compared to 2018/2019-academic-year levels or additional City wastewater transmission and treatment capacity becomes available for use by Cal Poly.

Significance after Mitigation

As shown in Table 3.14-10, operation of the WRF would reduce wastewater flows to the City compared to existing conditions and through 2035 conditions and ensure that adequate capacity is available for wastewater treatment (and in accordance with existing agreements with the City) to serve the project. Implementation of Mitigation Measures 3.14-4a and 3.14-4b would require Cal Poly to demonstrate adequate wastewater capacity is available to serve all Master Plan projects. In particular, Mitigation Measure 3.14-a requires Cal Poly to ensure adequate wastewater treatment capacity is available to serve 2035 Master Plan projects before operation through construction of the WRF, treatment at the City's WRRF (pursuant to contract treatment rights) and/or through conservation or other reduction measures. Mitigation Measure 3.14-4b requires Cal Poly to implement I/I reduction projects and enhanced conservation measures and establishes a performance standard that would prohibit Cal Poly from operating new on campus facilities that would increase PWWF until the upgrade projects are complete and Cal Poly can demonstrate no increase in PWWF compared to 2018/2019 levels (or additional City WRRF capacity becomes available to Cal Poly). Therefore, implementation of the 2035 Master Plan would not result in inadequate wastewater conveyance or treatment capacity, and impacts would be reduced to **less-than-significant** levels.

Impact 3.14-5: Generate Solid Waste in Excess of State or Local Standards or in Excess of the Capacity of Local Infrastructure or Otherwise Impair the Attainment of Solid Waste Reduction Goals or Requirements

Implementation of the 2035 Master Plan would increase solid waste generation at Cal Poly. However, adequate landfill capacity is available at local and regional landfills to accommodate additional solid waste generated by the project through the year 2035 (and beyond). Compliance with the Cal Poly Zero Waste Policy would continue to reduce landfill contributions, consistent with CIWMA, AB 341, SB 1374, AB 1826, and SB 1383. This impact would therefore be **less than significant**.

Implementation of the 2035 Master Plan would increase on-campus population levels through 2035. Assuming waste generation rates remain the same as baseline conditions (see "Analysis Methodology," above), annual municipal solid waste generation at Cal Poly would increase from an existing level of 3,647 tons per year to 4,741 tons per year in 2035 (Table 3.14-12), resulting in consumption of additional remaining capacity at receiving landfills.

Table 3.14-12 Existing and Project Solid Waste Generation under 2035 Master Plan

Waste Source	Waste Generation Factor	Waste Generation Pounds per Day	Waste Generation Tons per Year
Existing Waste Generation	N/A	19,984	3,647
Waste from Increased Student Body (0.77)	0.77 pounds/person/day	2,455	448
Waste from Increased Staff (5.29)	5.29 pounds /person/day	1,603	293
Waste from Increased Faculty (5.29)	5.29 pounds /person/day	1,936	353
Total Waste Generated in 2035		**25,978**	**4,741**

As discussed above under Section 3.14.2, "Existing Conditions," the majority of generated waste at Cal Poly is diverted from landfills through recycling, composting, and donating/reselling efforts. In 2016 and 2017, Cal Poly achieved waste diversion rates of 89 and 86 percent, respectively. In addition, and as noted above, Cal Poly has reduced per-capita disposal by 38 percent since 2006. Adherence to CSU sustainability policy and Cal Poly's Zero Waste Policy would effectively result in a decrease in the amount of solid waste disposed of at landfills in the short term, and no contribution to landfill volumes in the long term. Of note, compliance with the Cal Poly Zero Waste Policy would continue to reduce landfill contributions, consistent with CIWMA, AB 341, SB 1374, AB 1826, and SB 1383. In any case, as shown in Table 3.14-4, county landfills have substantial capacity and are projected to be available for waste disposal through the planning period (2035). Thus, the 2035 Master Plan would not substantially affect landfill capacity such that additional waste disposal facilities would be required. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

4 CUMULATIVE IMPACTS

4.1 INTRODUCTION TO THE CUMULATIVE ANALYSIS

This EIR provides an analysis of cumulative impacts of the 2035 Master Plan taken together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the California Environmental Quality Act Guidelines (State CEQA Guidelines). The goal of such an exercise is twofold: first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant; and second, to determine whether the incremental contribution to any such cumulatively significant impacts by the project would be "cumulatively considerable," and thus significant. (See State CEQA Guidelines Sections 15130[a]–[b], Section 15355[b], Section 15064[h], and Section 15065[c]; and Communities for a Better Environment v. California Resources Agency [2002] 103 Cal. App. 4th 98, 120.) In other words, the required analysis intends first to create a broad context in which to assess cumulative impacts, viewed on a geographic scale beyond the project site itself, and then to determine whether the project's incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., "cumulatively considerable").

Cumulative impacts are defined in State CEQA Guidelines Section 15355 as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative impact occurs from "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (State CEQA Guidelines Section 15355[b]).

Consistent with State CEQA Guidelines Section 15130, the discussion of cumulative impacts in this Draft EIR focuses on significant and potentially significant cumulative impacts. Section 15130(b) of the State CEQA Guidelines provides, in part, the following:

> [t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

A proposed project is considered to have a significant cumulative effect if:

- the cumulative effects of development without the project are not significant and the project's additional impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- the cumulative effects of development without the project are already significant and the project contributes measurably to the effect.

The term "measurably" is subject to interpretation. The standards used herein to determine measurability are that the impact must be noticeable to a reasonable person or must exceed an established threshold of significance (defined throughout the resource sections in Chapter 3 of this EIR).

4.2 CUMULATIVE SETTING

4.2.1 Geographic Scope

The geographic area that could be affected by the project and is appropriate for a cumulative impact analysis varies depending on the environmental resource topic, as presented in Table 4-1. In general, local geographic area refers to the immediate project vicinity (e.g., the plan area and surrounding public viewpoints with respect to aesthetics). Regional, within the context of this EIR, refers to the County, but could refer to an applicable habitat conservation plan area or other regional plan area.

Table 4-1 Geographic Scope of Cumulative Impacts

Resource Topic	Geographic Area
Aesthetics	Local (plan area and surrounding public viewpoints)
Agricultural Resources	Regional (County)
Air Quality	Regional (San Luis Obispo County Air Pollution Control District—pollutant emissions that have regional effects) Local (immediate vicinity—pollutant emissions that are highly localized)
Archaeological, Historical, and Tribal Cultural Resources	Local (plan area and surrounding communities)
Biological Resources	Regional (County)
Energy	Regional (PG&E energy grid within City and County of San Luis Obispo)
Geology and Soils	Local (immediate project vicinity)
Greenhouse Gas Emissions	Global
Hydrology and Water Quality	Regional (watershed and groundwater basin) and Local (immediate project vicinity)
Noise	Local (immediate project vicinity)
Population and Housing	Regional and Local (plan area and surrounding communities within County)
Public Services and Recreation	Local (plan area and surrounding communities)
Transportation	Regional and Local (plan area and surrounding communities within County)
Utilities and Service Systems	Local (utility service areas)

Source: Compiled by Ascent Environmental in 2019.

As noted in Table 4-1, the potential geographic scope of some cumulative effects is more localized than others. To account for both regional and localized cumulative impacts, this EIR uses regional growth projections to assess regionally cumulative impacts and the list method to assess more localized cumulative impacts. Table 4-2 lists past, present, and future development projects in the vicinity of the campus. This list is not intended to be an all-inclusive list of projects in the region, but rather an identification of projects constructed, approved, or under review in the vicinity of the project area that have some relation to the environmental impacts of construction and operation of potential uses associated with implementation of the 2035 Master Plan. The list of projects is based on information obtained from the City of San Luis Obispo and includes projects within approximately 2 miles of campus within the City. No projects were identified within a 2-mile radius of campus in the unincorporated County of San Luis Obispo. However, several major projects/plans were identified outside of the 2-mile radius and were considered due to their potential for regionwide/countywide impacts. None of the non-Cal-Poly projects listed below are located within 750 feet of the Master Plan Area. Approved and pending Cal Poly projects that were considered part of the previous (2001) Master Plan but are currently in design or under construction are also listed in Table 4-2.

Table 4-2 Cumulative Projects List

Project Name	Developed or Proposed Land Use	Size (Acreage and/or Dwelling Units)	Status
Cal Poly			
Oppenheimer Family Equine Center	Agricultural	Riding arena, animal health center, events center	Planned for Construction
Center for Wine and Viticulture	Winery and academic	16,000 square feet of instructional space, 10,000 square feet dedicated to fermentation	Under Construction
Science and Agricultural Teaching and Research Complex	Academic	Faculty offices, conference and seminar rooms, lecture halls, classroom spaces	Under Construction
Vista Grande Dining Replacement	Restaurant	Three-story dining complex with six micro-restaurants	Under Construction
City of San Luis Obispo			
22 North Chorro	Mixed-Use (Residential/ Commercial/Retail)	27 residential units and approximately 2,000 square feet of commercial space	In Operation
71 Palomar Avenue	Residential	33-unit apartment complex	Under Construction
790 Foothill Mixed-use	Mixed-Use (Residential/ Commercial/Retail)	6,800 square feet, Four-story apartment complex (78 units, ground-floor commercial	Building Review
Montalban Mixed-Use	Mixed-Use (Residential/ Commercial/Retail)	430 square feet of commercial/retail and 15 residential units	Building Review
Olive Mixed-Use	Mixed-Use (Commercial/ Retail/Hotel)	24,000 square feet, five-story building with commercial/retail and 17 hotel rooms	Building Review
625 Toro	Residential	14 attached residential units	Under Construction
Los Padres Inn	Hotel	36-room hotel	Building Review
1185 Monterey	Mixed-Use (Residential/ Commercial)	2,464 square feet of commercial and 13 residential units.	Building Review
1105 Monterey	Mixed-Use (Commercial/Office)	27,079 square feet, three-story building with commercial/office space	Under Construction
956 Monterey Mixed-Use	Mixed-Use (Commercia/ Office/ Residential)	Three-story building with 4,000 square feet commercial/office space and 20 residential units	Planning Review
Ferrini Apartments	Residential	5 apartment units	Under Construction
Hotel SLO	Mixed-Use (Residential/ Hotel/Commercial)	25,000 square feet of commercial space, 30 residential units, 78-room hotel	Under Construction
Grenada Hotel Expansion	Hotel Expansion	Four-story addition to provide 22 additional rooms	Building Review
Marsh and Chorro Mixed-Use	Mixed-Use (Office/ Commercial/ Residential)	Seven-story building with 30,000 square feet of commercial/office space and 55 residential units	Planning Review
Hotel Cerro	Mixed-Use (Commercial/ Hotel/ Residential)	25,000 square feet of commercial space, 8 residential units, 64 hotel rooms	Under Construction
Monterey Place	Mixed-Use (Residential/ Commercial/Retail/Hotel)	29 residential units, three-room bed and breakfast, 12,255 square feet commercial/retail	Building Review
Palm Nipomo Parking Garage	Parking Garage	5,000 square foot parking structure	Planning Review

Project Name	Developed or Proposed Land Use	Size (Acreage and/or Dwelling Units)	Status
Hotel at the Creamery	Hotel	Four-story building, 47-room hotel, 6,698 square feet of commercial space	Building Review
San Luis Square	Mixed-use residential	Three four-story buildings with 19,792 square feet of commercial space, 63 residential units, 36 hotel rooms, and underground parking	Building Review
South Town 36	Mixed-Use (Residential/ Commercial)	36 residential units and 500 square feet of commercial space	Planning Review
Marsh & Carmel Mixed-Use	Mixed-Use (Commercial/ Residential)	Four-story building. 1,100 square feet commercial space and eight residential units	Under Construction
Monterey Hotel	Hotel	102-room hotel	Under Construction
Motel Inn	Hotel	55-room hotel, 13 recreational vehicle places, and 10 airstream spaces	Under Construction
545 Higuera Mixed-Use	Mixed-Use (Commercial/ Retail/ Residential)	Four-story building, 4,649 square feet of commercial/retail space, and 64 residential units	Planning Review
County of San Luis Obispo			
Envision Avila	Community Plan Update	Community plan to manage land uses and guide land use decisions in Avila for the next 20 years	Plan in progress
Los Osos Community Plan Update	Community Plan Update	Land use and transportation plan for Los Osos which determines how the community will grow and develop over the next 20 years	Draft EIR in progress
Oster/Las Pilitas Quarry	Aggregate Quarry	Aggregate quarry to extract 500,000 tons over 30 years on two parcels totaling 203 acres located at 6660 Calf Canyon Highway in Santa Margarita	Conditional Use Permit Application
Jack Ranch San Luis Obispo Agricultural Cluster Project	Residential	14 residences on 1-acre parcels, 163 acres of vineyards, 122 acres of open space, total of 299 acres	Planning Review Complete

Source: Data compiled by Ascent Environmental in 2019 based on data obtained from the City of San Luis Obispo, County of San Luis Obispo, and California Polytechnic State University (Cal Poly) in 2019.

4.3 ANALYSIS OF CUMULATIVE IMPACTS

The following sections contain a discussion of the cumulative effects anticipated from implementation of the 2035 Master Plan, together with related projects and planned development in the City and County of San Luis Obispo, and campus, for each of the 14 environmental issue areas evaluated in this EIR. The analysis conforms with Section 15130(b) of the State CEQA Guidelines, which specifies that the "discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

When considered in relation to other reasonably foreseeable projects, cumulative impacts to some resources would be significant and more severe than those caused by the proposed project alone.

For purposes of this EIR, the project would result in a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the 2035 Master Plan is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or

- the cumulative effects of related projects (past, current, and probable future projects) are already significant and implementation of the 2035 Master Plan makes a considerable contribution to the effect. The standards used herein to determine a considerable contribution are that either the impact must be substantial or must exceed an established threshold of significance.

This cumulative analysis assumes that all mitigation measures identified in Chapter 3 to mitigate project impacts are adopted and implemented, and all elements of the design build performance criteria that would minimize environmental effects are implemented. The analysis herein analyzes whether, after implementation of project-specific mitigation and performance criteria that minimize environmental effects, the residual impacts of the project would cause a cumulatively significant impact or would contribute considerably to existing/anticipated (without the project) cumulatively significant effects. Where the project would so contribute, additional mitigation is recommended where feasible.

4.3.1 Aesthetics

The cumulative context for aesthetics and aesthetic resource impacts for the 2035 Master Plan include the existing and planned land uses on and around the campus, including the City and County of San Luis Obispo. Development of past and current projects and future proposed projects continue to alter the visual environment of Cal Poly, San Luis Obispo and the surrounding area. With few exceptions (as noted below), the visual resource impacts of the related projects listed above are site-specific and would not necessarily combine with other projects because they are not in the same viewshed. This is due, in part to the urban location of many of the related projects, as well as intervening terrain and vegetation.

The most prominent public views from campus are the views of the Chorro Valley, Santa Lucia Range, Cuesta Ridge, and the Morros. Given the nature of the 2035 Master Plan, associated buildings or structures would be intended to compliment, rather than detract, from the cumulative aesthetic experience. Through the design review process implemented by Cal Poly, new development would be visually compatible (e.g., with the same or similar visual character) with existing and new campus development. However, the impacts of further development near SR 1 within the West Campus subarea (e.g., the Farm Shop and University-Based Retirement Community), and development of the Slack and Grand project in the East Campus subarea, combined with potential development in the surrounding unincorporated County, could intensify the urban character of the region, reduce agricultural land and open space, further detract from long-distance views of the Morros from locations within the City, and damage scenic resources within a state scenic highway (University-Based Retirement Community). Collectively, past, present, and probable future projects result in a cumulatively significant impact on aesthetics and scenic resources.

Cumulative effects of lighting are visible over a wide area, because the collective lighting from development in close proximity can create skyglow, which would be considered a significant cumulative impact. Under existing conditions, the campus and surrounding areas experience lighting in the form of streetlights, illumination for paths, buildings, and other facilities and structures. As described in Impact 3.1-3, implementation of the 2035 Master Plan would introduce new lighting sources; however, while these fixtures would be similar in nature to existing lighting, implementation of Mitigation Measures 3.1-3a through 3.1-3c would reduce potentially significant impacts to less-than-significant levels. By preventing slight spillover through implementation of mitigation, development under the 2035 Master Plan would prevent contributions to additional skyglow, and therefore, would not be considered cumulatively considerable. Cumulative impacts would be less than significant with respect to skyglow.

Development under the 2035 Master Plan, in combination with cumulative development, could result in substantial changes to the local viewshed because it would further limit views of the Morros and surrounding mountains. While development would be designed to be compatible with the surrounding visual environment, it would further limit long-distance views in the area and would reduce the visual quality of the area. The 2035 Master Plan would therefore result in a cumulatively considerable contribution to cumulatively significant impacts on views of the West Campus subarea and the surrounding portion of unincorporated San Luis Obispo County. This would be a **significant and unavoidable** cumulative visual impact.

4.3.2 Agricultural Resources

The cumulative setting for agricultural resources includes the areas surrounding and adjacent to campus. Because a significant portion of the land surrounding campus, particularly along its western and northern borders includes Important Farmland (defined as prime farmland, unique farmland, and/or farmland of statewide importance), cumulative development of these lands would result in the conversion of these lands to non-agricultural uses. Between 2008 and 2016, approximately 375 acres of Prime Farmland in San Luis Obispo County were converted to non-agricultural uses. This conversion represents a loss of one percent of Prime Farmland in San Luis Obispo County in the last decade (California Department of Conservation 2016). Lands converted from agricultural use to non-agricultural use typically do not return to agricultural use at a later date but become part of a more urban condition. Therefore, the aggregate loss of such agricultural land in San Luis Obispo County is cumulatively significant.

The preservation of designated farmland outside of campus is the responsibility of the public agency in which the land is located. General Plans of the City and County of San Luis Obispo contain policies that encourage preservation of lands designated for agricultural uses and those that may be listed as important farmland under the Farmland Mapping and Monitoring Program. While the purpose of implementing Mitigation Measure 3.2-1 is to reduce impacts of urban development on designated agricultural lands, it does not fully mitigate the permanent conversion of Important Farmlands which would occur with the development of the Facilities and Operations Complex/interim surface parking lot. The 2035 Master Plan would limit further conversion of Important Farmland within Cal Poly's jurisdiction to no more than 10 acres by focusing the majority of development within the main campus, particularly the Academic Core and immediately surrounding areas, which do not contain Important Farmland, and otherwise supports the ongoing preservation of Important Farmland. The only exception to this is the Facilities Operations Complex/interim surface parking lot site which is relatively isolated from other campus agricultural facilities and has limited agricultural production and teaching potential. Nonetheless, conversion of this site to non-agricultural uses would further reduce total acreage of Important Farmland in the region and impacts would be cumulatively considerable. Due to the historic decline in available farmland in the region and the projected conversion of up to 10 acres of Important farmland as a result of the 2035 Master Plan, cumulative impacts on agricultural resources would be **significant and unavoidable**.

