California State University
MONTEREY BAY

California State University, Monterey Bay Master Plan

Draft Environmental Impact Report - Volume I

Prepared for California State University, Monterey Bay
February 2022 - SCH No. 2017051042

DRAFT

Environmental Impact Report
California State University Monterey Bay
Master Plan
SCH No. 2017051042

VOLUME I

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APPENDICES

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
μg/m3	micrograms per cubic meter
AB	Assembly Bill
ACC	Advanced Clean Cars
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ACOE	U.S. Army Corps of Engineers
ACT	Advanced Clean Trucks
ACTM	airborne toxic control measure
ADA	Americans with Disabilities Act
ADI	area of direct impact
ADT	average daily traffic
AFY	acre feet per year
ALUCP	Airport Land Use Compatibility Plan
AMBAG	Association of Monterey Bay Area Governments
AQMP	Air Quality Management Plan
ARAS	applicable or relevant and appropriate
Army	U.S. Department of the Army
ASR	Aquifer Storage and Recovery
ATP	Active Transportation Plan
AWTF	Advanced Water Treatment Facility
BAR	Board of Architectural Review
Basin	Salinas Valley Groundwater Basin
BenMAP	Benefits Mapping and Analysis Program
BenMAP-CE	Benefits Mapping and Analysis Program-Community Edition
BLM	Bureau of Land Management
BMP	best management practice
BO	Biological Opinion
BRAC	Base Realignment and Closure
BRP	Base Reuse Plan
BUG	Backlight/Uplight/Glare
CAAQS	California Ambient Air Quality Standards
CAlEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal-IPC	California Invasive Plant Council
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAMx	Comprehensive Air Quality Model with extensions
CAO	Cleanup and Abatement Orders
CAP	climate action plan

Acronym/Abbreviation	Definition
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CCA	Community Choice Aggregation
CDFW	California Department of Fish and Wildlife
CDO	Cease and Desist Order
CEC	California Energy Commission
CEHI	CSUMB Employee Housing, Inc.
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFE	carbon pollution-free electricity
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH^4	methane
CHL	California Historic Landmarks
CHP	Community Housing Partners
CHRIS	California Historical Resources Information System
CIWMB	California Integrated Waste Management Board
CMAQ	Community Multiscale Air Quality
CMMA	California Master Mutual Aid
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COG	Council of Governments
CPDC	Capital Planning, Design, and Construction
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSIP	Castroville Seawater Intrusion Project
CSU	California State University
CSUMB	California State University, Monterey Bay
CSU TISM	California State University Transportation Impact Study Manual
CTS	California tiger salamander
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan

Acronym/Abbreviation	Definition
dB	decibel
dBA	A-weighted decibel
dbh	diameter at breast height
DOD	Department of Defense
DOF	Department of Finance
DOT	Department of Transportation
DPM	diesel particulate matter
DRC	Design Review Committee
DRMP	Development and Resource Management Plan
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EBS	Environmental Baseline Survey
ECH	East Campus Housing
ECOS	East Campus Open Space
EDC	Economic Development Conveyance
EH&S	Environmental Health and Safety
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EMMA	Emergency Management Mutual Aid
EO	Executive Order
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Environmental Site Assessment
ESD	Explanations of Significant Difference
EV	electric vehicle
FAA	Federal Aviation Administration
FAR	floor area ratio
FD	Fire Department
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FFA	Federal Facility Agreement
FGC	Fish and Game Code
FHSZ	Fire Hazard Severity Zone
FIRM	Flood Insurance Rate Map
FORA	Fort Ord Reuse Authority
FORA ESCA	Fort Ord Reuse Authority Environmental Services Cooperative Agreement
FORTAG	Fort Ord Recreation Trail and Greenway
FOST	Findings of Suitability to Transfer
FR	Federal Register
FRA	Federal Responsibility Area
FTA	Federal Transit Administration

Acronym/Abbreviation	Definition
FTE	full-time equivalent
FTES	full-time equivalent students
GHG	greenhouse gas
GMPAP	Greater Monterey Peninsula Area Plan
gpm	gallons per minute
GRRP	Groundwater Replenishment Reuse Project
GSA	groundwater sustainability agency
GSF	gross square feet
GSP	Groundwater Sustainability Plan
GWP	global warming potential
HAP	hazardous air pollutant
HC	head count
HCD	State Department of Housing and Community Development
HCFC	hydrochlorofluorocarbon
HDT	heavy-duty truck
HFC	hydrofluorocarbon
HIA	health impact assessment
HMP	Habitat Management Plan
HRFA	Healthy Forests Restoration Act
HVAC	heating, ventilation, and air conditioning
Hz	Hertz
IAR	Institutional Assessment and Research
ICSUAM	Integrated California State University Administrative Manual
ips	inches per second
ISTEA	Intermodal Surface Transportation Efficiency Act
JPA	Joint Powers Association
kV	kilovolt
kWh	kilowatt-hour
LBP	lead-based paint
L_{dn}	day-night average sound level
L_{eq}	Equivalent continuous sound level (energy-average sound level)
L_{eq8hr}	L_{eq} energy-averaged over an 8-hour period
LEV	low-emission vehicle
LID	Low-Impact Development
L_{max}	Maximum sound level during the measurement period
L_{min}	Minimum sound level during the measurement period
LOS	level of service
LRA	Local Responsibility Area
LUC	Land Use Covenant
LUST	Leaking Underground Storage Tank
Lv	vibration level
M1W	Monterey One Water
MBARD	Monterey Bay Air Resources District