4.3.3 Air Quality

The cumulative context for air quality is both regional (San Luis Obispo County Air Pollution Control District [APCD]) for criteria pollutants and local for carbon monoxide (CO), toxic air contaminants (TAC), and odors. The proposed land uses under the 2035 Master Plan would result in an increase of emissions from area sources, stationary sources, and mobile sources. Cumulative development in the region will continue to increase the concentration of pollutants from traffic, natural gas combustion in buildings, area sources, and stationary sources, but would be partially offset by state and Federal policies that set emissions standards for mobile and non-mobile sources.

Further, as noted in Section 3.3, "Air Quality," APCD provides guidance for evaluating air quality impacts at both the project- and plan-level. In accordance with APCD guidance for plan-level CEQA analyses, the 2035 Master Plan was evaluated qualitatively for consistency with the most recently adopted air quality plan in the region. Specifically, the guiding principles and sustainability features of the Cal Poly 2035 Master Plan were compared to the land use and transportation control measures and strategies outlined in the *2001 Clean Air Plan* and was determined to be consistent with applicable air quality plans and would not result in cumulatively considerable contribution to cumulatively significant impacts.

In addition, APCD-adopted thresholds apply at the project level and are cumulative in nature; that is, they identify the level of project-generated emissions above which impacts would be cumulatively considerable. Thus, they represent the level at which emissions of a given project would impede the air basin from achieving ambient air quality standards, considering anticipated growth and associated emissions in that region. APCD has not established plan-level numeric thresholds. Nonetheless, for the reasons detailed in Section 3.3, a quantitative emission analysis was conducted to disclose short-term construction and long-term operational emissions associated with projects developed in accordance with the 2035 Master Plan.

SHORT-TERM CONSTRUCTION

San Luis Obispo County is in nonattainment for ozone and PM_{10} with respect to the California Ambient Air Quality Standards (CAAQS), and for ozone with respect to the National Ambient Air Quality Standards (NAAQS). Construction activities in the region would emit additional particulate matter and ozone precursors that may conflict with attainment efforts in the County. Because the region is in nonattainment, the existing cumulative condition is adverse and any additional emissions would exacerbate that condition. However, APCD has established construction emission thresholds for individual construction projects, which determine whether that particular project's emissions would be cumulatively considerable (SLOAPCD 2012). As detailed in Section 3.3, based on the most intensive likely construction schedule (which assumes multiple 2035 Master Plan projects would be under construction simultaneously), and application of the APCD's individual project emission thresholds to these projects, construction emissions of reactive organic gasses (ROG), oxides of nitrogen (NO_X), and particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) could exceed the applicable mass emission thresholds established by APCD. Mitigation Measure 3.3-2 requires the incorporation of a menu of mitigation measures (derived from APCD guidance) into individual Master Plan projects that would reduce project-specific ROG, NO_X, and PM_{10} emissions. However, it is possible these mitigation measures would not reduce 2035 Master Plan emissions to a less-than-significant level. Therefore, should that occur, project construction emissions would be cumulatively considerable and the cumulative impact would be **significant and unavoidable**.

LONG-TERM OPERATION

From a plan-level perspective, the 2035 Master Plan would be consistent with the *2001 Clean Air Plan's* Land Use and Circulation Management Strategies, including planning compact communities; providing mixed land uses; balancing jobs and housing; promoting walking, biking, and transit use; and parking management. In addition, the 2035 Master Plan incorporates "smart growth" measures, such as the compact form around the Academic Core subarea and mixed land uses, which reduce reliance on cars and improve efficiency of infrastructure and energy use. The 2035 Master Plan allows for increased on-campus housing that would reduce commuting and its associated mobile-source emissions. The 2035 Master Plan also emphasizes a pronounced shift away from cars toward active transportation modes such as walking and biking. However, development of new uses, regardless of consistency with the plan would result in additional emissions within the cumulative context, and the following discussion focuses on whether those emissions would be cumulatively considerable.

Ozone impacts are the result of cumulative emissions from numerous sources in the region and transport from outside the region. Ozone is formed in chemical reactions involving NO_X, ROG, and sunlight. All but the largest individual sources emit NO_X and ROG in amounts too small to have a measurable effect on ambient ozone concentrations by themselves. However, when all sources throughout the region are combined, they can result in ambient concentrations of ozone that exceed the NAAQS and CAAQS.

PM_{10} and particulate matter with an aerodynamic diameter of less than 2.5 microns ($PM_{2.5}$) have similar regional cumulative impacts when particulates are entrained in the air and build to unhealthful concentrations over time. PM_{10} and $PM_{2.5}$ also have the potential to cause significant local problems during periods of dry conditions accompanied by high winds, and during periods of heavy earth disturbing activities. PM_{10} and $PM_{2.5}$ may have cumulative local impacts if, for example, several unrelated grading or earth moving activities are underway simultaneously at nearby sites. Operational PM_{10} and $PM_{2.5}$ are less likely to result in local cumulative impacts because operational sources of PM_{10} and $PM_{2.5}$ tend to be spread throughout the region (i.e., vehicles traveling on roads), not concentrating at any one receptor.

APCD has established operational emission criteria thresholds for individual projects beyond which a particular project's emissions would be cumulatively considerable (SLOAPCD 2012). A project that operates below the threshold levels is generally considered not to result in a cumulatively significant air quality impact, and those that operate above the thresholds would result in a cumulative impact.

As noted above, the 2035 Master Plan is consistent with applicable local air quality plans designed to reduce regional emissions. With the Master Plan, the level of emissions per service population (students, faculty, and staff) would go down through reduced vehicle miles traveled (VMT) and incorporation of modern, state-of-the-art building and facility design aimed at energy efficiency and other emission-reducing measures. Nonetheless, with implementation of the 2035 Master Plan, overall emissions of the campus would go up. As detailed in Section 3.3, an analysis was performed to quantify the potential operational emissions of development under the 2035 Master, which were compared to APCD's operational emission criteria thresholds for an individual project. This reflects a conservative analysis as it applies an individual project operational emission criteria to the total operational emissions resulting from all contemplated Master Plan projects. The analysis showed that the operation of the Master Plan projects (in total) will result in the generation of additional ROG, NO_X, and $PM_{10\ in}$, which are criteria emissions that form the basis for the region's non-attainment status and the existing adverse cumulative condition in the air basin. Although the 2035 Master Plan would not conflict with the policies and strategies in the local air quality plans, individual projects operating under the 2035 Master Plan could, in and of themselves, exceed the project-level operational emission thresholds developed and adopted by the APCD. Mitigation Measures 3.3-3a and 3.3-3b requires the incorporation of a menu of mitigation measures (derived from APCD guidance) into individual Master Plan projects that would reduce project-specific ROG, NOX, and PM10 operational emissions. However, it is possible these mitigation measures would not reduce a Master Plan development project emissions to a less-than-significant level. Should that occur, and with the additional emissions from cumulative development of all individual projects identified in Table 4-2, the Master Plan's air quality impacts would be cumulatively significant. As a result, the contribution of the project's operational emissions to the nonattainment status of San Luis Obispo County are considered to be cumulatively considerable. and the cumulative impact would be **significant and unavoidable**.

EXPOSURE TO POLLUTANT CONCENTRATIONS

Carbon Monoxide

Potential concentrations of CO, as noted in Impact 3.3-4, is a pollutant of localized concern because CO disperses rapidly with distance from the source under normal meteorological conditions. Thus, it is unlikely that the concentration of CO at a single receptor would be the result of more than one source of CO, unless many sources of CO are located close together (i.e., traffic congestion at a signalized intersection, potentially in excess of 35,000 vehicles per hour). The analysis under Impact 3.3-4, which examines whether vehicle trips generated from the 2035 Master Plan could result in localized CO concentrations that exceed the NAAQS and CAAQS, is inherently cumulative as screening levels identified by APCD are intended to determine if a project would result in a considerable contribution to the cumulative air quality condition. As discussed in Impact 3.3, the 2035 Master Plan would not trigger APCD screening levels as Master Plan vehicle trips are well below any CO thresholds and thus this impact would not be cumulatively considerable. This impact would be **less than significant**.

Toxic Air Contaminants

Toxic Air Contaminants (TACs), which are examined under Impact 3.3-5, are also pollutants of localized concern. High concentrations of TACs within urban areas may result from heavy vehicle traffic, industrial sources, or other sources, which when in close proximity to one another could result in unhealthy air quality conditions for nearby receptors, which would be considered a significant cumulative impact. However, due to the highly dispersive properties of TACs evaluated, emissions do not typically combine from construction or new stationary sources with other adjacent sources to result in cumulative impacts. Because of the localized nature of TACs and that project-generated TAC emissions would not be substantial, project-generated increases in TAC emissions would not be cumulatively considerable. Impacts would be **less than significant**.

ODORS

Emissions leading to odors adversely affecting a substantial number of people, which is examined under Impact 3.3-6, is also an impact of localized concern as odors dissipate rapidly with distance from the source. Construction of 2035 Master Plan projects and cumulative development would result in short-term increases in odorous emissions (i.e., vehicle exhaust) but these odors would be temporary and cease once construction of specific projects is complete. The 2035 Master Plan proposes construction of a water reclamation facility (WRF) on campus which could result in process emissions that generate odors. Mitigation Measure 3.3-6 would require Cal Poly to prepare an odor control plan that would be in place to reduce odor emissions and provide a mechanism for responding to any odor complaints. However, given the proximity of the WRF to onsite and future planned receptors, it is possible that the WRF could expose a substantial number of people to odors and a project-level significant impact would occur. Given the distance between the WRF and type and size of projects listed above in Table 4-2 and the local nature of odor impacts, odors generated from the WRF would not combine with other offsite odors from other cumulative development to create a cumulative impact. However, the WRF would be located near existing on-campus agricultural uses (e.g., onsite composting and cattle operations) which also are odor-generating land uses that could potentially combine with odors from the WRF. The addition of the WRF, even considering applicable mitigation, could result in odorous emissions that could combine with other onsite odor sources, resulting in a cumulatively significant odor impact. Because the WRF would be a major new facility that could expose people to offensive odors, when odors combine with existing odor sources, could result in increases of odor-related complaints and would be cumulatively considerable. As noted in Impact 3.3-6, implementation of an odor control plan at the WRF (Mitigation Measure 3.3-6) would be reduced to the extent feasible but the potential for odors from the WRF, in combination with other campus uses are known to generate odors, to be perceived by on-campus residents and within certain areas of the City would remain. As a result, impacts would be **significant and unavoidable**.

4.3.4 Archaeological, Historical, and Tribal Cultural Resources

The cumulative context for the cultural resources analysis considers a broad regional system of which the resources are a part. The cumulative context for historical resources is Cal Poly, the County of San Luis Obispo, and Central Coast where common patterns of historic-era settlement have occurred over roughly the past two centuries. The cumulative context for archaeological resources, human remains, and tribal cultural resources is the former territory of the Chumash, the Obispeño (after Mission San Luis Obispo de Tolosa), and the Salinan.

Because all significant cultural resources are unique and nonrenewable members of finite classes, meaning there are a limited number of significant cultural resources, all adverse effects erode a dwindling resource base. The loss of any one archaeological site could affect the scientific value of others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. The cultural system is represented archaeologically by the total inventory of all sites and other cultural remains in the region. As a result, a meaningful approach to preserving and managing cultural resources must focus on the likely distribution of cultural resources, rather than on a single project or parcel boundary.

Proper planning and appropriate mitigation can help to capture and preserve knowledge of such resources and can provide opportunities for increasing our understanding of the past environmental conditions and cultures by recording data about sites discovered and preserving artifacts found. Federal, state, and local laws are also in place that protect these resources in most instances. Even so, it is not always feasible to protect these resources, particularly when preservation in place would make projects infeasible, and for this reason the cumulative effects of past and present projects in the Central Coast could result in a potentially significant cumulative impact on cultural resources, including to human remains. Compliance with California Health and Safety Code Sections 7050.5 and 7052 and California Public Resources Code (PRC) Section 5097, as well as PRC Section 21080.3.2 and Section 21084.3 (a) and Cal Poly's continuing notification of the Northern Chumash Tribe and Torres Martinez Desert Cahuilla Indians of all projects, would require that treatment of the cultural and tribal cultural resources, including human remains, occurs in a manner consistent with the California Native American Heritage Commission guidance. Thus, the project's contribution to cumulative impacts to human remains would not be cumulatively considerable.

With regard to historic resources, the 2035 Master Plan does not presently propose to demolish or remove any existing known historic buildings or other resources, and to the extent any known historic buildings are remodeled, this would be done in compliance with the Secretary of the Interior Guidelines for the Rehabilitation, Reuse and Restoration of historic buildings as required by Mitigation Measure 3.4-1. Implementation of Mitigation Measures 3.4-1 would also require a historic structure report and evaluation of resources prior to ground-disturbing activities and would require all report recommendations be implemented to offset project impacts. However, it is possible that a historic building, feature, object, or structure, including those that have not yet been identified as historically significant and those that will become historically significant over the life of the Master Plan, would need to be demolished or altered in such a way that it would no longer convey its historic significance. This would cause a significant and unavoidable impact. With respect to archaeological resources, with implementation of Mitigation Measures 3.4-2a, 3.4-2b, and 3.4-2c, adverse effects on currently known archaeological resources and potentially newly discovered archeological resources would be avoided or mitigated. With implementation of these measures the project would not contribute to a cumulative loss of significant archaeological resources. Therefore, while impacts to archeological and tribal cultural resources will be avoided or mitigated to less than significant levels, the project's contribution to cumulative impacts on historic resources would be cumulatively considerable and impacts would be **significant and unavoidable**.

4.3.5 Biological Resources

Past development in San Luis Obispo County, ranging from conversion of land to agricultural production more than a hundred years ago to recent expansion of urban development, has resulted in a substantial loss of native habitat to other uses. This land conversion has benefited a few species, such as those adapted to agricultural uses, but the overall effect on native plants, animals, and habitat has been adverse. Although many future projects proposed in the vicinity of the campus would be required to mitigate significant impacts on terrestrial biological resources, in compliance with CEQA, the federal Endangered Species Act (ESA), California Endangered Species Act (CESA), and other state, local, and federal statutes, many types of habitats and species are provided no protection. Therefore, it can be expected that the loss of native habitat for plants and wildlife, agricultural lands, and open space areas that support important terrestrial biological resources in San Luis Obispo County will continue. Collectively, past, present, and probable future projects can result in a cumulatively significant impact on biological resources, and are considered collectively when determining a project's contribution to a cumulative effect.

As analyzed in Section 3.5, "Biological Resources," implementation of the 2035 Master Plan project could result in significant impacts to waters of the United States and waters of the state, special-status species (e.g., special-status plants, steelhead, California red-legged frog, tricolored blackbird and other nesting birds [including raptors], American badger, Monterey dusky-footed woodrat, special-status bats, western pond turtle, and coast range newt), non-native woodland, grasslands, and riparian habitats as a result of construction activities. Mitigation measures include provisions to reduce, avoid, and compensate for impacts in accordance with the requirements of ESA, CESA, and other regulatory programs that protect habitats, such as Clean Water Act (CWA) Section 404 and the Porter-Cologne Water Quality Act. Through full implementation of the mitigation measures, potential project-related impacts would be avoided, reduced, or compensated to such an extent that they would not result in a considerable contribution to a cumulative impact. Additionally, most of the permanent conversion and loss of habitat as a result of the 2035 Master Plan projects would be limited to already disturbed or previously converted habitats, and project implementation would not result in permanent habitat loss within surrounding open space. Therefore, the project would not result in a cumulatively considerable incremental contribution to a cumulatively significant biological resource impact; the cumulative impact would be **less than significant**.

4.3.6 Energy

The geographic area considered for cumulative impacts related to energy use includes the PG&E service area and campus. PG&E employs various programs and mechanisms to support provision of gas and electricity services to new development; to recoup costs of new infrastructure, connection fees are typically charged through standard billings for services.

Several other currently planned and approved projects identified in Table 4-2 would also receive electricity and natural gas service provided by PG&E. These projects would also consume energy related to transportation (i.e., gasoline and diesel consumption for passenger vehicles, trucks, buses, and other vehicles) and construction. These projects would be required to implement energy efficiency measures in accordance with the California Energy Code to reduce energy demand from buildings and would likely implement similar transportation demand management considerations to reduce vehicle trips and miles traveled, which would reduce fuel consumption. There is no evidence to suggest that implementation of cumulative development would result in wasteful or inefficient use of energy, and the cumulative energy impact would be less than significant.

As described above in Impact 3.6-1, according to Appendix F of the State CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. Impact 3.6-1 concludes that the project would not result in wasteful or inefficient use of energy and transportation-related fuel consumption per person would go down compared to existing conditions. Because the project would not result in wasteful or inefficient use of energy and not contribute to a significant cumulative impact, the project would not result in a substantial contribution to a significant cumulative impact. This impact would be **less than significant**.

4.3.7 Geology and Soils

Geologic and soils impacts are site-specific rather than regional in nature and any development occurring within campus would be subject to, at minimum, uniform site development and construction and regulatory standards relative to seismic and other geologic conditions that are prevalent within the region, such as the California Building Code standards. Therefore, cumulative geology and soils impacts would be **less than significant**.

4.3.8 Greenhouse Gas Emissions

The impact of greenhouse gas (GHG) emissions generated by Master Plan construction and operation, discussed under Impact 3.8-1 in Section 3.8, “Greenhouse Gas Emissions and Climate Change,” is inherently cumulative. GHG emissions from one project cannot, on their own, result in changes in climatic conditions; therefore, the emissions from any project must be considered in the context of their contribution to cumulative global emissions, which is the basis for determining a significant cumulative impact, as noted in Section 3.8. However, projected GHG emissions associated with the 2035 Master Plan are consistent with CSU and state targets for GHG emissions reduction and applicable plans for the reduction of GHG emissions. Therefore, the 2035 Master Plan would not result in a considerable contribution to a significant cumulative GHG impact. Impacts would be **less than significant**.

4.3.9 Hydrology and Water Quality

WATER QUALITY AND STORMWATER DRAINAGE

Water quality in the region has degraded over time as natural habitat has been converted to urban uses, including within the Master Plan Area and the City and County, and these uses have resulted in runoff of various pollutants into local and regional waterways. A variety of programs have been implemented with the goal of halting degradation of water quality and reversing this trend. Several state and Federal agencies are involved in these programs, many of which are required by or originate in the federal Clean Water Act.

Construction activities associated with implementation of the 2035 Master Plan would expose bare soil to rainfall and stormwater runoff, which could accelerate erosion and cause downstream sedimentation. Development under the 2035 Master Plan would be required to comply with the campus construction stormwater protection program, which, as implemented by the Cal Poly Storm Water Pollution Prevention Program (SWPPP), includes Best Management Practices (BMPs) such as construction site runoff control to prevent soil and construction wastes from leaving the construction site and entering surface waters and the storm drain system. Further, the 2035 Master Plan and future projects would be required to comply with the NPDES General Permit No. CAS000004 for Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4), which requires specific measures for site runoff control during construction and post-construction. These permits would ensure compliance with applicable laws and implementation of BMPs on the ground during construction.