Acronym/Abbreviation	Definition
MBCS	Monterey Bay Charter School
MBFC	Monterey Bay Football Club
MBNMS	Monterey Bay National Marine Sanctuary
MBTA	Migratory Bird Treaty Act
MCCWPP	Monterey County Community Wildfire Protection Plan
MCL	maximum contaminant level
MCRFD	Monterey County Regional Fire District
MCSO	Monterey County Sheriff's Office
MCWD	Marina Coast Water District
MCWRA	Monterey County Water Resources Agency
MEC	Munitions and Explosives of Concern
mg/m^3	milligrams per cubic meter
MGD	million gallons per day
MM	mitigation measure
MMBTU	Metric Million British Thermal Unit
MMcf	million cubic feet
MMT	million metric tons
mph	miles per hour
MPO	metropolitan planning organization
MPRPD	Monterey Peninsula Regional Park District
MPUSE	Monterey Peninsula Unified School District
MPWMD	Monterey Peninsula Water Management District
MRA	Multi Range Area
MRWPCA	Monterey Regional Water Pollution Control Agency
MS4	Municipal Separate Storm Sewer System
MST	Monterey Salinas Transit
MT	metric ton
MTP	Metropolitan Transportation Plan
MW	megawatt
MWELO	Model Water Efficient Landscape Ordinance
MWh	megawatt-hour
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCAA	National Collegiate Athletic Association
NCCAB	North Central Coast Air Basin
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NO	nitric oxide
NO_2	nitrogen dioxide

Acronym/Abbreviation	Definition
NO_x	oxides of nitrogen
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
O_3	ozone
OCEN	Ohlone/Costanoan-Esselen Nation
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbons
PBC	Public Benefit Conveyance
PCB	polychlorinated biphenyl
PD	Police Department
PDF	Project Design Feature
PFAS	polyfluoroalkyl substance
PFC	perfluorocarbons
PG&E	Pacific Gas and Electric
PGA	peak ground acceleration
PGM	photochemical grid model
PM_{10}	coarse particulate matter
$PM_{2.5}$	fine particulate matter
POM	Presidio of Monterey Fire Department
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
RPS	Renewables Portfolio Standard
psi	pounds per square inch
RCFE	Residential Care Facility for the Elderly
RCRA	Resource Conservation and Recovery Act
RFS	Renewable Fuel Standard
RHND	Regional Housing Needs Determination
rms	root-mean square
ROD	Record of Decision
ROG	reactive organic gas
RPS	Renewables Portfolio Standard
RUDG	Regional Urban Design Guidelines
RUWAP	Regional Urban Water Augmentation Program
RWD	Reports of Waste Discharge

Acronym/Abbreviation	Definition
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SEMS	Standard Emergency Management System
SERC	State Emergency Response Commission
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SHRC	State Historical Resources Commission
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLCP	short-lived climate pollutants
SLF	Sacred Lands File
SO_2	sulfur dioxide
SORE	Small Off-Road Engine
SPCC	Spill Prevention Control and Countermeasures
SPL	sound pressure level
SR	State Route
SRA	State Responsibility Area
SRDF	Salinas River Diversion Facility
STARS	Sustainability Tracking, Assessment & Rating System
SUAM	State University Administrative Manual
SVBGSA	Salinas Valley Basin Groundwater Sustainability Agency
SVP	Society of Vertebrate Paleontology
SVRP	Salinas Valley Reclamation Plant
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TAMC	Transportation Agency of Monterey Count
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
TCR	tribal cultural resource
TDM	Transportation Demand Management
TDS	total dissolved solids
TMDL	total maximum daily loads
USC	United States Code
UC MBEST	University of California Monterey Bay Education, Science, and Technology Center
UPD	University Police Department
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service

Acronym/Abbreviation	Definition
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USL	United Soccer League
UWMP	Urban Water Management Plan
UZA	urbanized area
VdB	vibration decibel
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WDR	waste discharge requirement
WSA	water supply assessment
WUI	wildland-urban interface
ZEV	zero-emission vehicle

CHAPTER 1
EXECUTIVE SUMMARY

1.1 INTRODUCTION

The California State University (CSU) has prepared this Draft Environmental Impact Report (EIR) to inform the community, responsible agencies, trustee agencies, and other interested agencies and organizations, of the potential significant environmental effects resulting from implementation of the proposed California State University Monterey Bay (CSUMB) Master Plan (Project).[1] The Project provides a guide for the physical development of the campus. This Executive Summary lists the potentially significant environmental impacts and feasible mitigation measures or project alternatives that would avoid or substantially reduce those impacts. It also provides a brief description of the Master Plan background, Project overview, Project impact summary, alternatives to the Project and areas of controversy known to CSUMB. This Draft EIR was prepared in compliance with the California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000-21189.3) and the CEQA Guidelines (Cal. Code Regs. tit. 14, § 15000 *et seq*.).

1.2 MASTER PLAN BACKGROUND

CSUMB is one of 23 campuses in the CSU system and is located on the former Fort Ord military base. Through the base conversion process, the Economic Development Conveyance (EDC) process, and Public Benefit Conveyance (PBC) process, CSU received approval in May 1994 for the conveyance of property at Fort Ord to establish the new CSUMB campus. The Fort Ord base was officially closed in 1994 based on the recommendations of the Base Realignment and Closure (BRAC) Commission. Subsequently, the Fort Ord Reuse Authority (FORA) was created to oversee the planning, financing, and implementation of the reuse and recovery programs described in the 1997 Fort Ord Base Reuse Plan (BRP). On June 30, 2020, FORA's legal mandate expired and the authority dissolved. The Fort Ord BRP identifies CSUMB and two other higher education institutions—the University of California Monterey Bay Education, Science, and Technology Center (UC MBEST) and Monterey Peninsula College, that also received Fort Ord property conveyances pursuant to the BRAC process—as catalysts for the economic revitalization of the region and integral to the community-building strategy for the base. The CSUMB campus opened in the fall of 1995.

1 The Board of Trustees of the California State University is the State of California acting in its educational capacity and is responsible for the oversight of the California State University system, including the CSUMB campus. The Board has authority over curricular development, use of property, development of facilities, and fiscal and human resources management. As such, the Board of Trustees is the lead agency under CEQA and is responsible for review and certification of the EIR and for consideration of Project approval. CSUMB will act as point of contact for the CEQA process.

The 2007 Master Plan for the CSUMB campus authorized an on-campus traditional student enrollment of 8,500 full-time equivalent students (FTES) and 3,500 FTES non-traditional, primarily off-campus students[2] for a total of 12,000 FTES, with 1,833 FTE faculty and staff. This 2007 Master Plan was approved and the EIR certified by the Board of Trustees of the California State University (CSU Board of Trustees) in 2009.