Increase in campus population and campus facilities under the 2035 Master Plan would result in an increase in the amount of wastewater generated. Wastewater would be treated at the City's water resource recovery facility (WRRF) as well as the proposed WRF, to be constructed as part of the project. The City's WRRF and the proposed WRF would be required to comply with all applicable waste discharge requirements, including the National Pollutant Discharge Elimination System (NPDES) permit.

New impervious surfaces from development of the 2035 Master Plan would result in new sources of stormwater runoff and contamination, as well as an increased risk of erosion and sedimentation. However, development under the 2035 Master Plan, similar to the related project identified in Table 4-2, would be required to comply with the Cal Poly SWPPP, the Phase II Small MS4 Permit, which requires management of long-term stormwater discharges and implementation of pollution protection measures and the 2013 General Permit. Further, implementation of Mitigation Measure 3.9-3, which requires preparation of a Drainage Plan and Supportive Hydrologic Analysis for individual projects under the 2035 Master Plan, would further reduce the potential for onsite impacts under the 2035 Master Plan to be cumulatively considerable.

New development on campus would result in an overall increase in impervious surfaces and individual developments may require site-specific stormwater design features to ensure that the capacity of existing collection and detention/retention facilities would not be exceeded. Implementation of Mitigation Measure 3.9-3 would require drainage studies of projects proposed under the 2035 Master Plan and would ensure that necessary stormwater systems and/or on-site detention facilities would be engineered and constructed with appropriate sizing for anticipated storm events. This mitigation would reduce potential contribution of the 2035 Master Plan to less than cumulatively considerable.

Water quality regulations require implementation of construction and post-construction site specific BMPs and water quality protection measures. Therefore, the construction and operation of uses under the 2035 Master Plan and the construction and operation of the related projects identified in Table 4-2 would reduce site-specific water quality impacts such that cumulatively adverse hydrology and water quality impacts would not occur. The project would not have a considerable contribution such that a new significant cumulative impact would occur. The cumulative impact would be **less than significant**

GROUNDWATER SUPPLY AND RECHARGE

As noted in Section 3.9, "Hydrology and Water Quality," the San Luis Obispo Valley Basin, a regional groundwater basin over which lies a portion of the West Campus Subarea, has been designated as a high priority basin for development of a sustainable groundwater management plan, which indicates a potential cumulative overdraft of groundwater supplies. While implementation of the 2035 Master Plan would not increase groundwater withdrawals from the basin or elsewhere within the Master Plan Area, construction of Master Plan projects on currently undeveloped, unpaved, or uncompacted sites could have a modest effect on infiltration of rainfall and runoff to the underlying San Luis Obispo Valley Groundwater Basin. However, Mitigation Measure 3.9-3 would require a drainage plan and appropriate measures to ensure proposed development and redevelopment projects do not interfere substantially with groundwater recharge, reducing the potential contribution of the 2035 Master Plan to less than cumulatively considerable.

As noted in Sections 3.9, "Hydrology and Water Quality' and 3.14, "Utilities and Service Systems," Cal Poly will continue to withdraw approximately 120 acre-feet per year of groundwater from the seven campus wells in the deep aquifer for agricultural uses. No element of the 2035 Master Plan would result in increased groundwater withdrawal and no additional groundwater use or pumping is proposed. As a result, the 2035 Master Plan would not impede the sustainable management of the groundwater basin. As the project's contribution to the cumulative impact would not be cumulatively considerable, impacts would be **less than significant**.

FLOODPLAIN

Within the county, localized floods are typical after periods of sustained rain, especially within low-lying areas and near creeks. Development within these areas can be affected by flood flows, and depending on the use type, there is a risk of release of pollutants, which would be considered a significant cumulative impact. As noted in Section 3.9, "Hydrology and Water Quality," portions of the Master Plan Area are located within the 100-year floodplain (primarily around existing creeks and drainages), however, any new development proposed within the floodplain would be required to incorporate flood-proofing design measures to ensure that water quality and/or risks associated with flooding do not occur. The 2035 Master Plan may involve construction of additional academic and administrative facilities within these flood hazard zones, resulting in the risk of release of pollutants (e.g., oil, pesticides, herbicides, sediment, trash, bacteria, and metals) if a flood event were to occur. However, Mitigation Measure 3.9-7 would require that, if buildings are constructed within the 100-year flood zone, they would be placed above the 100-year flood elevation, to avoid potential impacts associated with flooding. Implementation of the aforementioned measure would ensure that development under the 2035 Master Plan would not be cumulatively considerable with respect to risks associated with a 100-year flood event. Therefore, cumulative impacts related to flooding would be **less than significant**.

4.3.10 Noise

Noise is typically considered a local impact because noise levels dissipate rapidly with increased distance from the source. When discussing increases in noise levels, a doubling of a noise source is necessary to result in a 3-dB (i.e., audible) increase. Thus, for cumulative noise impacts to occur, noise sources must combine to result in increases in noise at the same receptor that otherwise would not experience the increase attributed to the combined (or cumulative) condition.

CONSTRUCTION-GENERATED NOISE

Construction-related noise and vibration are typically considered localized impacts, affecting only receptors closest to construction activities. Therefore, unless construction of cumulative projects, including those proposed under the 2035 Master Plan, occur in close proximity to each other (i.e., less than 500 feet) and at the same time, noise and vibration from individual construction projects have little chance of combining to create cumulative impacts. For these reasons, cumulative noise and vibration impacts from construction are generally less than significant.

Noise and vibration associated with construction of new buildings and campus facilities associated with the 2035 Master Plan would be intermittent, temporary, and would fluctuate over the years as new buildings are constructed and existing buildings are maintained or repaired. In addition, mitigation measures are in place that would generally limit construction noise to the less-sensitive times of the day, and construction activities would implement construction noise- and vibration-reducing measures that would minimize construction noise and vibration, further reducing the chances for disturbing people.

Given that construction activities associated with 2035 Master Plan implementation would be dispersed throughout the entire campus, none of the off-campus projects listed in Table 4-2 are located within 500 feet of the Master Plan Area, construction activities would not readily combine with construction noise and vibration from other construction activities in the area to result in a substantial increase in cumulative noise and vibration levels. Furthermore, as on-campus projects listed in Table 4-2 would likely be completed by the time construction under the 2035 Master Plan occurs, the potential construction-generated noise and vibration impacts of those projects are not cumulatively considerable with the 2035 Master Plan. As such, construction noise and vibration, in general, would not be cumulatively considerable, and impacts would be **less than significant**.

OPERATIONAL NOISE

As discussed in Section 3.10, "Noise," project-related traffic increases would not result in a substantial noise increase on affected roadways (i.e., less than 1 dB). Refer to Table 3.10-20 for further information. Based on the project list provided in Table 4-2, vehicle roadway volumes are not anticipated to double, which would indicate a potential cumulative roadway noise impact. Therefore, even though traffic in the project vicinity is expected to increase under cumulative conditions, the project's contribution would not be cumulatively considerable, and impacts would be **less than significant**.

New development associated with the related projects listed in Table 4-2, as well as the 2035 Master Plan, would include stationary equipment associated with new sporting and special events, parking facilities, and building mechanical equipment. However, noise from these sources would be localized and would not combine with noise sources from other related projects in the project area due to a minimum 500-foot distance between sources. Further, mitigation is included as part of the 2035 Master Plan that would require that sport facilities, parking structures, stationary equipment, and the like is designed and located in such a way that noise is minimized at the nearest receptors. Increases in operational stationary noise sources would not combine with other area sources to result in a substantial increase in cumulative noise. This impact would not be cumulatively considerable. With respect to the siting of new sensitive receptors near existing noise sources, impacts associated with the location of new receptors on campus and the resulting exposure to sporting events on campus or parking structures, is site-specific and not cumulatively considerable. The impact would be **less than significant**.

4.3.11 Population and Housing

As described in Section 3.13, "Population and Housing," population within the County, including the City, has increased by 3.9 percent since 2010 (refer to Table 3.11-1). In addition, the county's housing vacancy rate has been consistently higher than the state's vacancy rate, while the City's housing vacancy rate has generally remained at just over five percent. Implementation of the 2035 Master Plan would allow a substantial increase in student and faculty growth but would also accommodate a commensurate increase in campus housing. Under the 2035 Master Plan, student enrollment is projected to increase by 3,188, while on-campus student housing is projected to increase by 7,238 beds. Thus, Cal Poly would provide more student housing on-campus with implementation of the 2035 Master Plan than the anticipated growth in the student enrollment. While providing additional capacity could be considered growth inducing, the provision of additional housing would allow for more of the existing student body (21,812 existing students) to live on-campus and reduce off-campus housing demand.

With respect to employees, Cal Poly faculty/staff could increase by 669 employees with implementation of the 2035 Master Plan. The 2035 Master Plan includes the construction of on-campus workforce housing for approximating 800 faculty/staff and families. In addition, the proposed retirement community would provide housing for approximately 250 retired Cal Poly faculty, staff, alumni and community members. Similar to student housing, the increase in on-campus faculty/staff housing would more than accommodate the projected employee growth, providing housing for existing faculty/staff to live on campus and housing for the local retirement community and reduce off-campus housing demand.

As noted in Section 3.13, "Population and Housing," the 2035 Master Plan, in and of itself, would increase demand for on-campus housing, which would be accommodated as part of the project, and temporarily (until 2022) increase demand for student housing off-campus for approximately 200 students. However, based on the local and regional housing vacancy rates of 6.3 percent (1,340 vacant units) and 12.3 percent (15,015 vacant units) within the City and County, respectively, the project would not represent a substantial contribution to potential housing demand or consume a substantial portion of the available housing stock. Further, of the cumulative projects listed in Table 4-2 above, 451 new residential units are reasonably foreseeable within two miles of the Master Plan Area and within the City and would more than accommodate the projected temporary increase in demand for student housing that may occur until 2022. For these reasons, the population and housing impacts related to implementation of the 2035 Master Plan would not result in a considerable contribution to cumulative population and housing impacts, and impacts would be **less than significant**.

4.3.12 Public Services and Recreation

PUBLIC SERVICES

Under existing conditions, public services are provided in the plan area and surrounding area by multiple agencies, including the San Luis Obispo City Fire Department, City of San Luis Obispo Police Department, Cal Poly University Police Department, San Luis Obispo County Fire Department and Cal Fire. As described in Chapter 3.12, "Public Services," police and fire services are shared between the City, County, and Cal Poly through various agreements, including the Automatic Aid agreement for fire service between the City and County/Cal Fire. School services are primarily provided by San Luis Coastal Unified School District (SLCUSD). As noted by the projects listed in Table 4-2, cumulative development in the region continues to increase the concentration of people and structures within these local public service jurisdictions which in turn increases demand for such services.

The increase in population under the 2035 Master Plan could continue the trend of increasing the demand for public services and could combine with other proposed development projects within the City listed in Table 4-2 to result in a cumulative increase in demand for public services such that new or physically altered governmental facilities would be required to maintain acceptable service ratios, response times, or other performance objectives and the construction of which could cause significant environmental impacts. As noted in Section 3.12, "Public Services," it is not anticipated that new or expanded public facilities would be required to accommodate development under the 2035 Master Plan. Further, the new development and growth listed in Table 4-2 would occur within existing developed areas where adequate public services currently exist. To the extent that any potential expansion of public facilities is required to accommodate new development and growth in the area, it is reasonable to assume that these would be expansions of existing facilities, or new facilities in already developed areas which would typically be exempt from CEQA review as infill development. The other development projects listed in Table 4-2 would also be required to pay impact fees consistent with local jurisdiction requirements, including the City and SLCUSD, to ensure the adequate provision of public services, including schools, in the future. Nonetheless, the 2035 Master Plan would not expand service areas nor is it anticipated to require additional facilities/services, and therefore, the impact of the project on public services would not be considered cumulatively considerable. Cumulative impacts to public services would be **less than significant**.

RECREATION

The cumulative context for recreation facilities includes the County, City, and Cal Poly. Past and present development has resulted in an increase in demand for recreation resources and a subsequent dedication of parklands and open space consistent with state and local plans and policies. This has increased the number of developed parklands, trails, and recreational facilities, and the amount of preserved open space within the surrounding County, City, and campus. As detailed in Section 3.12, "Public Services and Recreation," the 2035 Master Plan would increase the level of recreational opportunities on campus for students and local residents.

Nonetheless, the increase in population under the 2035 Master Plan would continue the trend of increasing the demand for recreational resources and could combine with other proposed development projects within the city and unincorporated county to result in a cumulative increase in the use of existing recreational resources, which could be cumulatively significant. Although the Quimby Act, which applies to cities and counties in the context of approval of residential subdivisions, does not apply to Cal Poly, its parkland standard of 3 acres per 1,000 persons is a reasonable metric by which to assess impacts of the 2035 Master Plan on parks and recreation. The 2035 Master Plan would provide an increase in outdoor recreational space from 63.9 acres to 82.5 acres and would provide 4.7 acres of recreational lands per 1,000 persons, in consideration of the net increase in campus population. Thus, although Cal Poly is not subject to the standards of the Quimby Act, the increase in recreational facilities/areas under the 2035 Master Plan would be consistent with the Quimby Act and would offset the incremental increase in recreational facility demand associated with implementation of the 2035 Master Plan. The increase in on-campus recreational lands would reduce impacts to regional recreation facilities in the county and city. Other new developments in the city and unincorporated county are required to pay fees to mitigate for increased park demands in accordance with the Quimby Act (California Government Code Section 66477), to offset maintenance and construction of recreation facilities in response to increases in population. While some use of off-campus recreational facilities by students and faculty is likely, the highest demand is expected to come from students living off-campus. Under the 2035 Master Plan, the on-campus housing population would exceed increased enrollment, and it is anticipated that the new on-campus residents would primarily use the available on-campus recreational facilities. Thus, there is no evidence to suggest that such use would contribute substantial physical deterioration of off-campus recreational facilities.

For the reasons described above, the 2035 Master Plan would not result in a cumulatively considerable contribution such that a significant cumulative recreation impact would occur.

4.3.13 Transportation

VEHICLE MILES TRAVELED

Existing region-wide and project-generated VMT was calculated using the San Luis Obispo Council of Governments (SLOCOG) regional traffic model. The model uses land use alternatives of various developments, such as the 2035 Master Plan and the projects listed in Table 4-2, as an input and, using San Luis Obispo region's transportation network, predicts various measures of transportation conditions, such as VMT, through trip assignments within the region's transportation network based on standardized trip generation rates and other factors for those land uses. As further explained in Section 3.13, "Transportation," the SLOCOG model, due to its consideration of the strong rural character of the County, was used to present a more conservative analysis of potential VMT per capita. Due to land use assumptions inherent to the SLOCOG model, VMT estimates are generally higher than compared to the VMT estimates that would be generated using the City's VMT model. The City's VMT model would have considered land use information of the citywide model, which accounts for additional vehicle travel efficiencies associated with increased density within the city, thereby resulting in a lower estimate of campus VMT. With respect to campus, Cal Poly demographics and the nature of campus uses [e.g., high proportion of on-campus housing, relatively high use of alternative transportation] would generate fewer VMT per capita as compared to the SLOCOG region as a whole. Nonetheless, because there are students, faculty and staff who reside off-campus and outside the City of San Luis Obispo, use of the SLOCOG model was considered the most conservative and therefore appropriate model.

The model also includes growth factors based on adopted growth plans for various municipalities within the county that can be used to predict future (i.e., cumulative) transportation conditions. The cumulative impact associated with implementation of the 2035 Master Plan is evaluated using the growth factors, as well as the geographical boundary method for estimating VMT, which captures all VMT on a roadway network within a specified geographic area, including local trips plus interregional travel that does not have an origin or destination within the area. This method considers traffic within the physical limits of the selected study area for which most of the campus trips occur. VMT estimated in this way is a more complete evaluation of the potential effects of the project because it captures the combined effect of new VMT, shifting VMT to and from other neighborhoods, and/or shifts in existing traffic to alternate travel routes or modes. The cumulative VMT is divided by the service population (residents plus employees) to distinguish the effects of population and/or employment growth from the effects of changes in personal travel behavior.

The methodology for establishing a VMT significance threshold for the project is consistent with and based on the guidance provided within the CSU Transportation Impact Study Manual (TISM). As detailed in the CSU TISM, cumulative impacts are analyzed according to whether a project would increase or decrease the forecasted regional VMT per capita to determine if a project would result in a significant transportation impact. Therefore, the contribution of the 2035 Master Plan would be cumulatively considerable, as it relates to VMT, if it meets the following criteria:

- project-generated VMT, in the cumulative scenario, per service population for the campus as a whole exceeds the forecasted county VMT per service population (i.e., 26.22).

Under cumulative conditions, the VMT per service population generated for the San Luis Obispo region as a whole, both with and without implementation of the 2035 Master Plan, are presented in Table 4-3.

Table 4-3 Cumulative Plus Project VMT

	Cumulative Conditions	Cumulative with Project Conditions
San Luis Obispo County		
Vehicle Miles Traveled (D)	12,703,200	12,740,000
Service Population (E)	484,400	516,300
VMT per Service Population (D/E = F)	26.22	24.68

Notes:

[1] Rounded service population and VMT to nearest 100.

[2] Service population is defined as the sum of all employees, residents and students.

Source: Data compiled and provided by Fehr & Peers 2019.

As shown on Table 4-3, VMT per service population for the San Luis Obispo region under cumulative conditions, with implementation of the 2035 Master Plan, is projected to decrease from 26.22 to 24.68. Therefore, the countywide VMT per service population with the project would not exceed the countywide VMT per service population (i.e., 26.22) without the project. Accordingly, the 2035 Master Plan would not result in a considerable contribution to a significant VMT impact. Impacts would be **less than significant**.

TRANSIT SERVICE AND FACILITIES, BICYCLE FACILITIES, AND PEDESTRIAN FACILITIES

Campus development identified in the 2035 Master Plan would occur incrementally over time. Combined with other cumulative development in the area, the need for transit service and facilities, bicycle facilities, and pedestrian facilities is anticipated to increase. With the current trend of emphasizing alternative modes of travel, the cumulative growth of the region, including the 2035 Master Plan and the projects listed in Table 4-2, could exceed the capacity of existing facilities, which would be considered a significant cumulative impact. However, through continued implementation of Mitigation Measures 3.13-2, 3.13-3, and 3.13-4, bi-annual monitoring of existing facilities and assessment of the potential need for further facility improvements to allow for additional capacity, followed by implementation of those improvements, would reduce the contribution of the 2035 Master Plan to less than cumulatively considerable levels. Therefore, implementation of Mitigation Measures 3.13-2 through 3.13-4 would reduce potential significant impacts associated with transit service and facilities, bicycle facilities, and pedestrian facilities under the 2035 Master Plan that might occur under cumulative conditions to a **less than significant** level by ensuring that service and facilities are sufficient to accommodate demand, minimizing potential adverse effects on operations, and minimizing conflicts between all travel modes.

4.3.14 Utilities and Service Systems

The cumulative context for water supply/treatment/distribution and wastewater collection/treatment is based on the various agreements between Cal Poly, the City of San Luis Obispo, and other entities. The cumulative context for solid waste is San Luis Obispo County, and the cumulative context for electricity and natural gas facilities is the service area for each utility.

WATER SUPPLY AND INFRASTRUCTURE

Section 3.14, "Utilities and Service Systems" describes the existing and future conditions of water supply and the need for new and expanded water infrastructure. As noted in that section, there are existing agreements between the Whale Rock Commission, the City of San Luis Obispo, Cal Poly, and the California Men's Colony related to water supplies from Whale Rock Reservoir; and, with respect to conveyance and treatment, Cal Poly and the City of San Luis

Obispo have existing agreements related to infrastructure. In general, because Cal Poly is assured a specific volume of water from Whale Rock reservoir and will accommodate growth through that supply, additional conservation, and in lieu supply through construction of the WRF, Cal Poly's water demand will not cumulatively combine with demands from new developments in the city or county. Refer to Section 3.14, "Utilities and Service Systems," for further clarification.

As discussed under Impact 3.14-3, development under the 2035 Master Plan would result in increased population levels and development of new buildings, which would increase water demands. With consideration of campus water demand reduction through conservation measures and development of the proposed WRF, future demands could be met. However, the WRF must be constructed such that the first phase is completed in 2022 and second phase is completed in 2028 to ensure that water demands remain consistent with (i.e., do not exceed) Cal Poly's existing agreements, including those with the City of San Luis Obispo. However, the design, timing, and other details of the WRF are not yet established, so it cannot be determined with certainty that water supplies would be available to meet increased demand from implementation of the 2035 Master Plan. Implementation of Mitigation Measure 3.14-3 establishes a performance criterion, related to construction and operation of the WRF, for near-term projects that requires adequate water supplies to be available to support Cal Poly through 2035. Because near-term projects would not be constructed without demonstration of adequate water supplies, cumulative impacts would be less than significant.

As discussed under Impact 3.14-1, water originating from Whale Rock Reservoir is pumped to the City's treatment plant and conveyed through City pipelines to Cal Poly. Implementation of the 2035 Master Plan would increase the quantity of water conveyed through the existing City connections. Modeling efforts indicate that there is adequate potable conveyance capacity to accommodate anticipated development associated with the 2035 Master Plan under average day demand, peak daily demand, and peak hourly flow. As it relates to on-campus pipelines and other infrastructure associated with development under the 2035 Master Plan, it is reasonable to assume that new facilities would be placed in areas where water supply utility infrastructure is available, such as adjacent to other developed uses. Thus, the 2035 Master Plan would not be cumulatively considerable when considered together with the projects listed in Table 4-2, and therefore cumulative impacts related to new or expanded water infrastructure would be **less than significant**.

WASTEWATER TREATMENT

Section 3.14, "Utilities and Service Systems" discusses the existing and future conditions of wastewater treatment capacity. This impact is cumulative in nature because Cal Poly and the City of San Luis Obispo have existing agreements related to treatment conveyance and capacity. Similar to the assessment of water supply and infrastructure above, because Cal Poly is assured a specific volume of wastewater conveyance and treatment, the University's wastewater generation will not cumulatively combine with demands from developments in the city or county.

Under the 2035 Master Plan, construction and operation of proposed buildings and increased campus population would increase wastewater generation. Several actions are proposed, however, to reduce per-capita wastewater generation, including replacing toilets, urinals, faucets, and showerheads with low-flow alternatives. Cal Poly proposes, as part of the 2035 Master Plan, to construct a WRF to treat up 339,242 gallons per day of campus-generated wastewater, which, along with ongoing waste water treatment at the City's WRRF pursuant to existing contracts, would meet the 2035 Master Plan's wastewater treatment needs, as described in Section 3.14, "Utilities and Service Systems." However, the timing and other details of the WRF is unknown and planned conservation actions may not be sufficient to reduce wastewater flows such that capacity of the wastewater collection conveyance system would be available to accommodate waste water treatment needs after the year 2030 and potential increases in peak wet weather flows through the life of the 2035 Master Plan. Implementation of Mitigation Measures 3.14-4(a) establishes a performance criterion which requires that Cal Poly demonstrate that adequate waste water treatment capacity is available to serve each Master Plan project through the construction of the WRF, through contractual treatment rights at the City's WRRF and/or through conservation or other flow reduction measures. In addition, Mitigation Measure 3.14-4(b) requires the design, planning and implementation of other wastewater flow reduction measures (including replacement of aging pipes to reduce inflow and infiltration (I/I)), such that peak wet weather flows to the City's WRRF would not increase beyond 2018/2019 levels. As a result, the project contribution would not be cumulatively considerable as it would not add additional flows to the City's existing wastewater collection and treatment system in excess of existing contractual rights or peak wet weather conditions. Therefore, impacts related to wastewater treatment and collection capacity would be **less than significant**.

ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATIONS FACILITIES

As noted in Section 3.14, "Utilities and Service Systems," electricity, natural gas, and telecommunications services are currently provided by Pacific Gas & Electric (PG&E), the California Department of General Services, and Cal Poly's Information Technology Services, respectively. As development within an area occurs, such as the projects listed in Table 4-2, these service providers typically incorporate their development into their assessment of their associated infrastructure. Nonetheless, development under the 2035 Master Plan, in combination with the projects listed in Table 4-2, would result in an increase in electrical, natural gas, and telecommunications demands. However, during the aforementioned assessments, utility providers periodically consider the need to purchase more resources and upgrade/expand infrastructure. In addition, Cal Poly is currently in the processes of preparing a Utility Master Plan, which will detail the need and design for upgraded and expanded energy infrastructure associated with the 2035 Master Plan. Impacts related to construction of the infrastructure projects are evaluated in the relevant resources section (e.g., biological resources, cultural resources, hydrology and water quality) of this EIR. With inclusion of relevant mitigation measures, project-specific impacts would be reduced and incremental contributions of construction-related effects from infrastructure improvements would be less than cumulatively considerable. Thus, cumulative impacts would be **less than significant**.

SOLID WASTE

Generally, the capacity of solid waste facilities in San Luis Obispo County is continually declining as cumulative development and ongoing disposal reduces remaining capacity. However, the three regional landfills located near Cal Poly can accommodate up to 2,600 tons per day of solid waste with a total remaining capacity of 25,000,000 cubic yards and none of these landfills are anticipated to close prior to 2039. As a result, the projected 3-ton-per-day increase in solid waste disposal needs associated with implementation of the 2035 Master Plan would not be cumulatively considerable. In addition, and as discussed in Section 3.14, "Utilities and Service Systems," a significant portion of the waste stream generated at Cal Poly is diverted from landfills through recycling, composting, and donating/reselling efforts. Currently, approximately 85 or more percent of waste generated at Cal Poly is diverted from landfills. As per CSU sustainability policy, Cal Poly must achieve an 80 percent reduced waste diversion rate by the year 2020 (and at more than 85 percent the university is ahead of schedule) and then continue toward zero waste by 2040. This would effectively result in a decrease in the total amount of Cal-Poly-related solid waste, including that associated with the 2035 Master Plan, disposed of at landfills in the short-term, and no contribution to landfill volumes in the long-term. Thus, contribution of the 2035 Master Plan to cumulative impacts on capacity of solid waste facilities would not be cumulatively considerable, and cumulative impacts would be **less than significant**.

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5 ALTERNATIVES

5.1 INTRODUCTION

The CCR Section 15126.6(a), State CEQA Guidelines requires EIRs to describe "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project, and foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." This section of the State CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis is as follows:

> Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The State CEQA Guidelines require that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (CCR Section 15126.6[d]).

The State CEQA Guidelines further require that the "no project" alternative be considered (CCR Section 15126.6[e]). The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed project. If the no project alternative is the environmentally superior alternative, CEQA requires that the EIR "shall also identify an environmentally superior alternative among the other alternatives." (CCR Section 15126[e][2]).

In defining "feasibility" (e.g., "feasibly attain most of the basic objectives of the project"), CCR Section 15126.6(f) (1) states, in part:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, here the Board. (See PRC Sections 21081.5, 21081[a][3].)

5.2 CONSIDERATIONS FOR SELECTION OF ALTERNATIVES

5.2.1 Attainment of Project Objectives

In determining what alternatives should be considered in the EIR, the objectives of the project must be considered, as attainment of most of the basic objectives forms one of the tests of whether an alternative is feasible (see discussion above). Cal Poly identified the following project objectives, as previously described (see Chapter 2, "Project Description"):

- Support and advance the University's educational mission by guiding the physical development of the campus to accommodate gradual student enrollment growth up to a future enrollment of 22,500 FTES by year 2035 while preserving and enhancing the quality of campus life.
- Enhance academic quality and student success through Cal Poly's "Learn by Doing" teaching methodology through the provision of physical facilities that allow students to take a hands on approach and conduct project-based learning.
- Expand campus programs, services, facilities, and housing to support and enhance the diversity of students, faculty, and staff.
- Site campus facilities and housing to strengthen the campus's compact Academic Core and promote cross-disciplinary synergies between complementary academic, student/faculty support, and housing programs.
- House all first- and second-year students plus 30 percent of upper-division students in residential communities on campus.
- Provide housing opportunities on campus primarily for university faculty and staff to promote recruitment and retention and enhance faculty and staff engagement with the campus. In addition, provide housing opportunities and complementary services that may be offered to nontraditional students such as graduate students, veterans, students with families; potentially alumni housing or a retirement community; and for members of the San Luis Obispo community.
- Provide and enhance campus facilities to create a more vibrant evening and weekend environment.
- Attain a modal shift from vehicles to more pedestrian, bicycle, and transit use.
- Advance campus-wide environmental sustainability and make progress toward goals of carbon neutrality and climate resilience.
- Consider the interface between Cal Poly and the surrounding communities with respect to shared economic health, housing, multimodal transportation, open space and agricultural resources, diversity, and public services.
- Preserve the core of the Main Campus for instructional and student service uses and move support functions/facilities to the perimeter.

5.2.2 Summary of 2035 Master Plan Impacts

The Executive Summary chapter of this EIR presents a detailed summary of the potential environmental impacts of implementation of the 2035 Master Plan. Overall, the 2035 Master Plan would result in significant and unavoidable impacts with respect to aesthetics; agricultural resources; air quality; archaeological, historical, and tribal cultural resources; and noise.

5.3 ALTERNATIVES CONSIDERED BUT NOT EVALUATED FURTHER

As described above, State CEQA Guidelines Section 15126.6(c) provides that the range of potential alternatives for the project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. Alternatives that fail to meet the fundamental project purpose need not be addressed in detail in an EIR. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1165-1167.)

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by lead agency decision-maker(s). (See Pub. Resources Code, § 21081(a)(3).) At the time of action on the project, the decision-maker(s) may consider evidence beyond that found in this EIR in addressing such determinations. The decision-maker(s), for example, may conclude that a particular alternative is infeasible (i.e., undesirable) from a policy standpoint, and may reject an alternative on that basis provided that the decision-maker(s) adopts a finding, supported by substantial evidence, to that effect, and provided that such a finding reflects a reasonable balancing of the relevant economic, environmental, social, and other considerations supported by substantial evidence. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 401, 417; *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 998.)

The EIR should also identify any alternatives that were considered by the lead agency but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination. The following alternatives were considered by Cal Poly but are not evaluated further in this Draft EIR.

5.3.1 Academic Core and East Campus Infill

Based on public input received during the NOP public review period and subsequent coordination with local agencies, Cal Poly evaluated several alternatives that involved an increase in student housing beyond what is currently proposed. Under this alternative, Cal Poly would focus additional campus development beyond what is contemplated in the 2035 Master Plan within the Academic Core and East Campus subareas (east of California Boulevard, west of Perimeter Street and south of Highland Road). This alternative would involve infill and redevelopment, with dense student housing projects providing up to approximately 7,000 additional beds. This alternative would result in a reduction in potential academic and administrative space compared to the 2035 Master Plan, as well as loss of the existing recreation, plaza, and field space within the Academic Core subarea. Due to the densification of uses within these two subareas of the main campus, there would also be a potential for loss of connection between some academic programs and research/field space. Although this alternative would result in additional housing opportunities within the central campus, it would represent a greater level of development and disturbance within a smaller and already developed area, thereby resulting in potentially greater impacts to air quality (construction-related); noise (construction-related); historic, archaeological and cultural resources; and even, aesthetic impacts depending on the placement of structures in the southern portion of the main campus. Finally, while it would achieve some of the objectives stated in Section 5.2, it would not achieve several others to the degree to which the 2035 Master Plan would, including enhancing academic quality through the provision of physical facilities that allow students to take a hands on approach and conduct project-based learning, and the preservation and enhancement of the quality of campus life. In addition, it would not, as noted above, maintain and promote cross-disciplinary synergies between complementary academic, student/faculty support, and housing programs as well as the 2035 Master Plan. It would also not be consistent with the objective to preserve the core of the Main Campus for instructional and student service uses and move support functions/facilities to the perimeter. Thus, because this alternative would not meet most of the basic project objectives and would not reduce or eliminate an environmental impact, relative to the 2035 Master Plan, this alternative is not feasible and is not considered in further detail.

5.3.2 Additional On-Campus Housing (i.e., 4-Year Housing Guarantee)

Under this alternative, Cal Poly would provide greater on-campus housing opportunities for students, up to a 4-year housing guarantee. In other words, Cal Poly would extend the opportunity for all students (graduates and undergraduates) to live on campus. Using target enrollment numbers (25,000) and assuming up to 80 percent of students would pursue guaranteed housing, Cal Poly would need to provide approximately 20,000 beds on campus. That would represent an increase of approximately 12,238 student beds from existing conditions and a 5,042-bed increase above the on-campus beds anticipated under the 2035 Master Plan. If all housing was to occur within the planning horizon, implementation of this alternative would require the construction of approximately 1.66 million square feet of additional student housing. This alternative would involve a greater level of development within Cal Poly property and additional land use changes (likely conversion of agricultural facility space to student housing). As a result, this alternative would result in greater impacts than those under the 2035 Master Plan. Further, this alternative would resemble Alternative 4 (see below) in terms of total development and is not considered materially different such that it would contribute to a "reasonable range" of alternatives. For this reason, this alternative is not considered necessary to meet CEQA requirements for an alternative to be considered. As a result, this alternative is not considered in further detail.

5.3.3 Limited Student Enrollment Alternative

Under this alternative, Cal Poly would limit student enrollment on campus resulting in a reduced need for development. Depending on the limit of enrollment and development, this could result in reduced impacts in various issue areas. This alternative was dismissed from further consideration it would not allow Cal Poly to meet its state/constitutional educational obligations and would not meet the most basic of project objectives.

5.4 ALTERNATIVES SELECTED FOR DETAILED ANALYSIS

The following alternatives evaluated in this Draft EIR:

- **Alternative 1: No Project Alternative.** This alternative would involve the continued implementation of the 2001 Master Plan. Planned growth as expressed in the 2001 Master Plan would continue up to its planned capacity, primarily associated with new academic/administrative space.
- **Alternative 2: Reduced Administrative/Academic Development Program.** Under this alternative, Cal Poly would implement a master plan with an overall reduction in planned campus development of administrative/academic space. Approximately 500,000 gross square feet (gsf) of new academic/administrative space would be provided, compared to approximately 1,290,000 gsf of new academic/administrative space under the 2035 Master Plan, resulting in less ground disturbance and other development-related impacts. Further, approximately 455,000 gsf of renovations would occur within existing structures under this alternative, for a total development/renovation potential of 955,000 gsf. Proposed growth in on-campus student housing (approximately 7,200 student beds) and growth in enrollment would be the same as the 2035 Master Plan.
- **Alternative 3: Net Student Growth Only.** Under Alternative 3, Cal Poly would implement a long-range campus plan that reduces the level of student housing development relative to the proposed increase of approximately 7,200 student beds. This alternative would provide up to 3,188 student beds, which would correspond to the projected increase in student new enrollment at Cal Poly. The 1,750,000 gsf of new academic/administrative space proposed under the 2035 Master Plan would remain the same under this alternative. Under this alternative, the faculty/staff and workforce housing project located at Slack Street and Grand Avenue and the University-Based Retirement Community would not be constructed.
- **Alternative 4: No Development along City Interface.** This alternative would include development of the campus similar to that under the 2035 Master Plan, however no development would be proposed along (i.e., within 500 feet/0.1 mile) the campus's southern boundary with the city of San Luis Obispo. Those projects associated with the 2035 Master Plan that would be located within these areas would be relocated within the North and West Campus

subareas. Under this alternative, the faculty/staff and workforce housing project at Slack Street and Grand Avenue and the University-Based Retirement Community would not be constructed in their current locations but would be more centrally located within the Master Plan Area. Spanos Stadium expansion and the expansion of the Orfalea Family and ASI Children's Center would still occur under this alternative, as they both would involve an expansion of an existing facility that could not be relocated to an alternative site within the interior campus.

Further details on these alternatives, and an evaluation of environmental effects relative to the project, are provided below.

5.4.1 Alternative 1: No Project–No Development Alternative

CEQA Guidelines Section 15126.6(e)(1) requires that the "no project" alternative be described and analyzed "to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project." The no project analysis is required to discuss "the existing conditions at the time the notice of preparation is published…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (Section 15126.6[e][2]). "If the project is…a development project on identifiable property, the no project alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment" (Section 15126[e][3][B]).

The 2001 Master Plan is the existing long-range plan for the campus. For this reason, continued implementation of the current plan would continue if Cal Poly does not adopt and begin implementation of the 2035 Master Plan or other long-term plan for campus. Based on current historical trends, annual student enrollment has steadily increased; thus, this alternative assumes that same trend over time, resulting in gradual student population growth. Under the 2001 Master Plan, additional campus growth would be primarily associated with increases in academic and administrative space, likely limited to just the Academic Core subarea and would likely not exceed an additional 500,000 gsf of academic/administrative space. Under this alternative, Cal Poly would provide additional needed academic and administrative space to meet the needs of the current student population, which exceeds the 2001 Master Plan projections.