In 2016, several projects were approved and resulted in revisions to the 2007 Master Plan. These revisions provided for: (1) the necessary changes to site the Monterey Bay Charter School off of Colonel Durham Street between Sixth and Seventh Avenues; (2) changes to the campus's boundaries along Eighth Street associated with the acquisition of parcels contiguous to the campus where the Promontory housing is located; and (3) the necessary changes to site the Student Union on an existing parking lot in the campus core and consolidate existing parking in a new lot located along 7th Avenue.

1.3 OVERVIEW OF THE PROPOSED PROJECT

1.3.1 Project Location and Setting

The CSUMB campus is located north of the Monterey Peninsula and west of the Salinas Valley, approximately 1 mile inland from the Pacific Ocean and 100 miles south of San Francisco. The campus footprint covers approximately 1,396 acres and physically occupies portions of three separate governmental jurisdictional boundaries, including the City of Marina, the City of Seaside, and unincorporated Monterey County. As an entity of the State of California, the California State University (CSU), including CSUMB, is not subject to local governmental planning and zoning regulations.

The campus consists of three distinct areas: Main Campus, East Campus Housing, and East Campus Open Space (ECOS). The Main Campus consists of new and renovated campus buildings, paved parking areas and other paved areas from the former military base, and open space areas. The ECOS is a large, undeveloped natural open space area bordered by Eighth Avenue to the west, Inter-Garrison Road to the north, and the campus boundary to the south and east. The East Campus Housing area is located north of Inter-Garrison Road and consists of two residential subdivisions, Schoonover and Frederick Park. All university facilities, with the exception of the East Campus Housing, are located west on the Main Campus.

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2 Based on the definitions provided in the 2007 Master Plan EIR, "traditional" students are resident and commuting students who primarily take classes on-campus, whereas "non-traditional" students are those students whose primary contact with the campus is via distance learning (e.g., taking courses offered over the Internet) and/or with periodic short-term and intensive on-campus resident learning experiences.

1.3.2 Project Objectives

The underlying purpose of the Project is to support and advance the University's educational mission, as defined by the California Education Code, 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 Project would authorize the physical development of the campus in a manner that would accommodate an on-campus enrollment of 12,700 full-time equivalent students (FTES). The following objectives of the Project have been established in support of its underlying purpose:

1. 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 12,700 FTES;
   - Provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population; and
   - Develop into a comprehensive university campus that graduates students that can meet the needs of regional and statewide employers, while preserving and enhancing the quality of campus life.
2. Implement strategies to facilitate student academic success, academic excellence, institutional capacity, and regional stewardship.
3. Focus new building development on existing paved and developed infill sites on the Main Campus to provide compact and clustered development and make efficient use of campus land.
4. Provide and concentrate facilities for expansion of academic programs and administrative functions on the Main Campus, in or near the campus core to:
   - Create a compact campus core;
   - Provide synergies between existing and new educational and research programs;
   - Provide for a 10-minute walking distance from transportation hubs and between classroom buildings;
   - Facilitate use of shared resources among programs, such as classroom and lab space;
   - Facilitate faculty and student interaction; and
   - Promote an environment conducive to learning.
5. Provide on-campus housing for 60 percent of FTES and 65 percent of FTE faculty and staff to reduce vehicle trips to campus, meet other Master Plan Guideline's sustainability priorities and objectives, and promote recruitment, retention and engagement of faculty and staff.

6. Provide a diversity of housing types to serve a broad range of student, faculty and staff housing needs.
7. Create a unique campus character through buildings, outdoor spaces, pathways, bikeways, and roadways that connect those spaces while also producing a sense of community on campus.
8. Provide emphasis on pedestrian access and alternative transportation and attain a modal shift from vehicles to more pedestrian, bicycle, and transit use by:
   - Establishing bicycle and pedestrian networks that provide safe, direct, and attractive connections to work and school;
   - Establishing restrictions to general vehicle travel through the campus core and locate vehicle circulation and parking on the campus periphery to provide for a walkable campus core; and
   - Providing other land development strategies (e.g., multimodal hubs) to support TDM (Transportation Demand Management), which is intended to reduce drive-alone travel modes and encourage greater use of transit, walking, and bicycle commuting and reduce dependence on automobiles.
9. Preserve and enhance natural open spaces and develop formal open spaces so they become integral to the character of the campus.
10. Integrate natural and formal open spaces into the framework for capital development. Organize the built environment around an open space network to integrate the natural and built environments and enhance outdoor learning, social interaction, recreation, and the overall campus ambiance.

1.3.3 Project Overview

The Project and the subject of this Draft EIR is the proposed CSUMB Master Plan, including Project Design Features (PDFs) drawn from the CSUMB Master Plan Guidelines (Master Plan Guidelines), including five "near-term" development components to be constructed pursuant to the proposed Master Plan within the next 10 years. The Project would provide a blueprint for land uses and building and facility space requirements to support an on-campus enrollment of 12,700 FTES and 1,776 FTE faculty and staff by the year 2035. Achieving this growth would result in an increase of approximately 6,066 FTES and 752 FTE faculty/staff over existing levels. The Project also would result in a net increase of approximately 2.6 million gross square feet (GSF) of new academic, administration, student life, athletic and recreational, and institutional partnership facilities, and housing. On-campus housing would be constructed sufficient to continue to accommodate 60 percent of FTES and existing housing would accommodate 65 percent of FTE faculty and staff, with a projected increase of 3,820 student beds and 757 converted residential units for faculty and staff. The Project also would accommodate redevelopment and growth in outdoor athletics and recreation facilities to serve campus needs, with space set aside for additional athletic fields, tennis courts, and pools, as well as for replacement of the existing stadium, field house, and pool house.[3]

As part of the Project, numerous PDFs are included that address various topics including open space, transportation, water and wastewater systems, energy systems and greenhouse gas reduction, and design. For example, transportation PDFs will enhance and expand the campus's existing Transportation Demand Management (TDM) program in order to further reduce vehicle trips and prioritize pedestrian and bicycle movement.

As noted previously, the Project includes specific development components identified in the proposed Master Plan and expected to be constructed in the next 10 years; these Project components are referred to throughout this EIR as "near-term development components." These near-term development components include: Student Housing Phase III (600 student housing beds); Academic IV (95,000 GSF of classroom/instructional space); Student Recreation Center (70,000 GSF of recreation space); Student Housing Phase IIB (400 student housing beds); and Academic V (76,700 GSF of classroom/instructional space). A full description of the Project is provided in Chapter 3, Project Description.