AESTHETICS

Under Alternative 1, changes in existing visual conditions would be much more limited than those under the 2035 Master Plan, and impacts would be less than significant because the development would not encroach upon vistas or create visually incompatible views. New development, such as the Farm Shop and the University-Based Retirement Community Project, proposed within the West Campus subarea, which could affect some scenic views and long-distance views of vistas under the 2035 Master Plan, would not occur. Further, under the 2035 Master Plan, development within the West Campus subarea could potentially damage scenic resources along a state scenic highway (State Route 1), resulting in significant and unavoidable impacts. In addition, the faculty, staff workforce housing project located at Slack Street and Grand Avenue in the East Campus would not occur under this Alternative, which would avoid the substantial degradation of existing visual character. Because development under Alternative 1 would occur only within the Academic Core subarea, impacts within state scenic highways and degradation of existing visual character would not occur. Therefore, aesthetic impacts associated with Alternative 1 would be less than those under the 2035 Master Plan, and significant and unavoidable impacts would be avoided. *(Less impact; significant and unavoidable aesthetics impact avoided)*

AGRICULTURE AND FORESTRY RESOURCES

Under Alternative 1, there would be no conversion of agricultural lands to non-agricultural use, as future campus development would be located within the Academic Core subarea, where no Important Farmland exists. As a result, impacts associated with the 2035 Master Plan, including conversion of up to 10 acres of Important Farmland associated with the development of the Facilities Operations Complex and interim parking lot, would not occur. *(Less impact; significant and unavoidable agriculture impact avoided)*

AIR QUALITY

Alternative 1 would result in less development than would occur under the 2035 Master Plan and thus would generate comparatively reduced construction-related air emissions. Many of the 2035 Master Plan's larger projects, particularly the residential projects serving students, faculty, staff, workforce housing and the local retirement community, would not be constructed under this alternative. This alternative would provide for up to 500,000 gsf of new academic space and thus would generate construction-related air emissions, which could exceed APCD construction emission thresholds. Nonetheless, construction emissions would decrease under this alternative due to the reduction in on-campus development and would likely not exceed project specific thresholds. Regarding operation-related emissions, because no on-campus housing would be constructed under this alternative, and the same growth in enrollment would occur, it is assumed that students, faculty, and staff would travel greater distances from off-campus housing to the Cal Poly campus. Therefore, due to increased vehicle trips, operational air quality emissions would increase under Alternative 1. In addition, this alternative would be considered less consistent with applicable air quality planning efforts related to the provision of residences closer to their destinations in order to reduce emissions. Regarding odor impacts, the Water Reclamation Facility (WRF) would still likely be required due to the increase in academic/administrative space, so significant and unavoidable odor impacts would not be avoided. Because of the limited amount of new development and campus growth anticipated under this alternative, construction-related air quality impacts would be reduced compared to those under the 2035 Master Plan and would likely be less than significant, while operation-related air quality emissions may increase due to longer travel distances for students, faculty, and staff to off-campus housing. *(Greater impact to (less consistency with) local air quality plan consistency; Less construction-related impact; greater operation-related impact; significant and unavoidable impacts remain)*

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Earth-moving activities have the potential to disturb archaeological, tribal cultural, and/or historic resources, or result in accidental discovery of human remains. Ground-disturbing activities (e.g., grading, excavation) from project construction could result in discovery of archaeological resources; however, feasible mitigation measures and regulatory requirements/procedures would reduce these impacts to a less-than-significant level. Under the 2035 Master Plan, inadvertent discoveries of tribal cultural resources, or human remains would be required to comply with regulatory requirements to ensure impacts are less than significant. Similar requirements would be required for this alternative, keeping impacts to less than significant. However, on-campus development within or near potentially historic structures under both this alternative and the 2035 Master Plan could result in potentially significant and unavoidable impacts, if development would result in damage to or destruction of a building or structure that is a designated historic resource, eligible for listing as a historic resource, or a potential historic resource that has not yet been evaluated, result in the change in its historical significance. Because this alternative reduces the overall development footprint there would be less earth-moving activities and reduced potential for impacts on cultural resources; nonetheless, the potential for damage to a historic resource still exists. *(Less impact; significant and unavoidable impacts remain)*

BIOLOGICAL RESOURCES

Under Alternative 1, the campus would remain largely similar to existing conditions, except where limited development would occur within the Academic Core subarea. Various portions of campus consist of habitat for special-status plants and wildlife, sensitive natural communities and riparian habitat, wetlands and other waters of the United States and waters of the state, and suitable wildlife movement corridors and nursery sites for some species. These areas exist throughout the Master Plan Area and could also intersect with the Academic Core subarea, where development is proposed under Alternative 1. Development under the 2035 Master Plan could result in impacts resulting from degradation of these existing biological resources. However, due to the reduced development footprint, there would be less earth-moving activities under Alternative 1. For this reason, compared to the 2035 Master Plan, there would be a lesser degree of potential impacts on biological resources under Alternative 1. *(Less impact)*

ENERGY

Because this alternative would result in much less development than would occur under the 2035 Master Plan, it would require less fuel for construction activities and less building-related energy during operation. Because Alternative 1 would not incorporate additional housing on-site, students could reside farther from campus resulting in more and longer trips to and from campus, consuming more fossil fuel. However, due to decreased building-related energy as a result of less development, construction and operational energy consumption would be less than that of the 2035 Master Plan. *(Less impact)*

GEOLOGY AND SOILS

Earth-moving activities associated with construction have the potential to affect geology, soils, and mineral resources. The types of impacts that could occur from development on campus include potential landslides, erosion or loss of topsoil, and impacts from unstable or expansive soils. Existing regulations and permitting requirements, such as California Building Code (CBC) and the CSU Seismic Requirements, would reduce potential impacts to less-than-significant levels and would also be required for this alternative. Less land disturbance under this alternative would slightly reduce impacts. *(Less impact)*

GREENHOUSE GAS EMISSIONS

Less development would result in reduced fuel and energy consumption during construction, and would result in a commensurate decrease in greenhouse gas (GHG) emissions compared to the construction of the 2035 Master Plan. Because Alternative 1 would not incorporate housing on-site, students, faculty and staff could be located farther from campus resulting in more and longer trips to and from campus. Therefore, due to increased vehicle trips, operational mobile-source GHG emissions would increase under Alternative 1. Because of the limited amount of new development and campus growth anticipated under this alternative, construction-related GHG impacts would be reduced compared to those under the 2035 Master Plan and would likely be less than significant, while operation-related mobile-source GHG emissions may increase due to longer travel distances for students, faculty, and staff to off-campus housing. *(Less construction-related impact; more operation-related impact)*

HYDROLOGY AND WATER QUALITY

As with the 2035 Master Plan, earth-moving activities associated with construction under Alternative 1 have the potential to affect hydrology and water quality on campus. The types of impacts that could occur include: reduced groundwater recharge, alterations to existing drainage systems, and effects on the 100-year floodplain. Mitigation measures are recommended to reduce these impacts to less-than-significant levels. Existing regulations and permitting requirements, such as National Pollutant Discharge Elimination System (NPDES) permit conditions, a storm water pollution prevention plan (SWPPP), the 2013 General Permit, a Small Municipal Separate Storm Sewer Systems (MS4) Permit, and Wastewater Discharge Requirements (WDRs), would also be required to ensure impacts to water quality are less-than-significant. In addition, development of additional academic/administrative space would be required to comply with existing regulations and implement similar mitigation measures that would reduce impacts to a less-than-significant level. Overall, however, because this alternative would include much less development, the degree of this impact (even though less than significant under the 2035 Master Plan) would be reduced when compared to the 2035 Master Plan. *(Less impact)*

NOISE

Alternative 1 would result in substantially less development than under the 2035 Master Plan, and thus, would generate less construction and operational noise. Short-term construction activities would still occur, associated with development in the Academic Core subarea, but to a lesser degree as compared to the project. Additional student population growth could occur under this alternative, and additional staff and faculty could be employed by Cal Poly because additional academic and administrative buildings would be constructed. Therefore, regarding operation-related emissions, because no on-campus housing would be constructed under this alternative, it is assumed that students, faculty, and staff would travel greater distances from off-campus housing to the Cal Poly campus. Therefore, due to increased vehicle trips, operational traffic noise could be increased compared to the 2035 Master Plan. Nonetheless, as discussed in Section 3.10, substantial increases in long-term traffic noise levels would be less than significant. Long-term stationary noise would be similar in nature, but fewer new sources would result from this alternative compared to the 2035 Master Plan due to less development.

As discussed in Section 3.10, even with mitigation incorporated, the 2035 Master Plan would result in significant and unavoidable impacts from long-term increases in stationary noise. More specifically, these impacts are attributed to the expansion of Spanos Stadium; construction of a new parking structure located along Via Carta, south of Village Drive and within the North Campus subarea; and construction of a second structure near the Union Pacific Railroad right-of-way, immediately north of Brizzolara Creek, within the West Campus subarea. Noise impacts are also attributed to the use of mechanical building equipment (e.g., HVAC systems) proximate to noise-sensitive receptors. Because development under Alternative 1 would not result in the expansion of Spanos Stadium, this significant and unavoidable impact would be avoided. Further, development of parking structures in the North and West Campus subareas would not occur under Alternative 1. Thus, significant and unavoidable stationary noise impacts related to sporting and special events and parking structures would be avoided. However, because under Alternative 1, the placement of HVAC systems in the vicinity of noise-sensitive receptors could still occur, this significant and unavoidable stationary noise impact would remain. Thus, depending on the location of development, this alternative could still expose sensitive receptors to increased noise levels during construction activities and noise impacts would be reduced but still occur. Long-term operational noise sources would still have the potential to occur but because this alternative has less development, operational noise would be less. *(Less construction-related impact; less operation-related stationary noise impact but still significant and unavoidable)*

POPULATION AND HOUSING

As discussed in Section 3.11.3, the 2035 Master Plan would not result in unplanned growth in the population of the campus and impacts would be less than significant. Under Alternative 1, there would be no new residential units provided on campus. This alternative would not increase the percentage of students living on campus compared to students living off campus. In comparison, the 2035 Master Plan would add approximately 7,200 additional student beds in excess of the anticipated growth in student enrollment allowing for students who might otherwise seek residences off campus to stay on campus. Under this alternative, on-campus employment could incrementally increase due to the maximum of 500,000 sf of academic/administrative space that could be developed beyond existing conditions. While new employees under the 2001 Master Plan would not require additional housing beyond current projections, it may increase the number of employees living off campus relative to the 2035 Master Plan. By not providing housing, this alternative would not improve the ratio of students living on campus compared to students living off campus. Therefore, because Alternative 1 would increase the need for off-campus housing as a result of increased enrollment and associated faculty and staff employment and would not increase the ratio of students living on campus, it would result in potentially greater and significant impacts than would occur under the 2035 Master Plan. *(Greater impact)*

PUBLIC SERVICES AND RECREATION

Alternative 1 would result in an incremental increase in demand for public services as a result of increased campus enrollment and employment, although not to the degree of the 2035 Master Plan due to the substantially lower level of anticipated development. Under the 2035 Master Plan, impacts to police services would be less than significant. Because the population increase associated with the project would primarily be university-aged students enrolled at the campus, the population would obtain educational and library services through the University and would not substantially affect the public school and library systems; thus, impacts to schools and libraries would be less than significant. Regarding recreation facilities, because the 2035 Master Plan would include maintenance, improvement, and construction of additional parks and recreation facilities that would exceed local and state guidelines on population/parkland ratios, this impact would be less than significant. Lastly, as discussed in Section 3.12, under the 2035 Master Plan, there is no need to construct additional fire and emergency service facilities to serve campus growth. The City provides fire and emergency services to campus through its Operational Plan and Agreement for Automatic Aid with the County/CAL FIRE. In addition, Cal Poly received enhanced fire protection services from the City through the Agreement for Enhanced Emergency Services between CSU and the City. This agreement is currently effective through June 30, 2023, and Cal Poly is committed to pursuing an extension of the Agreement for Enhanced Emergency Services through 2035 to ensure the level of fire and emergency service responses from the San Luis Obispo Fire Department (SLOFD) are maintained for the life of the 2035 Master Plan. Alternative 1 would also result in less-than-significant public service impacts similar to those under the 2035 Master Plan. However, because this alternative would have less overall development, there would be fewer students, staff, and faculty residing on campus and impacts to public services may be slightly reduced. (*Slightly less impact*)

TRANSPORTATION

This alternative would result in less overall development and no new student housing compared to the 2035 Master Plan. As a result, Alternative 1 would generate less traffic during construction. During operations, because no on-campus housing would be constructed under this alternative, it is assumed that students, faculty, and staff would travel greater distances from off-campus housing to the Cal Poly campus. Therefore, Alternative 1 would result in increased vehicle trips on local roadways. The 2035 Master Plan includes specific objectives to reduce on-campus parking demand relative to existing conditions through University policies and provide on-campus multi-modal amenities. Because actions to implement these objectives would not occur under Alternative 1, this alternative would result in an increase in vehicle miles traveled (VMT), compared to the 2035 Master Plan. *(Greater impact)*

UTILITIES AND SERVICE SYSTEMS

Under Alternative 1, there would be less additional demand on utilities and fewer requirements to alter or expand infrastructure compared to the 2035 Master Plan because on-campus population levels would be lower. New development would likely occur within the Academic Core subarea and be limited to new academic/administrative facilities, as well as renovation of older structures. While this could result in an overall reduction in demand for utilities and service systems, construction of the WRF and improvements to existing fixtures and infrastructure would still be necessary to ensure that adequate water supplies are available. There would be adequate treatment capacity at the City's WRRF to accommodate wastewater treatment needs, but conservation measures and other improvements would need to be made to campus infrastructure (such as replacement of aging pipelines to reduce inflow and infiltration (I/I) and to ensure that peak wet weather wastewater flows do not exceed 2018/2019 levels prior to plan implementation. As under the 2035 Master Plan, this impact would be less than significant with mitigation; however, impacts would be comparatively reduced under this alternative. *(Less impact)*

ACHIEVEMENT OF PROJECT OBJECTIVES

Alternative 1 would not provide the guidance for the physical development of the campus and its facilities to accommodate gradual student enrollment growth while preserving and enhancing the quality of campus life, which is the primary objective of the 2035 Master Plan. Further, new student housing would not be provided on campus, which would not achieve several of the objectives, including housing all first- and second-year students plus 30 percent of upper division students in residential communities on campus; providing housing opportunities on campus for University faculty and staff and non-traditional students; or providing and enhancing campus facilities to create a more vibrant evening and weekend environment. Lastly, because this alternative would provide less academic/administrative space compared to the 2035 Master Plan, it would limit the ability for Cal Poly to enhance academic quality and student success through Cal Poly's "Learn by Doing" teaching methodology, or strengthen the campus's compact, cross-disciplinary Academic Core subarea. Thus, Alternative 1 would not meet most of the basic project objectives.

5.4.2 Alternative 2: Reduced Administrative/Academic Development Program Alternative

Under this alternative, Cal Poly would implement a master plan with approximately 500,000 sf of new administrative and academic space, as compared to approximately 1,290,000 gsf under the 2035 Master Plan. This reduced level of development would result in less ground disturbance and other development-related impacts. Further, approximately 455,000 gsf of renovations would occur within existing structures under this alternative, for a total development/renovation potential of 955,000 gsf. Growth in on-campus student housing (approximately 7,200 student beds) and growth in enrollment would be the same as under the 2035 Master Plan.

AESTHETICS

Changes to the visual environment would be similar under this alternative to the 2035 Master Plan, but the degree of change would be somewhat reduced as less academic/administrative space would be constructed. Because the majority of academic and administrative space would include redevelopment of existing structures, less change in the visual environment would occur. However, this alternative would continue to provide for the proposed Farm Shop and University-Based Retirement Community, both located in the West Campus subarea, which would cause potentially significant visual impacts to scenic vistas (both projects), and interrupt views along a state scenic highway (University-Based Retirement Community). In addition, the faculty, staff workforce housing project located at Slack Street and Grand Avenue in the East Campus would still occur, which could result in substantial degradation of existing visual character. Therefore, impacts to scenic vistas would remain significant and unavoidable with Alternative 2. Lastly, as with the project, Alternative 2 would introduce substantial light sources from facilities such as residential units, dining halls, pedestrian and bike pathways, and recreation areas and could include building materials such as surfaces such as glass and metal and may result in additional sources of glare. Similar mitigation as that outlined in Section 3.1.3 would also be required for Alternative 2, to reduce light and glare impacts to less-than-significant levels. The overall aesthetic condition of the campus would be similar to that of the 2035 Master Plan and impacts would remain significant and unavoidable. (*Similar impact*)

AGRICULTURE AND FORESTRY RESOURCES

Under Alternative 2, the conversion of some agricultural lands to non-agricultural use would be necessary to accommodate anticipated development. As proposed in the 2035 Master Plan, the Facilities Operations Complex would be moved to a site within the West Campus subarea, which would result in the conversion of Prime Farmland to non-agricultural uses. In addition, the site would be initially used as a temporary surface parking lot to accommodate parking displaced by student housing projects located in the North Campus, thereby converting it to a non-agricultural use prior to construction of the Facilities Operations Complex. As a result, impacts related to the conversion of Important Farmland would remain significant and unavoidable. *(Similar impact)*

AIR QUALITY

Because Alternative 2 would include less development than would occur under the 2035 Master Plan, construction would result in reduced air pollutant emissions during construction. During operations, Alternative 2 would provide the same number of on-campus housing opportunities for students as the project. Because new academic and administrative buildings would be limited to 500,00 sf, and redevelopment would remain at 455,000 sf, this alternative would result in overall less new development in the Master Plan Area. As with the proposed 2035 Master Plan, this alternative would be consistent with the 2001 Clean Air Plan, but construction and operational activities that emit criteria air pollutants would still be required on campus. Large-scale construction projects or a number of campus projects could occur simultaneously which could result in daily and quarterly emissions that exceed applicable thresholds; however any such exceedance would likely be for shorter periods of time due to the reduced amount of new development under this alternative. Thus, construction-related air quality impacts would be slightly reduced compared to those under the 2035 Master Plan. Mitigation would still be required, and significant and unavoidable impacts from construction could still occur. Operational impacts under Alternative 2 would be similar in nature to those described for the 2035 Master Plan, but slightly reduced in magnitude. During operations, because Alternative 2 would provide the same amount of housing for the same level of enrollment growth, vehicle trips would be similar. As with the project, it is possible that development under this Alternative 2 could exceed APCD operational thresholds. Mitigation of operational emissions would still be required in accordance with current standards and regulations, but it is possible thresholds would still be exceeded. For this reason, operation-related air quality emissions would likely remain significant and unavoidable under this alternative. As construction and operation of the WRF would be required under this alternative, odor impacts would be similar to the project under this alternative. *(Similar impact)*

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Earth-moving activities within the Master Plan Area have the potential to disturb archaeological, tribal cultural, and/or historic resources or result in accidental discovery of human remains. Under the 2035 Master Plan, ground-disturbing activities (e.g., grading, excavation) could result in discovery of archaeological resources; however, feasible mitigation measures and regulatory requirements/procedures would reduce these impacts to a less-than-significant level. Under the 2035 Master Plan, inadvertent discoveries of tribal cultural resources, or human remains would be required to comply with regulatory requirements to ensure impacts are less than significant. Additionally, on-campus development within or near potentially historic structures under both this alternative and the 2035 Master Plan could result in potentially significant and unavoidable impacts, if development would result in damage to or destruction of a building or structure that is a designated historic resource, eligible for listing as a historic resource, or a potential historic resource that has not yet been evaluated, could result in a change in its historical significance. While the reduced development footprint and earth-moving/construction activities under Alternative 2 could result in reduced impacts on cultural resources, mitigation would still be required to reduce impacts to archaeological resources. Regarding historic resources, mitigation would still be required to ensure, where feasible, that future projects under Alternative 2 would not result in damage to or destruction of a building or structure that is a designated historic resource or eligible for listing as a historic resource or a potential historic resource that has not yet been evaluated. However, under this alternative, the University would rely on redevelopment of existing buildings to accommodate approximately half of the growth in academic and support facilities, which could result in the loss of historic buildings similar to the project. Under this alternative, however, the University would have reduced capacity to consider alternatives to the demolition or replacement of historic structures, thereby potentially increasing impacts to historic resources. Therefore, impacts would still be significant and unavoidable. *(Similar impact)*

BIOLOGICAL RESOURCES

Under Alternative 2, the Master Plan Area would be developed in a manner similar to, but with less overall development than as proposed in the 2035 Master Plan. Alternative 2 would result in an overall reduction in the area of land disturbance due to the emphasis on redevelopment of existing academic and administrative buildings but would still provide a variety of on-campus housing, including within the North Campus. Because habitat for special-status plant and animal species, as well as riparian habitat, wetlands, and wildlife movement corridors and nursery sites are present in the Master Plan Area, physical changes associated with implementation of this alternative could result in significant impacts, and implementation of mitigation measures described in Section 3.5 would still be required in order to reduce this potential impact to a less-than-significant level. However, because of the reduced development footprint under Alternative 2, there would be reduced impacts to biological resources under Alternative 2 compared to the 2035 Master Plan. (*Less impact*)

ENERGY

Under this alternative, slightly reduced development would occur, which would result in reduced construction activities and less fuel use during construction. Alternative 2 also includes redevelopment of existing academic and administrative buildings, which would result in replacement of older, less energy-efficient structures and facilities with those that are more energy efficient. Because building development for this alternative would be less than that of the 2035 Master Plan, it would likely require less energy. *(Less impact)*

GEOLOGY AND SOILS

Earth-moving activities associated with construction have the potential to affect geology and soils. The types of impacts that could occur from development within the Master Plan Area include potential landslides, erosion or loss of topsoil, and impacts from unstable or expansive soils. Impacts to paleontological resources could also occur if these resources are discovered during ground-disturbing activities. Existing regulations and permitting requirements, such as the CBC and CSU Seismic Requirements, would reduce potential impacts to less-than-significant levels and would be required for this alternative as they are for the project. Because the development footprint of this alternative would be reduced compared to the project, impacts associated with Alternative 2 would also be slightly reduced. *(Less impact)*

GREENHOUSE GAS EMISSIONS

Because the level of development would be reduced under this alternative as compared to the 2035 Master Plan, construction- and operational-related GHG emissions would also be reduced. However, GHG emissions associated with operation of Alternative 2 would still occur from vehicle trips to and from the Master Plan Area; area-source emissions from the operation of landscape maintenance equipment; energy-source emissions from the consumption of electricity and natural gas; water-related energy consumption associated with water use; conveyance and treatment of wastewater; and waste-generated emissions from the transport and disposal of solid waste. Mitigation Measure 3.8-1, outlined in Section 3.8.3, would likely still be required but the volume of GHG emissions to be mitigated may be less. Therefore, due to less development on campus compared to the 2035 Master Plan, impacts would be slightly reduced under this alternative. *(Less impact)*

HYDROLOGY AND WATER QUALITY

Earth-moving activities associated with construction under Alternative 2 would affect hydrology and water quality similarly to the 2035 Master Plan. The types of impacts include reduced groundwater recharge, alterations to existing drainage systems, and effects on the 100-year floodplain. Mitigation measures are recommended to reduce these impacts to less-than-significant levels. Existing regulations and permitting requirements, such as NPDES permit conditions, a SWPPP, the 2013 General Permit, a Small MS4 Permit, and a WDR, would also be required to reduce water quality impacts to less-than-significant levels. Because Alternative 2 would rely on redevelopment of a large portion of the proposed academic and administrative buildings within the campus to provide approximately half of the new academic and support facilities and new project footprints are significantly reduced, alterations to existing drainage systems and coverage of groundwater recharge areas may be slightly reduced compared to the 2035 Master Plan, because these areas are already developed with existing facilities and infrastructure. Although a lesser level of development would occur under this alternative than under the 2035 Master Plan, the degree to which these measures would need to be implemented would likely be similar. Impacts under this alternative would be similar to those under the 2035 Master Plan and less than significant with mitigation. *(Similar impact)*

NOISE

Alternative 2 would result in less overall development than under the 2035 Master Plan, and thus, would generate less construction and operation-related noise, potentially over a shorter period of time. Short-term construction activities associated with on-campus housing and academic/administrative space would still occur, but to a slightly lesser degree. Regarding long-term increases in traffic noise, the on-campus population under this alternative would remain the same as the 2035 Master Plan, which would result in similar daily vehicle traffic and associated noise on project-affected roadways to the project. Regarding long-term stationary sources, even with mitigation incorporated, the 2035 Master Plan would result in significant and unavoidable noise impacts attributable to the expansion of Spanos Stadium; construction of a new parking structure located along Via Carta, south of Village Drive and within the North Campus subarea; construction of a parking structure near the Union Pacific Railroad right-of-way, immediately north of Brizzolara Creek, within the West Campus subarea. Noise impacts also would be attributed to the use of mechanical building equipment (e.g., new HVAC systems) and new parking structures proximate to noise-sensitive receptors. Alternative 2 would not result in the expansion of Spanos Stadium. Thus, the significant impact associated with the Spanos Stadium expansion would be avoided as part of Alternative 2. However, because the placement of HVAC systems and construction of parking structures in the vicinity of noise-sensitive receptors could still occur under this alternative, the significant and unavoidable stationary noise impacts could still remain, depending on the location of development under this alternative. Therefore, although significant and unavoidable impacts attributed to stadium expansion would be avoided, Alternative 2 could still result in substantial increases in noise and impacts that would be significant and unavoidable. *(Less construction-related impact; less operation-related stationary noise Impact but still significant and unavoidable)*

POPULATION AND HOUSING

Under Alternative 2, the same number of beds would be developed as the 2035 Master Plan. Therefore, the number of students living on campus would be the same for Alternative 2 as under the 2035 Master Plan. Although Alternative 2 would result in approximately 790,000 fewer square feet of new academic and administrative development on campus, the level of employment that would occur would be similar to the 2035 Master Plan as the level of faculty/staff would be scaled to student enrollment. As discussed in Section 3.11.3, the Master Plan would not result in unplanned growth in campus population, and impacts would be less than significant. Because Alternative 2 proposes the same amount of housing on campus as the 2035 Master Plan, impacts to population and housing would be the same under Alternative 2 as the 2035 Master Plan and therefore remain less than significant. *(Same or similar impact)*

PUBLIC SERVICES AND RECREATION

Because Alternative 2 proposes the same number of beds and would result in the same level of enrollment on campus as the 2035 Master Plan, it would accommodate the same number of students on campus and similar demand for services. Thus, Alternative 2 would result in impacts similar to those under the 2035 Master Plan. *(Same or similar impact)*

TRANSPORTATION

As with the 2035 Master Plan, development of new student housing and academic/administrative space under Alternative 2 would increase the level of on-campus activity and reduce new vehicle commute trips. As noted above under the population and housing discussion for this alternative, the development of less academic/administrative space would not result in less on-site population, as new faculty/staff would be added to address increased enrollment. As a result, this alternative would result in the same per capita VMT compared to the 2035 Master Plan, and impacts would likely remain less than significant with mitigation. Consistency with policies related to alternative transportation (transit, bicycle, and pedestrian) would be similar under this alternative to the 2035 Master Plan. *(Same or similar impact)*

UTILITIES AND SERVICE SYSTEMS

Because Alternative 2 would result in less academic and administrative space on campus, demand for utilities and service systems may be somewhat reduced when compared to the 2035 Master Plan. Similar to the project, development and operation of proposed buildings and increased campus population levels associated with Alternative 2 would increase water consumption needs and wastewater generation. Campus potable water supplies would continue to be derived from the Whale Rock reservoir and on campus groundwater wells, though potable water demand would be expected to decrease with the reduced academic and administrative space on campus. Nonetheless, the WRF must be still constructed to ensure that water demand and wastewater treatment needs are met (or the campus otherwise demonstrates that adequate water supplies and wastewater treatment capacity is available to serve the new development on campus.) With respect to wastewater treatment and conveyance capacity, in addition to the WRF, improvements to on-campus facilities including the wastewater conveyance system to reduce inflow and infiltration, as well as water fixture efficiency measures, would need to be implemented to reduce wastewater flows and ensure that peak wet weather flow conditions do not exceed 2018/2019 conditions under this alternative. As under the 2035 Master Plan, impacts would be less than significant with mitigation; however, impacts would be comparatively reduced due to a lesser intensity of development under Alternative 2. *(Less impact)*

ACHIEVEMENT OF PROJECT OBJECTIVES

Under Alternative 2, new student housing would be provided on-campus to accommodate the same level of student growth, accomplishing the objectives related to housing all first- and second-year students plus 30 percent of upper division students in residential communities on campus, and providing on-campus housing opportunities for University faculty and staff and non-traditional students. Because this alternative would provide less academic/administrative space, it would limit the ability for Cal Poly to enhance academic quality and student success through Cal Poly's "Learn by Doing" teaching methodology and the ability for Cal Poly to strengthen the campus's compact, cross-disciplinary Academic Core subarea. By providing less academic and administrative uses, Alternative 2 may not be able to expand campus programs, services, and facilities to support and enhance the diversity of students, faculty, and staff to the degree achieved by the 2035 Master Plan. Further, this alternative would not allow for the enhancement of campus facilities, nor would it strengthen the campus's compact, cross-disciplinary Academic Core. While this alternative would meet the on-campus housing objectives of the 2035 Master Plan, it would fail to further implement Cal Poly's educational mission and its objectives related to the expansion of educational and administrative programs to continue to advance Cal Poly as an institution of higher education.

5.4.3 Alternative 3: Net Student Growth Only Alternative

Under Alternative 3, Cal Poly would implement a long-range campus plan that reduces the level of student housing development relative to the proposed increase of approximately 7,200 student beds. This alternative would provide up to 3,188 student beds, which would correspond to the projected increase in student new enrollment at Cal Poly. The 1,750,000 gsf of new academic/administrative space proposed under the 2035 Master Plan would remain the same under this alternative. Under this alternative, the faculty/staff and workforce housing project located at Slack Street and Grand Avenue and the University-Based Retirement Community would not be constructed.

AESTHETICS

Changes to visual conditions would be similar to those under the 2035 Master Plan, but the degree of change would be somewhat reduced. Alternative 3 would result in less development as fewer student beds would be provided. As discussed in Section 3.1.3, because the proposed Farm Shop would be highly visible and the preservation of scenic views may not be feasible through project design, impacts to scenic vistas would be significant and unavoidable, although significant impacts associated with the University-Based Retirement Community and Slack and Grand would not occur as they would with the project. Similarly, development of the Farm Shop within the West Campus subarea along a state scenic highway could damage scenic resources, resulting in a significant and unavoidable impact. These impacts could still occur under Alternative 3, although they would be reduced under this alternative. Lastly, as with the project, Alternative 3 would introduce substantial light sources from facilities such as residential units, dining halls, pedestrian and bike pathways, and recreation areas and could include building materials such as surfaces such as glass and metal and may result in additional sources of glare. Similar mitigation as outlined in Section 3.1.3 of the EIR would also be required for Alternative 3, to reduce light and glare impacts to less-than-significant levels. The overall changes in aesthetic condition of the campus would be less than that of the 2035 Master Plan, but impacts would remain significant and unavoidable. *(Less impact)*

AGRICULTURE AND FORESTRY RESOURCES

Under Alternative 3, conversion of 10 acres of agricultural lands to non-agricultural use would be necessary to accommodate anticipated development, specifically the Facilities Operations Complex. Because this alternative would convert Important Farmland in a manner and scale similar to the project, impacts would be similar to the 2035 Master Plan and remain significant and unavoidable. *(Similar impact)*

AIR QUALITY

Alternative 3 would result in less residential development compared to the 2035 Master Plan, and thus, would generate lower levels of air pollutant emissions during construction and operation. As this alternative would provide on-campus housing to accommodate only new student growth, it would be consistent with applicable air quality plans, but would not achieve the same level of plan consistency by providing additional housing on-campus to serve the existing student population. With respect to construction air quality impacts, because development of academic/administration space and student housing would still be substantial, it is possible that large construction projects (or multiple projects are being constructed at the same time) could exceed APCD's construction emission thresholds for criteria pollutants and still result in significant impacts. From an operational perspective, the emissions associated with building operations would be reduced due to the reduction in student housing compared to the 2035 Master Plan. However, less on-campus housing would result in more students needing to live off-campus, increasing commute trips, VMTs and associated vehicle exhaust emissions. In addition, large individual projects under this alternative could potentially exceed APCD's operational emission criteria which would result in a significant operational air quality impact. Therefore, operational emissions could be greater than those of the 2035 Master Plan. Mitigation identified for the 2035 Master Plan in Section 3.3 of this EIR would still be required, but air quality impacts would remain significant. As construction and operation of the WRF would be required under this alternative, odor impacts would be similar to the project under this alternative. *(Similar impact during construction; greater impact during operation)*

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Earth-moving activities within campus have the potential to disturb archaeological, tribal cultural, and/or historic resources or result in accidental discovery of human remains. The project would result in ground-disturbing activities (e.g., grading, excavation) that could result in discovery of archaeological resources; however, feasible mitigation measures and regulatory requirements/procedures would reduce these impacts to a less-than-significant level. The 2035 Master Plan could also result in inadvertent discoveries of tribal cultural resources, or human remains, but would be required to comply with regulatory requirements to ensure impacts are less than significant. These measures would also be required for this alternative. Additionally, on-campus development within or near potentially historic structures under both this alternative and the 2035 Master Plan could result in potentially significant and unavoidable impacts, if development were to damage a building or structure that is a designated historic resource, eligible for listing as a historic resource, or a potential historic resource that has not yet been evaluated, and result in a change in its historical significance. While the reduced development footprint and earth-moving/construction activities under Alternative 3 could result in reduced impacts on cultural resources, they would still be significant and unavoidable due to the potential unavoidable loss of historic structures. *(Similar impact)*

BIOLOGICAL RESOURCES

Under Alternative 3, campus would be developed in a manner similar to, but with less overall development than, the 2035 Master Plan, as reduced student beds would be provided. Because habitat for special-status plant and animal species, riparian habitat, wetlands, and wildlife movement corridors and nursery sites are present in the Master Plan Area, physical changes associated with implementation of this alternative could result in significant impacts and the mitigation measures described in Section 3.5 would still be required. Because of the reduced development footprint under Alternative 3, there would be reduced impacts to biological resources under Alternative 3 compared to the 2035 Master Plan. *(Less impact)*

ENERGY

Under this alternative, slightly reduced development would occur, as compared to the 2035 Master Plan, which would result in reduced construction activities and less fuel use during construction. However, less on-campus housing could result in more students needing to live off-campus, increasing commute trips and the amount of associated transportation energy (i.e., fuel) used. Therefore, operational energy would be greater than that of the 2035 Master Plan. This alternative would require slightly increased energy demand during operations due to additional vehicle trips and decreased energy demand during construction, compared to the 2035 Master Plan. *(Less impact during construction; greater impact during operation)*

GEOLOGY AND SOILS

Earth-moving activities associated with construction have the potential to affect geology and soils. The types of impacts that could occur from development on campus include potential landslides, erosion or loss of topsoil, and impacts from unstable or expansive soils. Impacts to paleontological resources could also occur if these resources are discovered during ground-disturbing activities. Existing regulations and permitting requirements, such as the CBC and CSU Seismic Requirements, would reduce potential impacts to a less-than-significant levels and would be required for this alternative as they are for the project. Because the development footprint of this alternative would be reduced compared to the project, impacts associated with Alternative 3 would also be slightly reduced. *(Less impact)*

GREENHOUSE GAS EMISSIONS

Because the level of development would be reduced under this alternative as compared to the 2035 Master Plan, construction-related GHG emissions would also be reduced. Nevertheless, GHG emissions associated with operation of Alternative 3 would still occur from vehicle trips, area sources, energy-source emissions from consumption of electricity and natural gas, energy consumption associated with water use and the conveyance, treatment of wastewater, and from transport and disposal of solid waste. However, because this alternative would not reduce the number of students living off campus to the degree of the 2035 Master Plan, emissions associated with student vehicle commute trips would be greater under Alternative 3. Although GHG emissions during construction and from less building energy-related GHGs would be reduced, impacts to GHG emissions during operations would be greater than would occur under the 2035 Master Plan, due to increased vehicle trips. Note that mitigation measures for the project would also reduce impacts to less than significant for this alternative. *(Less impact during construction; greater impact during operation)*

HYDROLOGY AND WATER QUALITY

Earth-moving activities associated with construction under Alternative 3 would affect hydrology and water quality similarly to the 2035 Master Plan. The types of impacts include reduced groundwater recharge, alterations to existing drainage systems, and effects on the 100-year floodplain. Mitigation measures are recommended to reduce these impacts to less-than-significant levels. Existing regulations and permitting requirements, such as NPDES permit conditions, a SWPPP, the 2013 General Permit, a Small MS4 Permit, and Cal Poly's WDR, would also be required to reduce water quality impacts to less-than-significant levels. Because Alternative 3 would include less development in the Master Plan Area, alterations to existing drainage systems and coverage of groundwater recharge areas may be slightly reduced compared to the 2035 Master Plan. Nonetheless, development under Alternative 3 would be required to comply with existing regulations and implement similar mitigation measures as the 2035 Master Plan to reduce impacts to less-than-significant levels. Although a lesser level of development would occur under this alternative than would occur under the 2035 Master Plan, the degree to which these measures would need to be implemented would likely be similar. Impacts under this alternative would be similar to those under the 2035 Master Plan and less than significant with mitigation. *(Similar impact)*

NOISE

Like the project, earth-moving activities (e.g., grading, excavation) under this alternative would result in noise and vibration impacts. Construction and operation of new buildings and facilities may include new stationary noise sources and equipment (e.g., mechanical equipment, emergency generators), and increased noise levels associated with sporting and special events. Compared to the 2035 Master Plan, there would be slightly less construction-generated noise and vibration under Alternative 3 owing to less overall development. Nevertheless, Alternative 3 would result in the same types of noise-generating activities and sources, such as the expansion of Spanos Stadium and construction of new parking structures in the North Campus and West Campus subareas. Noise-generating sources also could include mechanical building equipment, primarily HVAC systems, which could increase ambient noise levels depending on their proximity to noise-sensitive receptors. These project components, proposed under both the 2035 Master Plan and Alternative 3, would result in significant and unavoidable impacts to long-term increases in noise levels. Additionally, providing less on-campus student housing could result in additional vehicle trips associated with students commuting to and from campus, but this is unlikely to result in new or substantially more severe impacts. Thus, impacts to noise and vibration would be similar to those under the 2035 Master Plan. *(Similar impact)*