Portions of the campus not currently proposed for development under this Project could be the subject of future development proposals. Such development proposals could be institutional partnerships or campus projects. Separate environmental review under CEQA would be pursued if and when such development proposals are pursued.

1.4 ALTERNATIVES TO THE PROJECT

CEQA Guidelines Section 15126.6 requires that an EIR describe and evaluate alternatives to the proposed project that feasibly attain most of the basic objectives of the project and avoid or substantially lessen any of the significant effects of the project. The following alternatives are evaluated in Chapter 6, Alternatives. A two-step process was used to conduct the alternatives analysis in this Draft EIR. First, potential alternatives were examined for their feasibility and ability to meet most of the Project objectives. Those that clearly were found to be infeasible were rejected without further environmental review. Alternatives that may be feasible and that would attain at least some of the basic Project objectives were carried forward and analyzed with regard to whether they would reduce or avoid any significant impacts of the Project. Chapter 6 evaluates three alternatives to the Project:

3 The Freeman Stadium Facilities Renovation Project, approved by the CSU Board of Trustees in September 2021, was the subject of separate CEQA review and will implement renovations to the stadium in the interim, prior to replacement contemplated by the proposed Master Plan.

- **Alternative 1: No Project Alternative / Existing Master Plan** – This alternative assumes the continued implementation of the 2007 Master Plan. Planned growth as anticipated in the 2007 Master Plan would continue up to its planned capacity (8,500 FTES enrollment on campus), which would allow for limited development of academic facilities.
- **Alternative 2: Reduced Enrollment Alternative** – This alternative would involve reduced enrollment growth on the campus, to a maximum of 10,500 FTES enrollment and an associated reduction in new building space and housing, as compared to the Project, which provides for 12,700 FTES.
- **Alternative 3: Expanded Housing Growth Alternative** – This alternative would maintain the same proposed student enrollment growth, to a maximum of 12,700 FTES as proposed under the Project; however, additional student beds would be provided on campus to house approximately 70 percent of students on campus, in comparison to 60 percent of students under the Project. The net increase in building space also increases under this alternative to accommodate the additional housing.

The CEQA Guidelines (Section 15126.6[a]) requires that an EIR's analysis of alternatives identify the "environmentally superior alternative" among all of those considered. In addition, Section 15126.6(e)(2) states that if the environmentally superior alternative is the No Project Alternative, the EIR must also identify an environmentally superior alternative among the other alternatives. Furthermore, Public Resources Code Sections 21002 and 21081 require lead agencies to adopt feasible mitigation measures or feasible alternatives in order to substantially lessen or avoid otherwise significant adverse environmental effects, unless specific economic, legal, social, technological, or other conditions make such mitigation measures or alternatives infeasible.

Alternative 2 (Reduced Enrollment Alternative) is the environmentally superior alternative, as it would reduce impacts in numerous impact categories, as well as reduce the significant and unavoidable operational noise impact at one off-campus location to less than significant. However, Alternative 2 does not fully meet the project objectives. In particular, while Alternative 2 would allow for an increase of approximately 3,900 FTES up to an increased enrollment cap of 10,500 FTES, it would not fully support the University's educational mission to accommodate student enrollment growth up to a future enrollment of 12,700 FTES. Such an increase in enrollment to 12,700 FTES would provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population and would allow CSUMB to develop into a comprehensive university campus that graduates students who can meet the needs of regional and statewide employers.

1.5 ISSUES TO BE RESOLVED

CEQA Guidelines Section 15123(b)(3) requires that an EIR identify issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. Regarding the Project, the major issues to be resolved include decisions by the CSU Board of Trustees as CEQA lead agency related to:

- Whether this EIR adequately describes the environmental impacts of the Project.
- Whether the benefits of the Project override environmental impacts, if any, that cannot be feasibly avoided or mitigated to a level of insignificance.
- Whether there are other mitigation measures that should be applied to the Project besides those mitigation measures identified in the EIR.
- Whether there are any alternatives to the Project that would substantially lessen any of the significant impacts of the Project and achieve most of the basic objectives.

1.6 AREAS OF KNOWN CONTROVERSY

The Notice of Preparation (NOP) for this Draft EIR was circulated for a 30-day comment period from May 12, 2017 to June 12, 2017. The NOP was circulated to the State Clearinghouse and to state, regional, and local agencies in accordance with the CEQA Guidelines. A public scoping meeting regarding the scope of the analysis for the Draft EIR was held on May 23, 2017. A total of eight comment letters were received on the NOP during the scoping period, including comments from six agencies and two individuals. A Revision to Previously Issued NOP was circulated for a 30-day comment period from August 12, 2019 through September 10, 2019, to notify agencies, organizations, and other interested parties that the methodology to be used in the Draft EIR in assessing potential transportation-related impacts had been modified from that indicated in the original NOP to reflect changes in the CEQA Guidelines. Two comment letters were received from two agencies on the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

The following is a discussion of issues that are likely to be of interest to agencies and interested members of the public during the environmental review process. Every concern applicable to the CEQA process is addressed in this Draft EIR, but this list is not necessarily exhaustive; rather, it attempts to capture concerns or issues that are likely to generate the greatest interest based on the input received during the scoping processes.

- **Biological Resources:** Protection of native oak woodland habitat on the CSUMB campus as part of contiguous areas of native oak woodland habitat on the former Fort Ord.
- **Cultural Resources:** Potential impacts related to the construction planned for under the Project.

- **Hydrology and Water Quality:** Incorporation of methods into the Project to reduce impacts of stormwater runoff (e.g., Low-Impact Development [LID] measures).
- **Public Services:** Potential impacts related to the need for new or physically altered fire protection, police protection, school, and parks and recreation facilities due to the increase in population under the proposed Master Plan.
- **Transportation:** Potential traffic impacts of the Project.[4] Incorporation of the following into the Project: the provision of additional transit and shuttle services, increased bicycle and pedestrian access on campus and related incentives, minimizing motor vehicles in the inner campus, identification of proposed transportation demand management (TDM) strategies, determining intersection control type for intersections identified as "Campus Entry," and design recommendations for transit and wayfinding.
- **Utilities and Energy:** Incorporation of sustainable water sources (e.g., water conservation programs, graywater treatment/recycling, stormwater reuse, low-flow water fixtures) into the Project. Identification of areas requiring extension of sanitary sewer trunk mains outside of areas currently served.