POPULATION AND HOUSING

Alternative 3 would provide up to 3,188 new student beds on-campus, which would accommodate only the projected increase in student enrollment between 2018 and 2035; housing would not be available to reduce the numbers of students currently living off campus. Alternative 3 would result in similar numbers of new employees, but because the faculty, staff and workforce housing project located at Slack Street and Grand Avenue and the University-Based Retirement Community would not be constructed, a greater demand for off-campus housing would result. As discussed in Section 3.11.3, the Master Plan would not result in unplanned growth in campus population, and impacts would be less than significant. Nonetheless, impacts would be greater under this alternative because less on-campus housing would be available for students, faculty, and staff, thereby reducing the available housing stock in the surrounding area. *(Greater impact)*

PUBLIC SERVICES AND RECREATION

Alternative 3 would result in an increase in demand for public services that would be similar to, if slightly reduced, the 2035 Master Plan. As discussed in Section 3.12, impacts to fire, police, school, libraries, and recreation were determined to be less than significant without mitigation under the 2035 Master Plan. As this alternative would result in less on-campus housing, impacts to police services may be slightly less than would occur under the 2035 Master Plan. Less on-campus housing would not necessarily change the level of student enrollment, and therefore, impacts on other services and recreation would be similar to those of the 2035 Master Plan. *(Similar impact)*

TRANSPORTATION

As with the 2035 Master Plan, development of new student housing and academic/administrative space under Alternative 3 would increase the level of on-campus activity and reduce new vehicle commute trips and associated VMT. However, because Alternative 3 would include only the amount of housing necessary to accommodate the projected increase in student enrollment, more students would live off campus, generating more commute trips and higher VMT as compared to the 2035 Master Plan. In addition, the University-Based Retirement Community and the faculty, staff and workforce housing project at Slack Street and Grand Avenue would not be developed under this alternative, which could result in faculty/staff and retirement community residents living farther from campus and activity centers, thus resulting in even greater VMT. Therefore, VMT-related impacts are anticipated to increase and could become significant and unavoidable. Consistency with policies related to alternative transportation (transit, bicycle, and pedestrian) would be similar to the 2035 Master Plan. Nonetheless, due to the potential for higher VMT, this alternative would result in greater transportation impacts than the 2035 Master Plan. *(Greater impact)*

UTILITIES AND SERVICE SYSTEMS

Similar to the project, development and operation of proposed buildings and increased campus population levels associated with Alternative 3 would increase potable water demand and wastewater generation. Reduced on-campus student housing under Alternative 3 would also serve to reduce campus-generated water demand and wastewater flows compared to the 2035 Master Plan. However, it is expected that these demands and increased flows would still occur, but be generated by residential uses in the city or county as students, faculty and staff find alternative housing primarily within the surrounding area.

As under the 2035 Master Plan, the WRF would be constructed in a manner consistent with Mitigation Measure 3.14-3 to ensure that water demands are met through campus buildout. With this Alternative, however, the WRF would not be needed to accommodate waste water treatment demands as Cal Poly would have adequate capacity rights as the City's WRRF. As noted in Section 3.14, "Utilities and Service Systems," the campus would be prevented from occupying new campus facilities until adequate water supplies are established through the construction of the WRF or other sources. With respect to wastewater treatment and conveyance capacity, improvements to on-campus facilities, including to wastewater conveyance systems to reduce inflow and infiltration as well as water fixture efficiency measures (such as replacing toilets, urinals, faucets, and showerheads with low-flow alternatives), would need to be implemented in addition to operation of the WRF to reduce wastewater flows and ensure that peak wet weather flow conditions do not exceed 2015 conditions under this alternative. As under the 2035 Master Plan, this impact would be less than significant with mitigation and, due to the reduced level of development, would be less than those of the 2035 Master Plan. *(Less impact)*

ACHIEVEMENT OF PROJECT OBJECTIVES

Under Alternative 3, new student housing would be provided on-campus, but would only satisfy the projected increase in student enrollment; it would not make any progress toward the goal of housing more Cal Poly students on campus and making off-campus housing stock available to permanent residents. As a lesser development alternative, Alternative 3 could still enhance academic quality and student success through Cal Poly's "Learn by Doing" teaching methodology; increase the diversity of students, faculty, and staff; and strengthen the campus's compact, cross-disciplinary academic curriculum. However, because less student housing would be provided, this alternative may not achieve the objectives of housing all first- and second-year students plus 30 percent of upper division students in residential communities on campus, providing housing opportunities on campus primarily for University faculty and staff to promote faculty and staff recruitment and retention, or enhancing campus facilities to create a more vibrant evening and weekend environment. By not providing housing for more of the projected student population, this alternative could result in students residing farther from campus, increasing vehicle commute trips. Thus, this alternative may not achieve the objectives of advancing campus-side environmental sustainability and make progress toward goals of carbon neutrality and climate resilience or attaining a modal shift from vehicles to more pedestrian, bicycle, and transit use.

5.4.4 Alternative 4: No Development along City Interface Alternative

This alternative would include development of the campus similar to the 2035 Master Plan, however no new development, including surface parking lots, would be proposed along (i.e., within 500 feet/0.1 mile) the campus's boundary with the city of San Luis Obispo. For example, expansion of Spanos Stadium would occur under this alternative as it is an existing facility that cannot be relocated to the interior of campus, but the development of the Farm Shop, the University-Based Retirement Community, Facilities Operations Complex (and interim parking lot) within the West Campus, and the faculty, staff and workforce housing site at Slack Street and Grand Avenue in the East Campus would not occur. Spanos Stadium expansion and the expansion of the Orfalea Family and ASI Children's Center would still occur under this alternative, as they both would involve an expansion of an existing facility that could not be relocated to an alternative site within the interior campus. Those projects associated with the 2035 Master Plan that would be located within the City interface areas, including, would be relocated to other areas within campus, most likely within the North and West Campus subareas which have the most open space and available land.

AESTHETICS

Alternative 4 would result in the same amount of development within campus, but development would be located away from the city interface. Changes in existing visual conditions would occur within campus similar to the 2035 Master Plan, just in different locations. As discussed in Section 3.1.3, under the 2035 Master Plan, the proposed Farm Shop and the University-Based Retirement Community would be highly visible and the preservation of scenic views and views from a state-designated scenic highway (for the University-Based Retirement Community) could not feasibly be mitigated through project design, impacts to scenic vistas would be significant and unavoidable. In addition, the faculty, staff workforce housing project located at Slack Street and Grand Avenue in the East Campus could result substantial degradation of existing visual character that could not be mitigated and would have a significant and unavoidable impact. Because these components are located within 500 feet of the city interface, they would be relocated under Alternative 4, thereby avoiding these significant and unavoidable aesthetic impacts. Lastly, similar to impacts under the 2035 Master Plan, Alternative 4 would introduce substantial light sources from facilities such as residential units, dining halls, pedestrian and bike pathways, and recreation areas and could include building materials such as surfaces such as glass and metal and may result in additional sources of glare. Mitigation Measures 3.1-3a, 3.1-3b, and 3.1-3c, outlined in Section 3.1.3 would likely be required for Alternative 4 to reduce impacts to light and glare to less than significant levels. However, the overall aesthetic impacts of development under Alternative 4 would be reduced compared to that of the 2035 Master Plan, and significant and unavoidable impacts would be reduced under Alternative 4. *(Less impact; significant and unavoidable aesthetics impact avoided)*

AGRICULTURE AND FORESTRY RESOURCES

Under Alternative 4, the Facilities Operations Complex (and interim parking lot) would be relocated which would avoid the conversion of 10 acres of prime farmland and the resulting significant and unavoidable agricultural impact. However, the 2035 Master Plan projects along the City interface would need to be relocated elsewhere within the Master Plan Area, which would likely be sited in the open space and undeveloped areas of the North and West campus. This would lead to a likely increase in the conversion of agricultural lands to non-agricultural. As a result, relocation of proposed development under this alternative could result in the placement of additional development within agricultural resource areas. For projects where this may occur, mitigation similar to that outlined in Section 3.2 would be required. However, due to the similar overall degree of land disturbance under this alternative, the acreage required and resulting impact to farmland would likely be slightly increased compared to those under the 2035 Master Plan. Under Alternative 4, impacts would remain significant and unavoidable. *(Slightly greater impact)*

AIR QUALITY

Although some development would be relocated, Alternative 4 would include the same type and amount of development on campus as the 2035 Master Plan. As a result, and similar to the 2035 Master Plan, this alternative would be consistent with applicable air quality plans by locating more students and faculty/staff on campus, proximate to their likely destinations, which would reduce mobile source emissions associated with commute and other emission reducing measures. Due to the similar level of projected development, Alternative 4 would emit the same overall air emissions during construction and operation. During operations, Alternative 4 would provide the same number of on-campus housing opportunities for students as the 2035 Master Plan and the same amount of other land uses, such as academic and administrative uses. For this reason, the corresponding amount of operational criteria air pollutants from sources such as trips to and from the campus would be the same or similar as the 2035 Master Plan. Regarding odor impacts, the WRF would still be constructed under this alternative, so significant and unavoidable odor impacts would still occur. Air quality impacts under Alternative 4 would be similar to those described for the 2035 Master Plan. Significant and unavoidable impacts would still occur. *(Similar impact)*

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Although some development would be relocated, Alternative 4 would include the same amount of development and ground disturbance on campus as the 2035 Master Plan. Earth-moving activities within campus under both the 2035 Master Plan and Alternative 4 would have the potential to disturb archaeological, tribal cultural, and/or historic resources or result in accidental discovery of human remains. Under the 2035 Master Plan, ground-disturbing activities (e.g., grading, excavation) could result in discovery of archaeological resources; however, feasible mitigation measures and regulatory requirements/procedures would reduce these impacts to a less-than-significant level. Under the 2035 Master Plan, inadvertent discoveries of tribal cultural resources, or human remains would be required to comply with regulatory requirements to ensure impacts are less than significant. Additionally, on-campus development within or near potentially historic structures under both this alternative and the 2035 Master Plan could result in potentially significant and unavoidable impacts, if development would result in damage to or destruction of a building or structure that is a designated historic resource, eligible for listing as a historic resource, or a potential historic resource that has not yet been evaluated, could result in the change in its historical significance. Because development would be similar to the 2035 Master Plan, the same degree of potential impacts on cultural resources would occur and impacts to historic resources would still be significant and unavoidable. *(Similar impact)*

BIOLOGICAL RESOURCES

Alternative 4 would involve the same amount of development and ground disturbance on campus as the 2035 Master Plan, but in different locations. The presence of habitat for special-status plant and animal species, as well as riparian habitat, wetlands, and wildlife movement corridors and nursery sites within certain areas of campus, physical changes associated with implementation of this alternative could result in significant impacts and the mitigation measures described in Section 3.5 would still be required. However, relocating development away from the city of San Luis Obispo could result in Cal Poly locating the development North and West campus or open space and undeveloped areas within the Master Plan Area, including near the hillside. This would result in the disturbance of additional biological resources. Biological resources in these areas include Smith, Shephard, and Drumm Reservoirs and their drainages, which are subject to U.S. Army Corps of Engineers jurisdiction and provide aquatic habitat suitable for California red-legged frog and other aquatic species. Aquatic habitat suitable for these species also is found in portions of Brizzolara Creek. Due to the similar development footprint between the 2035 Master Plan and Alternative 4, and the potential to disturb more sensitive areas beyond the main campus, impacts associated with Alternative 4 would likely be greater in comparison to impacts under the 2035 Master Plan. *(Greater impact)*

ENERGY

Under this alternative, the same amount of development would occur, which would result in the same amount of construction activities and thus the same energy impacts during construction. Because development proposed under Alternative 4 and the 2035 Master Plan would be similar, during operations, the number of trips to and from the campus, as well as natural gas and electricity consumption, would be similar. Therefore, impacts would be less than significant under this alternative and similar to the 2035 Master Plan. *(Similar impact)*

GEOLOGY AND SOILS

Earth-moving activities associated with construction have the potential to affect geology, soils, and mineral resources. The types of impacts that could occur from development on campus include potential landslide issues, erosion or loss of topsoil, and impacts from unstable or expansive soils. Relocating development away from the city of San Luis Obispo under this alternative would likely result in Cal Poly locating additional development northeast of the main campus near the hillsides, which would require additional grading and development in areas more prone to landslides. Further, potential impacts to paleontological resources could occur if these resources are discovered during ground-disturbing activities under the 2035 Master Plan. Nonetheless, regardless of the relocation of development, existing regulations and permitting requirements, such as CBC requirements, and the CSU Seismic Requirements, would minimize potential impacts to a less-than-significant level and would still be required for this alternative. Alternative 4 includes the same level of development on campus, and therefore, the general areas where development would occur would be subject to similar geologic impacts. Impacts would be of similar type and magnitude and remain less than significant with mitigation. *(Similar impact)*

GREENHOUSE GAS EMISSIONS

Due to a similar level of on-campus development under this alternative, there would be similar construction- and operation-related GHG emissions compared to the 2035 Master Plan. Thus, Mitigation Measure 3.8-1, outlined in Section 3.8.3, would still be required. Therefore, impacts would be similar under this alternative compared to the 2035 Master Plan and would remain less than significant with mitigation. *(Similar impact)*

HYDROLOGY AND WATER QUALITY

Earth-moving activities associated with construction under the 2035 Master Plan and Alternative 4 have the potential to affect hydrology and water quality within campus. The types of impacts that could occur from development under the 2035 Master Plan include reduced groundwater recharge, alterations to existing drainage systems, and effects on the 100-year floodplain. Mitigation measures were incorporated into the EIR to reduce these impacts to less-than-significant levels. Existing regulations and permitting requirements, such as NPDES permit conditions, a SWPPP, the 2013 General Permit, a Small MS4 Permit, and Cal Poly's WDR, would also be required to ensure impacts to water quality are less-than-significant. Although Alternative 4 would include the same amount of development within campus as the 2035 Master Plan, it would likely involve a greater degree of conversion of permeable surfaces to impermeable surfaces, as it is more likely that undeveloped land would be developed under this alternative. Therefore, while impacts under this alternative would remain less than significant with mitigation, they would be greater than the 2035 Master Plan. *(Greater impact)*

NOISE

Because Alternative 4 and the 2035 Master Plan would result in the same level of development within campus, earth-moving activities (e.g., grading, excavation) and noise and vibration impacts would be similar. Receptors subject to those impacts, however, would be different. Because no new development would occur within 500 feet of the city's boundary, impacts to offsite receptors in the city of San Luis Obispo would be reduced and potential impacts to onsite receptors would remain. As noted above, the expansion of Spanos Stadium would still occur under this alternative and impacts and mitigation related to additional noise from stadium-related activities would be the same. As overall development would be the same as the project, the temporary and permanent increases in noise would be the same. *(Similar impact)*

POPULATION AND HOUSING

Alternative 4 would result in the same level of development on campus as under the 2035 Master Plan, which would result in the same number of additional students, faculty, staff, and retirees living on campus. Because the level of campus population growth would be the same under this alternative and the 2035 Master Plan, impacts would remain less than significant. *(Similar impact)*

PUBLIC SERVICES AND RECREATION

Alternative 4 would result in the same level of development on campus as the 2035 Master Plan. For this reason, the increase in demand for public services would be the same as under the 2035 Master Plan. Under the 2035 Master Plan, impacts to fire, police, school, libraries, and recreation were determined to be less than significant. Public services impacts under Alternative 4 would be of similar type and magnitude as under the 2035 Master Plan. Thus, impacts to public services and recreation under Alternative 4 and the 2035 Master Plan would be less than significant. *(Similar impact)*

TRANSPORTATION

Alternative 4 proposes the same level of development on campus as the 2035 Master Plan. For this reason, the additional vehicle commute trips associated with Alternative 4 would be the same or similar to those generated under the 2035 Master Plan. Relocation of development under this alternative could result in placement of future projects farther away from transit, resulting in greater vehicle trips and thus a greater impact. Nonetheless, the degree to which this would occur is speculative. Therefore, impacts to transportation would be similar under this alternative. *(Similar impact)*

UTILITIES AND SERVICE SYSTEMS

Similar to the project, development and operation of proposed buildings and increased campus population levels associated with Alternative 4 would increase water demand and wastewater generation. As under the 2035 Master Plan, either the WRF would be constructed to ensure that water and wastewater treatment demands are met through campus buildout or Cal Poly would reduce existing demand/flow such that adequate water supplies and wastewater treatment capacity are available to serve the new development. However, as noted in Section 3.14, "Utilities and Service Systems," the exact design, timing, and other details of the WRF have yet to be established, so mitigation is necessary to ensure that additional potable water supplies (made available as recycled water from the WRF replaces potable supplies for irrigation uses) and wastewater treatment capacity would be available in time to meet increased demand from campus development.

Several actions are proposed to reduce existing and projected wastewater flows on campus, including replacing toilets, urinals, faucets, and showerheads with low-flow alternatives. However, as discussed in Section 3.14.3, development under the 2035 Master Plan could increase campus generated peak wet weather flows in excess of existing contractual treatment and conveyance rights to the City's WRRF. Accordingly, the mitigation measures call for the implementation of on-campus facilities improvements, such as replacement of on-campus wastewater conveyance systems to reduce inflow and infiltration and water fixture efficiency measures would need to be implemented to reduce wastewater flows and ensure that peak wet weather flow conditions do not exceed 2018/2019 conditions. The mitigation measures identified in Section 3.14 would require Cal Poly to demonstrate and ensure that there are adequate water supplies and waste water treatment capacity to serve new development under the Master Plan, through the construction and operation of the WRF, expanded water supply or treatment capacity contracts with the City and/or through conservation measures to reduce water demand and waste water flows. Because Alternative 4 would result in similar levels of wastewater generation and demand for conveyance and treatment to the project, impacts would be similar and would remain less than significant with mitigation. *(Similar impact)*

ACHIEVEMENT OF PROJECT OBJECTIVES

This alternative would result in in the same amount of development as the 2035 Master Plan but it would be relocated to avoid the city boundary. For this reason, Alternative 4 would achieve most of the project objectives. For instance, Alternative 4 would still be able to enhance academic quality and student success through Cal Poly's "Learn by Doing" teaching methodology; expand campus programs to support and enhance the diversity of students, faculty, and staff; strengthen the campus's compact, cross-disciplinary Academic Core and promote cross-disciplinary synergies.

This alternative would also provide the same amount of housing as the 2035 Master Plan. Thus, this alternative would be able to house all first- and second-year students plus 30 percent of upper division students in residential communities on campus; provide housing opportunities on campus primarily for University faculty and staff to promote faculty and staff recruitment and retention, and to enhance faculty and staff connectivity with the campus; and provide housing opportunities that may be offered to non-traditional students, similar to the 2035 Master Plan. Lastly, by providing the same level of development, Alternative 4 would be able to advance campus-side environmental sustainability and make progress toward goals of carbon neutrality and climate resilience.