More comprehensive and detailed listings of issues raised during scoping are provided in the beginning of each section in Chapter 4, Environmental Setting, Impacts and Mitigation Measures. Comments received during the public scoping periods for the Project are included as Appendix B.

1.7 IMPACT AND MITIGATION MEASURES

This subsection provides a summary of the environmental impacts associated with implementation of the Project. Table 1-1 provides a complete list of the Project's environmental impacts including the level of significance before and after mitigation, based on the analysis and conclusions presented in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures. Most of the potentially significant impacts can be reduced to less than significant through incorporation of mitigation measures identified in Chapter 4.

The Project, however, would have a significant and unavoidable impact related due to Impact NOI-2. Given that there are no feasible mitigation measures that the University can implement to reduce roadway noise to less than significant at one off-campus location (ST-7), located at Sixth Avenue and Gigling Road, the Project roadway noise impact would be considered significant and unavoidable. However, as indicated in Impact NOI-4, the cumulative impact of the Project related to roadway noise is less than significant, as the Project's contribution to the cumulative impact does not exceed the threshold. See Section 4.10, Noise and Vibration, for additional information about this impact.

[4] Based on revisions to the CEQA Guidelines that resulted from SB 743, the metric for assessing passenger vehicle-related impacts has changed from level of service (LOS) to vehicle miles travelled (VMT); thus, an assessment of traffic congestion based on the LOS metric is no longer the basis upon which significant impacts are identified under CEQA.

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Aesthetics			
Impact AES-1: Scenic Vistas. The Project would not have a substantial adverse impact on a scenic vista.	Less than Significant	Mitigation not required.	Less than Significant
Impact AES-2: Visual Character or Quality. The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.	Less than Significant	Mitigation not required.	Less than Significant
Impact AES-3: Light and Glare. The Project would not introduce a new source of substantial light and glare.	Less than Significant	Mitigation not required.	Less than Significant
Impact AES-4: Cumulative Aesthetic Impacts. The Project and other cumulative development would not have significant cumulative impacts related to scenic vistas, visual quality and light and glare.	Less than Significant	Mitigation not required.	Less than Significant
Air Quality			
Impact AIR-1: Conflict with an Applicable Air Quality Plan. The Project would not conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	Mitigation not required.	Less than Significant
Impact AIR-2: Criteria Pollutant Emissions. The Project would result in emissions of criteria pollutants, but would not exceed adopted thresholds of significance, violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, the Project would	Less than Significant	Mitigation not required.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
not result in a cumulatively considerable net increase of a criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.			
Impact AIR-3: Exposure of Sensitive Receptors. The Project would not expose sensitive receptors to substantial pollutant concentrations.	Less than Significant	Mitigation not required.	Less than Significant
Impact AIR-4: Other Emissions Adversely Affecting a Substantial Number of People. The Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Less than Significant	Mitigation not required.	Less than Significant
Impact AIR-5: Cumulative Air Quality Impacts. The Project would not result in a considerable contribution to a significant cumulative impact related to air quality.	Less than Significant	Mitigation not required.	Less than Significant
Biological Resources			
Impact BIO-1: Special-Status Species. The Project could result in substantial adverse effects to special-status plant and wildlife species and their habitat.	Potentially Significant	**MM-BIO-1a:** Project-Specific Biological Assessments (HMP Species). The CSUMB CPD Department shall require that a biological survey of development sites be conducted by a qualified biologist to determine if the development could potentially impact HMP species or potential habitat (HMP Species include: California tiger salamander, Smith's blue butterfly, Northern California legless lizard, Monterey ornate shrew, Monterey spineflower, sand gilia, sandmat manzanita, Hooker's manzanita, Toro manzanita, Monterey ceanothus, seaside bird's-beak, sand-loving wallflower, Eastwood's goldenbush and Yadon's piperia). A report describing the results of the surveys shall be provided to the CSUMB CPD Department prior to any ground disturbing activities. The report shall include, but not be limited to: 1) a description of the biological conditions at the site; 2) identification of the potential for HMP	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		species to occur or HMP species observed, if any; and 3) maps of the locations of HMP species or potential habitat, if observed. If HMP species that do not require take authorization from the USFWS or CDFW are identified within the development site, salvage efforts for these species shall be evaluated by a qualified biologist in coordination with CSUMB CPD Department to further reduce impacts per the requirements of the HMP and BO. Where salvage is determined feasible and proposed, seed collection should occur from plants within the development site and/or topsoil should be salvaged within occupied areas to be disturbed. Seeds shall be collected during the appropriate time of year for each species by qualified biologists. The collected seeds and topsoil shall be used to revegetate temporarily disturbed construction areas and reseeding and restoration efforts on- or off-site, as determined appropriate by the qualified biologist and CSUMB CPD Department. For impacts to the HMP species within the development site that do require take authorization from the USFWS and/or CDFW, the CSUMB CPD Department shall comply with ESA and CESA and obtain necessary permits prior to construction. If non-HMP special-status species are identified during the implementation of this measure, MM-BIO-1b shall also be implemented. **MM-BIO-1b:** Project-Specific Biological Assessments (Non-HMP Species). The CSUMB CPD Department shall require that a biological survey of development sites be conducted by a qualified biologist to determine if the development could potentially impact a special-status species or their habitat. A report describing the results of the surveys shall be provided to the CSUMB CPD Department prior to any ground disturbing activities. The report shall include, but not be limited to: 1) a description of the biological conditions at the site; 2) identification of the potential for special-status species to occur or special-status species observed, if any; 3) maps of the locations of special-status species or potential habitat, if observed; and 4) recommended mitigation measures, if applicable. If special-status species are determined not to occur at the development site, no additional mitigation is necessary. If special-status species are observed or determined to have the potential to occur, the project biologist shall recommend measures necessary to avoid, minimize, and/or	

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		compensate for identified impacts. Measures shall include, but are not limited to, revisions to the project design and project modifications, pre-construction surveys, construction buffers, construction best management practices, monitoring, non-native species control, restoration and preservation, and salvage and relocation. **MM-BIO1c:** <u>Pre-Construction Surveys for Protected Avian Species.</u> Construction activities that may directly (e.g., vegetation removal) or indirectly (e.g., noise/ground disturbance) affect protected nesting avian species shall be timed to avoid the breeding and nesting season. Specifically, vegetation and/or tree removal can be scheduled after September 16 and before January 31. Alternatively, a qualified biologist shall be retained by the CSUMB CPD Department to conduct pre-construction surveys for nesting raptors and other protected avian species within 500 feet of proposed construction activities if construction occurs between February 1 and September 15. Pre-construction surveys shall be conducted no more than 14 days prior to the start of construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). Because some bird species nest early in spring and others nest later in summer, surveys for nesting birds may be required to continue during construction to address new arrivals, and because some species breed multiple times in a season. The necessity and timing of these continued surveys shall be determined by the qualified biologist based on review of the final construction plans and in coordination with the USFWS and CDFW, as needed for protected avian species nests. If raptors or other protected avian species nests are identified during the pre-construction surveys, the qualified biologist shall notify the CSUMB CPD Department and an appropriate no-disturbance buffer shall be imposed within which no construction activities or disturbance shall take place (generally 500 feet in all directions for raptors; other avian species may have species-specific requirements) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist.	

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM-BIO-1d: Implement Open Space Protection Requirements. For open space areas adjacent to proposed campus development, the following measures shall be implemented: • Conduct an access assessment to identify necessary access controls. In some cases, structures including fences or other appropriate barriers may be required within the new development parcel to control access into the habitat areas. An assessment of access issues and necessary controls shall be completed as part of planning for the development and submitted to the CSUMB CPD Department for review and approval, prior to development. • Signs, interpretive displays, trailhead markers, or other information shall be installed and maintained at identified urban/wildland interface that illustrate the importance of the adjacent habitat area and prohibit trespass, motor vehicle entry, dumping of trash or yard wastes, pets off-leash, capture or harassment of wildlife, impacts to special-status species, and other unauthorized activities. • Incorporate non-native species control features into site design. Detention ponds or other water features associated with new development shall be sited as far from the urban/wildland interface as possible. Suitable barriers shall be located between these features and the habitat area boundary to prevent these features from becoming "sinks" for special-status wildlife species, as well as sources for invasive non-natives that could then move into the adjacent habitat area. • If detention ponds or other waterbodies must be located at the urban/wildland interface, a specific management program addressing control of non-native animals (e.g., bullfrogs) must be prepared and submitted for review and approval by the CSUMB CPD Department, prior to development. • Landscaping within the areas adjacent to open space areas shall consist of native or non-native plant species that shall not colonize reserve areas in the former Fort Ord outside the campus boundaries. Any landscaping or replanting required for the Project shall not use species listed as noxious by the CDFA. All landscape plans shall be reviewed by the CSUMB CPD Department. • Limit artificial lighting at the urban/wildland interface. Outdoor lighting associated with new development shall be low intensity, focused, and directional to preclude night	

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		illumination of the adjacent habitat area. Outdoor lighting shall be placed as far from the urban/wildland interface as possible given safety constraints. Facilities such as ball parks and fields that require high intensity night lighting (i.e., flood lights) shall be sited as far from the urban/wildland interface as possible. High-intensity lighting facing the habitat areas shall be directional and as low to the ground as possible to minimize long distance glare. • Develop and implement erosion control measures to prevent sediment transport into and within habitat areas. Erosion control measures shall be required where vegetation removal or soil disturbance occurs as a result of all facility construction and maintenance, including trail, road, or fuel break construction/maintenance, access controls, or stormwater management, consistent with existing stormwater management plans. Specific measures to be implemented shall be detailed in an erosion control plan. The erosion control plan shall include, at a minimum, the following measures. ○ Re-contour eroded areas. ○ Maintain and grade areas along the reserve perimeter and main roads as appropriate to avoid washouts. Gullies shall be repaired as needed. ○ Install drainage features such as outlet ditches, rolling dips (similar to waterbars), and berms as needed to facilitate the proper drainage of storm runoff. ○ Add soil amendments such as fertilizers and gypsum for designated development areas only. ○ Prevent sediments from entering basins or swales that could be used by HMP species during erosion control activities. ○ Design and conduct erosion control measures to minimize the footprint of the structures and repairs, and design structures to minimize potential impacts on CTS that may be moving between breeding and upland habitats. ○ Use weed-free mulch, weed-free rice, sterile barley straw, or other similar functioning product where needed for erosion control. Seed native plant species to stabilize soils disturbed by erosion control activities and prevent colonization by invasive weeds. Incorporate native plant species to the extent practicable.	

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM-BIO-1e: Pre-Construction Bat Assessment and Surveys. To avoid and reduce impacts to Townsend's big-eared bat, a qualified bat specialist or wildlife biologist shall conduct site surveys during the reproductive season (May 1 through September 15) to characterize bat utilization of the site and potential species present (techniques utilized to be determined by the biologist) prior to structure removal. Based on the results of these initial surveys, one or more of the following shall occur: • If it is determined that bats are not present at the site, no additional mitigation is required. • If it is determined that bats are utilizing the site and may be impacted by the development, pre-construction surveys shall be conducted no more than 30 days prior to any structure removal. If, according to the bat specialist, no bats or bat signs are observed in the course of the pre-construction surveys, structure removal may proceed. If bats and/or bat signs are observed during the pre-construction surveys, the biologist shall determine if disturbance will jeopardize the roost (i.e., maternity, day, or night). • If a single bat and/or only adult bats are roosting, removal of buildings may proceed after the bats have been safely excluded from the roost. Exclusion techniques shall be determined by the biologist and depend on the roost type; the biologist shall prepare a mitigation plan for provision of alternative habitat to be approved by the CDFW. • If an active maternity roost is detected, avoidance is preferred. Work in the vicinity of the roost (buffer to be determined by biologist) shall be postponed until the biologist monitoring the roost(s) determines that the young are no longer dependent on the roost. The monitor shall ensure that all bats have left the area of disturbance prior to initiation of structure removal. If avoidance is not possible and a maternity roost must be disrupted, a depredation permit would be required prior to removal of the roost. **MM-BIO-1f:** Pre-Construction Monterey Dusky-Footed Woodrat Surveys. Not more than thirty (30) days prior to the start of construction (including vegetation removal), a qualified biologist shall conduct a survey of the development sites to locate existing Monterey dusky-footed woodrat nests. All Monterey dusky-footed woodrat nests shall be mapped and flagged for avoidance. Graphics depicting all Monterey dusky-footed woodrat nests shall be	