However, relocating the Retirement-Based Community Development and the faculty, staff and workforce housing site at Slack Street and Grand Avenue to alternative sites within the Master Plan Area would be challenging from a land use planning perspective as all community amenities important to these types of residential developments (e.g., banks, grocery stores, medical facilities) are located in the city, not on campus. Further, housing a retirement community among university-aged students would not be preferable for the residents of the new community. In addition, siting new development along the hillsides may result in permanent loss of more sensitive biological resources and conflict with future plans to develop trails and recreational facilities in these areas. Nonetheless, Alternative 4 would achieve most of the project objectives.

5.5 COMPARISON OF ALTERNATIVES

Table 5-1 summarizes the environmental analysis provided above for the 2035 Master Plan alternatives.

Table 5-1 Summary of Environmental Effects of the Alternatives Relative to the 2035 Master Plan Project

Environmental Topic	Project	Alternative 1: No Project – No Development Alternative	Alternative 2: Reduced Administrative/ Academic Development Program Alternative	Alternative 3: Net Student Growth Only Alternative	Alternative 4: No Development Along City Interface Alternative
Aesthetics	SU	<	=	<	<
Agriculture and Forestry Resources	SU	<	=	=	>
Air Quality	SU	< (Construction) > (Operations)	=	= (Construction) >(Operations)	=
Archaeological, Historical, and Tribal Cultural Resources	SU	<	=	=	=
Biological Resources	LTS/M	<	<	<	>
Energy	LTS	<	<	<(Construction) >(Operations)	=
Geology and Soils	LTS/M	<	<	<	=
Greenhouse Gas Emissions	LTS/M	< (Construction) > (Operations)	<	< (Construction) >(Operations)	=
Hydrology and Water Quality	LTS/M	<	=	=	>
Noise	SU	<	<	=	=
Population and Housing	SU	>	=	>	=
Public Services and Recreation	LTS/M	<	=	=	=
Transportation	SU	>	=	>	=
Utilities and Service Systems	SU	<	<	<	=

Impact Status:

LTS = less-than-significant impact

LTS/M = LTS with mitigation

SU = Significant and Unavoidable

= - Impacts would be similar to those of the project.

< - Impacts would be less than those of the project.

> - Impacts would be greater than those of the project.

Source: Data compiled by Ascent Environmental in 2019

5.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines Section 15126.6 states that an EIR should identify the "environmentally superior" alternative. "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." As shown in the Executive Summary Chapter of this EIR, there would be significant and unavoidable impacts associated with the project. These impacts are related to aesthetics, agricultural resources, air quality, historic resources, and noise. Each of the evaluated action alternatives would result in lesser environmental impacts on some environmental resources and greater impacts on others compared to the 2035 Master Plan. None of the action alternatives presented would only reduce impacts associated with the 2035 Master Plan.

Alternative 1 (No Project-No Development), which would represent the least amount of development compared to existing conditions and thus, least potential physical environmental impacts, would be considered the environmentally superior alternative. Because the No Project–No Development Alternative (described above in Section 5.4.1) would avoid the significant adverse impacts resulting from the construction and operation of new facilities under the 2035 Master Plan, it is the environmentally superior alternative. However, as noted above, it would not be as consistent with applicable air quality plans and may result in increased emissions (air quality and GHG) and VMT as on-campus population increases. As required by State CEQA Guidelines (California Code of Regulations Section 15126.6 [e][2]), because the environmentally superior alternative was identified as the No Project Alternative, another environmentally superior alternative must be identified among the other alternatives considered.

When considering objectives, the project would best meet the purpose and need. In contrast, Alternative 1 would not provide additional housing to accommodate any growth in student enrollment. Alternative 2 would generally result in impacts that are less or equal to the 2035 Master Plan but would not provide additional academic facilities to meet the needs that would be generated by planned student population growth. Alternative 3 would reduce some impacts as a result of less developable footprint but because less student housing would be provided, impacts to transportation and population and housing would be greater. While Alternative 4 would generally meet the objectives of the 2035 Master Plan, it would result in greater impacts to biological resources, hydrology and utilities, and would not provide the adequate community resources and benefits to the Faculty and Staff Workforce Housing and Retirement-Based Community Development that the 2035 Master Plan would.

Alternatives 2, 3, and 4 would result in various environmental effects, some of which would be greater than with implementation of the project. some less, and some the same. However, on balance, the environmentally superior alternative would be either the 2035 Master Plan or Alternative 4, depending on decisions weighing types of environmental benefits and adverse effects by Cal Poly. The 2035 Master Plan would result in greater construction-related impacts (e.g., noise near the city) and visual impacts, and Alternative 4 would result in greater construction impacts (e.g., hydrology and utility), as well as operational impacts (e.g., biological resources). In weighing the consideration of the environmentally-superior alternative, decision-makers must weigh the relative importance of greater construction-related impacts associated with the project, compared to the greater operational impacts associated with Alternative 4. Nonetheless, each of the alternatives considered would result in long-term, significant and unavoidable environmental impacts. Therefore, the environmental impact differences between these two alternatives are not substantial enough that one is clearly superior to the other.

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6 OTHER CEQA SECTIONS

6.1 GROWTH INDUCEMENT

CEQA Section 21100(b)(5) specifies that the growth-inducing impacts of a project must be addressed in an EIR. Section 15126.2(d) of the State CEQA Guidelines provides the following guidance for assessing growth-inducing impacts of a project:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can induce growth directly, indirectly, or both. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may foreseeably lead to environmental effects. If substantial growth inducement occurs, it can result in secondary environmental effects, such as increased demand for housing, demand for other community and public services and infrastructure capacity, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, conversion of agricultural and open-space land to urban uses, and other effects.

6.1.1 Summary of Growth-Inducing Impacts

The State CEQA Guidelines require discussion in an EIR of the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. It is not assumed that growth in any area is beneficial or detrimental, consistent with the State CEQA Guidelines (CCR Section 15126.2[d]).

Environmental effects resulting from induced growth fit the CEQA definition of “indirect” effects in the State CEQA Guidelines (CCR Section 15358[a][2]). These indirect or secondary effects of growth may result in significant environmental impacts. CEQA does not require that the EIR speculate unduly about the precise location and site-specific characteristics of significant, indirect effects caused by induced growth, but a good-faith effort is required to disclose what is feasible to assess. Potential secondary effects of growth could include consequences – such as conversion of open space to developed uses, increased demand on community and public services and infrastructure, increased traffic and noise, degradation of air and water quality, or degradation or loss of plant and wildlife habitat – that are the result of growth fostered by the project.

6.1.2 Growth-Inducing Impacts of the 2035 Master Plan

This analysis examines the following potential growth-inducing impacts related to implementation of the 2035 Master Plan:

1) foster population growth;
2) foster the construction of new housing in the surrounding environment;
3) foster economic growth; and
4) remove obstacles to growth by expanding facility capacity, or infrastructure.

Per estimates provided by the California Department of Finance (DOF), San Luis Obispo County is anticipated to experience growth of 21,009 residents between 2019 and 2035, an approximately seven percent increase. The existing populations for the cities in the vicinity of campus and projected populations were gathered from resources developed by the San Luis Obispo Council of Governments (SLOCOG). More specifically, SLOCOG's 2019 Regional Transportation Plan (RTP) (SLOCOG 2019) provides existing populations per county for the year 2018, while SLOCOG's Update to Long Range Socio-Economic Projections (SLOCOG 2009) incorporates projections for the year 2035 for nearby cities. Per SLOCOG's resources, and using the high-growth scenario, the City of Atascadero is anticipated to grow from 31,147 residents in 2018 to 32,950 residents in 2035, an increase of approximately six percent. The City of Paso Robles is expected to grow from 31,559 residents in 2018 to 42,350 residents in 2035, an approximately 34 percent increase. The City of San Luis Obispo is anticipated to grow from 46,548 residents in 2018 to 48,860 residents in 2035, an approximately five percent increase. Arroyo Grande's population is anticipated to increase by approximately 13 percent, from 17,912 residents in 2018 to 20,230 residents in 2035. Similarly, Grover Beach would experience a population increase of approximately six percent from 13,560 residents in 2018 to 14,390 residents in 2035. Lastly, Pismo Beach is expected to increase in population by 22 percent, from 8,233 residents in 2018 to 10,080 residents in 2035 (SLOCOG 2019; SLOCOG 2009).

As noted in Section 3.11, "Population and Housing," development under the 2035 Master Plan would allow for increased campus population, thereby increasing local student population, as well as the number of faculty/staff on campus on a daily basis. While there would be an overall population increase, the 2035 Master Plan allows for development of more housing units than student enrollment increases, which would, overall, reduce the need for students to seek off-campus housing compared to existing conditions. Therefore, the 2035 Master Plan would not foster population growth at off-campus locations or within local jurisdictions to house students. With respect to employment growth, the 2035 Master Plan anticipates an increase of up to 669 faculty and staff and includes on-campus workforce housing for approximately 800 faculty/staff and families. A retirement community is also proposed to house approximately 250 retired Cal Poly faculty, staff, and alumni. These housing developments would reduce off-campus housing demand for employee and non-student housing. Thus, this increase in on-campus housing would meet projected demand associated with long-term planning efforts (e.g., demand generated by enrollment increases) and would decrease off-campus housing demand. The projected increase in student enrollment and availability of on-campus housing for new and existing students, under the 2035 Master Plan, would increase on-campus population. It would also necessitate development of additional on-campus facilities (e.g., academic/administrative, recreation, dining, parking, and utility-related facilities), the effects of which are evaluated throughout this EIR (refer to Sections 3.1 through 3.10, Sections 3.12 through 3.14, and Chapters 4 and 5). However, because the 2035 Master Plan would house substantially more residents than generated through the 2035 Master Plan, it would not induce additional population growth or housing on campus beyond what is projected by the 2035 Master Plan, and thus, would not be expected to foster or create a need for construction of new housing in the surrounding (off-campus) environment.

The on-campus population growth may induce economic growth through an increased demand for goods and services, which could create new jobs in the area, including within the downtown area of the City of San Luis Obispo. Based on a 2014 study conducted for Cal Poly regarding economic impacts associated with the campus, for every 2,741 direct jobs supplied to the local area by Cal Poly, an additional 2,381 jobs are created in the local area by these additional employees (Cal Poly 2014). This means that one new job would be created in the region for approximately every 1.2 new jobs on-campus. Based on the anticipated increase in campus employment of 669, and assuming that one job would be created for every 1.2 new Cal Poly jobs, the 2035 Master Plan could result in 558 additional jobs (additional to Cal Poly jobs) within the region. This indirect and induced economic growth may result in additional commercial development in the region, which would be subject to local planning and discretionary actions by local jurisdictions, including the City of San Luis Obispo. The potential environmental impacts associated with such development would be identified consistent with local planning requirements and evaluated through local jurisdictions' General Plans and project-level evaluations of commercial development proposals. According to the City of San Luis Obispo General Plan, the City of San Luis Obispo is anticipated to reach a population of 47,622 by 2030 at an annual growth rate of 0.40 percent. Similarly, the County of San Luis Obispo is anticipated to reach a population of 321,741 by 2035 (County of San Luis Obispo 2014). As discussed in Section 3.11.3, implementation of the 2035 Master Plan would allow for an enrollment increase of 3,188 students on campus. This would make up seven percent of the City of San Luis Obispo's population (though it should be noted that on-campus residents are not residents of the City of San Luis Obispo) and 0.11 percent of the County of San Luis Obispo's population. As outlined in the City of San Luis Obispo's General Plan, in 2012 the City of San Luis Obispo has 22,984 employed persons (County of San Luis Obispo 2014). Similarly, the County of San Luis Obispo anticipates that approximately 9,400 new jobs will be created county-wide (including cities) between 2015 and 2025 (County of San Luis Obispo 2014). Therefore, the 558 additional jobs in nearby areas anticipated under the 2035 Master Plan would represent approximately 6 percent of the total jobs anticipated to be created in the County and neighboring cities between 2015 and 2025 and would represent approximately 2 percent of the employed persons in the City of San Luis Obispo. As such, job growth is within the levels contemplated for the area.

As with this 2035 Master Plan EIR, the CEQA review for future regional growth may identify significant impacts and mitigation measures and significant and unavoidable impacts. These impacts are generally part of overall regional growth and the 2035 Master Plan would be a minor, incremental contributor to this growth and its related impacts. In considering proposals for future developments, these regional entities would evaluate the details, alternatives, and mitigation measures to decide whether potential impacts can be mitigated and avoided, or significant and unavoidable.

Growth in an area may result from the removal of physical impediments or restrictions to growth, as well as the removal of planning impediments resulting from land use plans and policies. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services (e.g., water service), while planning impediments may include restrictive zoning and/or land use designations. The 2035 Master Plan would be implemented within the existing campus boundaries which contain established land uses and supporting infrastructure (roads, water distribution, wastewater and drainage collection, and energy distribution). The 2035 Master Plan includes redevelopment of areas within the campus and would intensify the uses over what currently exists in some areas. To account for this intensification, the 2035 Master Plan proposes circulation infrastructure improvements, to provide for the safe and efficient movement of pedestrians, bicycles, and vehicles around campus, while also encouraging a more complete shift to an active transportation approach. Further, utilities infrastructure improvements, such as new water, wastewater, and storm drainage infrastructure, are also proposed to accommodate growth under the 2035 Master Plan. For instance, under the 2035 Master Plan, a Water Reclamation Facility (WRF) is proposed to be constructed in the West Campus, south of the Student Experimental Farm and west of the compost operation to treat wastewater and provide recycled water to future development associated with the 2035 Master Plan. This necessary utility infrastructure would be located on campus and would serve only the campus (in terms of sizing and need). Further, these components would be maintained separate from other local jurisdictions. As such, there is no potential for additional growth (off the campus) to occur beyond that anticipated under the 2035 Master Plan.

6.2 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

The State CEQA Guidelines Section 15126.2(b) requires EIRs to include a discussion of the significant environmental effects that cannot be avoided if the proposed project is implemented. As documented throughout Chapter 3 (project impacts) and Chapter 4, "Cumulative Impacts," of this Draft EIR, after implementation of the recommended mitigation measures, most of the impacts associated with the 2035 Master Plan would be reduced to a less-than-significant level. The following impacts are considered significant and unavoidable; that is, no feasible mitigation is available to reduce the project's impacts to a less-than-significant level;

- Impact 3.1-1: Result in a Substantial Adverse Effect on a Scenic Vista or Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and Its Surroundings
- Impact 3.1-2: Damage Scenic Resources within a State Scenic Highway
- Impact 3.2-1: Convert Agricultural Uses, Including Lands Designated as Important Farmland, to Nonagricultural Use
- Impact 3.3-2: Cause Construction-Generated Criteria Air Pollutant or Precursor Emissions to Exceed APCD-Recommended Thresholds
- Impact 3.3-3: Result in a Net Increase in Long-Term Operational Criteria Air Pollutant and Precursor Emissions That Exceed APCD-Recommended Thresholds
- Impact 3.3-6: Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People
- Impact 3.4-1: Cause Substantial Adverse Change in the Significance of a Historical Resource
- Impact 3.10-1: Generate Substantial Temporary (Construction) Noise
- Impact 3.10-3: Generate Substantial Long-Term Increase in Stationary Noise

Cumulative impacts to aesthetics (effects on a scenic vistas, existing visual character or quality of public views of the site and its surroundings, and scenic resources within a state scenic highway), agriculture (conversion of farmland in the region), air quality (criteria air pollutant emissions during construction and operation and odors), and historic resources (alteration of historic structures) would also be significant and unavoidable as a result of implementation of the 2035 Master Plan.

6.3 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the project. Specifically, the State CEQA Guidelines section 15126.2(c) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generation to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if:

- the primary and secondary impacts would generally commit future generations to similar uses;
- the project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project;
- the project would involve a large commitment of nonrenewable resources; or
- the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Cal Poly's ownership of the campus represents a long-term commitment of the campus to educational uses and implementation of the 2035 Master Plan would continue these uses, irreversibly removing the Master Plan Area from other potential uses. Restoration of the campus to pre-developed conditions would not be feasible given the degree of disturbance, the urbanization of the area, and the level of capital investment.

Additional irreversible commitments to future use include those related to new housing or academic/administrative space development. Development of lands currently used for agricultural uses would constitute an irreversible change of use on these lands because once buildings or pavement are constructed, underlying soils would no longer be available for agricultural production. Implementation of the 2035 Master Plan would result in the loss of approximately ten acres of Important Farmland, all of which is also considered Prime Farmland. While Cal Poly would implement mitigation measures, including permanently preserving other Important Farmland at a minimum of a 1:1 ratio, the loss of this Important Farmland would be deemed permanent and therefore a significant impact. For biological resources, development under the 2035 Master Plan could result in conversion or loss of Special-Status plants, wildlife, and fish species and habitats; degradation or loss of riparian habitat or other sensitive natural communities or state or federally protected wetlands; and degradation or loss of important wildlife movement corridors or nursery sites. As discussed in Section 3.5, "Biological Resources," Cal Poly would implement mitigation measures to reduce impacts to these sensitive biological communities to a less than significant level.

Resources that would be permanently and continually consumed by project implementation include water, electricity, natural gas, and fossil fuels; however, all new buildings would be constructed in accordance with the most recent building code (i.e., California Energy Code) at the time of construction, which includes energy efficiency requirements (see Section 3.6, "Energy"). GHG-related mitigation measures would put Cal Poly on track to meeting renewable energy and building efficiency goals that are more stringent than California building code and onsite project design features would enhance pedestrian and bicycle use while limiting parking and automobile use. Nonetheless, construction and operational activities related to the project would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobiles and construction equipment.

With respect to operational activities, compliance with and exceedance of applicable building codes, along with project-specific mitigation measures or project requirements, would ensure that natural resources are conserved or recycled to the maximum extent feasible. It is also possible that new technologies or systems would emerge, or would become more cost-effective or user-friendly, which would further reduce Cal Poly's reliance on nonrenewable natural resources.

In summary, implementation of the 2035 Master Plan would foster on-campus student and employee population growth. Environmental impacts of on-campus population growth are accounted for in the 2035 Master Plan and considered in this EIR (e.g., impacts to agricultural resources, air quality, and traffic; see discussions within the relevant chapters of this EIR). However, because the 2035 Master Plan allows for development of more housing units than student enrollment growth, it is expected that this would reduce population growth at off-campus locations and within local jurisdictions that house students. Similarly, because the 2035 Master Plan includes more on-campus workforce housing compared to anticipated faculty and staff members expected to be added to the campus in response of the 2035 Master Plan, the 2035 Master Plan would decrease off-campus housing demand. Therefore, the 2035 Master Plan would not result in adverse growth-inducing impacts off-campus beyond those inherent to the plan itself which are analyzed in this EIR.

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