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		provided to CSUMB and the construction contractor. Any Monterey dusky-footed woodrat nests that cannot be avoided shall be relocated according to the following procedures. Each active nest shall be disturbed by the qualified biologist to the degree that the woodrats leave the nest and seek refuge elsewhere. After the nests have been disturbed, the nest sticks shall be removed from the impact areas and placed outside of areas planned for impacts. Nests shall be dismantled during the non-breeding season (between October 1 and December 31), if possible. If a litter of young is found or suspected, nest material shall be replaced and the nest left alone for 2-3 weeks, after this time the nest shall be rechecked to verify that young are capable of independent survival before proceeding with nest dismantling. **MM-BIO-1g:** <u>Smith's Blue Butterfly Habitat Avoidance/ESA Compliance</u>**.** Smith's Blue Butterfly habitat (i.e., dune buckwheat) shall be avoided to the greatest extent feasible. Smith's Blue Butterfly habitat that will not be impacted by the Project shall be protected prior to and during construction to the maximum possible using exclusionary fencing and/or flagging. A biological monitor shall supervise the installation of protective fencing/flagging and monitor at least once per week until construction is complete to ensure that the protective fencing/flagging remains intact. If all Smith's Blue Butterfly habitat is avoided, no additional mitigation is necessary. If the Project will impact SBB habitat, CSUMB shall comply with the FESA and obtain necessary authorizations prior to construction due to the assumed presence of the federally listed SBB. CSUMB shall be required to initiate consultation with the USFWS to receive take authorization. Take authorization would be granted through the issuance of an individual, project-specific incidental take permit. Mitigation for take likely will require restoration at a 3:1 ratio of impacted habitat. Dune buckwheat plants and/or seed salvage may also be required prior to ground disturbing activities.	
Impact BIO-2: Riparian and Wetland Habitat. The Project could result in a substantial adverse effect on riparian habitat or other sensitive community as identified in local or regional plans, policies, or	Potentially Significant	**MM-BIO-2:** <u>Project-Specific Sensitive Natural Community Assessments.</u> The CSUMB CPD Department shall require that for any development that could potentially impact a sensitive natural community, a survey of the site by a qualified biologist shall be required. A report describing the results of the survey shall be provided to CSUMB prior to any ground-disturbing activities. The report shall include but shall not be limited to: 1) a description of	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or on state or federally protected wetlands.		the biological conditions at the site; 2) identification of the potential for sensitive habitats or sensitive habitats observed, if any; 3) maps of the locations of sensitive habitats or potential sensitive habitat, if observed; and 4) recommended avoidance and minimization measures, if applicable. If a potential state or federally protected wetland is newly identified to be present on the site, a formal wetland delineation shall be conducted in accordance with ACOE methodology. If a proposed development cannot avoid impacts to sensitive habitat areas, CSUMB shall require a compensatory habitat-based mitigation to reduce impacts. Compensatory mitigation must involve the preservation, restoration, or purchase of off-site mitigation credits for impacts to sensitive habitats. Mitigation must be conducted in-kind or within an approved mitigation bank in the region. The specific mitigation ratio for habitat-based mitigation shall be determined through consultation with the appropriate agency (i.e., CDFW, USFWS, or ACOE) on a project-by-project basis. Impacts to sensitive habitats, including but not limited to, vernal pools, streambeds, waterways, or riparian habitat, protected under FGC Section 1600 and Sections 401 and 404 of the Clean Water Act, require regulatory permitting to reduce impacts. Acquisition of permits and implementation of the approved mitigation strategy would ensure impacts are fully mitigated and “no net loss” of wetland habitat would occur.	
Impact BIO-3: Wildlife Corridors. The Project would not result in interference with wildlife migration or corridors.	Less than Significant	No mitigation required.	Less than Significant
Impact BIO-4: Biological Resource Policies and Ordinances. The Project would not conflict with local policies and ordinances protecting biological resources, including tree preservation policies.	Less than Significant	No mitigation required.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact BIO-5: Adopted Habitat Conservation Plans. The Project would not conflict with any adopted HCP, NCCP, or other approved conservation plan.	No Impact	Mitigation not required.	No Impact
Impact BIO-6: Cumulative Biological Resources Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts on special-status species, protected avian species and sensitive habitat, with the implementation of mitigation.	Less than Significant	No additional mitigation required beyond those mitigation measures identified for Impact BIO-1 and Impact BIO-2 (MM-BIO-1b through MM-BIO-1f, and MM-BIO-2).	Less than Significant
Cultural Resources and Tribal Cultural Resources			
Impact CUL-1: Archaeological Resources. The Project could cause a substantial adverse change in the significance of unique archaeological resources or historic resources of an archaeological nature.	Potentially Significant	**MM-CUL-1a:** Sensitivity Training. CSUMB shall include a standard clause in every construction contract for the Project that requires cultural resource sensitivity training by a qualified archaeologist for workers prior to conducting earth disturbance in the vicinity of a documented cultural-resource-sensitive area, should one be identified in the future. Additionally, campus staff involved in earth-disturbing work in the vicinity of a documented resource sensitive area will also receive such training. **MM-CUL-1b:** Inadvertent Discovery Evaluation and Recordation. CSUMB shall include a standard inadvertent discovery clause in every construction contract for the Project, which requires that in the event that an archaeological resource is discovered during construction (whether or not an archaeologist is present), all soil-disturbing work within 100 feet of the find shall cease until a qualified archaeologist can evaluate the find and make a recommendation for how to proceed. For an archaeological resource that is encountered during construction, the campus shall: • Retain a qualified archaeologist to determine whether the resource has potential to qualify as a historical resource or a unique archaeological resource as outlined in the California Environmental Quality Act (CEQA) (Public Resources Code § 21083.2).	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• If the resource has potential to be a historical resource or a unique archaeological resource, the qualified archaeologist, in consultation with CSUMB, shall prepare a research design and archaeological evaluation plan to assess whether the resource should be considered significant under CEQA criteria. • If the resource is determined significant, CSUMB shall provide for preservation in place, if feasible. If preservation in place is not feasible, in consultation with CSUMB, a qualified archaeologist will prepare a data recovery plan for retrieving data that is specific to the site's geographic extent and the significance of any resources encountered. The data recovery plan shall be developed prior to site development and implemented prior to or during site development (with a 100-foot buffer around the resource). The archaeologist shall also perform appropriate technical analyses, prepare a full written report and file it with the Northwest Information Center, and provide for the permanent curation of recovered materials. **MM-CUL-1c:** Construction Monitoring. A Native American and archaeological monitor shall be present for earth-disturbing work in native soils within 750 feet of a documented archaeological resource or tribal cultural resource, if such resources are discovered and documented in the future. Depth to native soils on specific project sites is typically identified in project-specific geotechnical investigations.	
Impact CUL-2: Disturbance of Human Remains. The Project could inadvertently disturb human remains.	Potentially Significant	**MM-CUL-2:** Proper Handling of Human Remains. Should human remains be discovered at any time, work will halt in that area and procedures set forth in the California Public Resources Code (§ 5097.98) and State Health and Safety Code (§ 7050.5) will be followed, beginning with notification to CSUMB and the County Coroner. If Native American remains are determined to be present, the County Coroner will contact the Native American Heritage Commission to designate a Most Likely Descendant, who will arrange for the dignified disposition and treatment of the remains. The Ohlone/Costanoan-Esselen Nation (OCEN) shall be notified of the discovery even if not assigned as Most Likely Descendant.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact CUL-3: Tribal Cultural Resources. The Project could cause a substantial adverse change in the significance of a tribal cultural resource.	Potentially Significant	**MM-CUL-1a:** See Impact CUL-1 for this mitigation measure **MM-CUL-1b:** See Impact CUL-1 for this mitigation measure. **MM-CUL-1c:** See Impact CUL-1 for this mitigation measure. **MM-CUL-2:** See Impact CUL-2 for this mitigation measure.	Less than Significant
Impact CUL-4: Cumulative Cultural Resource and Tribal Cultural Resource Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts to buried historical or archaeological resources, human remains, and tribal cultural resources, with the implementation of mitigation.	Less than Significant	No additional mitigation required beyond those mitigation measures identified for Impact CUL-1 through Impact CUL-3 above (MM-CUL1a-c and MM-CUL-2).	Less than Significant
Geology, Soils, and Paleontology			
Impact GEO-1: Seismic Hazards The Project would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking and seismic-related ground failure.	Less than Significant	Mitigation not required.	Less than Significant
Impact GEO-2: Landslides. The Project would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving landslides	Less than Significant	Mitigation not required.	Less than Significant
Impact GEO-3: Soil Erosion. Project-related grading and construction would potentially result in soil erosion.	Less than Significant	Mitigation not required.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact GEO-4: Unstable Geologic Units or Soils. New Project construction would be located on dune sand, which could become unstable as a result of the Project and potentially result in collapse.	Less than Significant	Mitigation not required.	Less than Significant
Impact GEO-5: Paleontological Resources. Project construction could directly or indirectly destroy a unique paleontological resource or site.	Potentially Significant	**MM-GEO-1:** <u>Monitoring, Discovery, and Treatment of Paleontological Resources.</u> Prior to the commencement of any grading activity, CSUMB shall retain a qualified paleontologist, as defined by the Society of Vertebrate Paleontology, to determine when, where, and the duration of paleontological monitoring that is warranted. The qualified paleontologist shall make these determinations based on construction plans, geotechnical reports if available, and subsurface geological observations that indicate the likely depth to undisturbed native sands that possess high paleontological sensitivity. The level of monitoring may range from full-time, part-time (spot-check), or unnecessary based on the qualified paleontologist's review of plans and relevant documentation as well as observations. Monitoring shall not be required under any conditions if excavations for proposed development do not extend into undisturbed native sands that possess high paleontological sensitivity. If it is determined that paleontological monitoring is required, qualified paleontologist shall attend any preconstruction meetings and manage the paleontological monitor(s) if he or she is not doing the monitoring. For monitoring that is required in a given work area, the paleontological monitor shall be equipped with necessary tools for the collection of fossils and associated geological and paleontological data. The monitor shall complete daily logs detailing the day's excavation activities and pertinent geological and paleontological data. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor shall temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery shall be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, which in most circumstances, is less than a day, the monitor shall remove the rope and allow grading to recommence in the area of the find. If it will require more than one (1) day to document and/or salvage the find, the qualified paleontologist shall work with CSUMB to determine an	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		appropriate treatment plan to ensure the protection of fossil resources while not impeding development. Following the paleontological monitoring program, a final monitoring report shall be submitted to CSUMB for approval. The report should summarize the monitoring program and include geological observations and be accompanied by any paleontological resources recovered during paleontological monitoring for the development. The qualified paleontologist shall be responsible for ensuring that all fossils associated with the paleontological monitoring program are permanently curated with an accredited institution that maintains paleontological collections.	
Impact GEO-6: Cumulative Geology, Soils and Paleontological Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to seismic-related ground shaking and/or failure, landslides, soil erosion, unstable soils and/or paleontological resources, with the implementation of mitigation.	Less than Significant	No additional mitigation required beyond the mitigation measure identified for Impact GEO-5 above (MM-GEO-1).	Less than Significant
Greenhouse Gas Emissions			
Impact GHG-1: Greenhouse Gas Emissions. The Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	Potentially Significant	**MM-GHG-1:** <u>Building Decarbonization: Replace Natural Gas with Electricity in New and Existing Buildings.</u> CSUMB shall replace natural gas energy use with electricity energy use in new and existing buildings to reduce natural gas consumption and associated greenhouse gas (GHG) emissions generated by CSUMB. Building electrification shall result in a minimum natural gas reduction of 174,590 therms (17,459 Metric Million British Thermal Unit [MMBTU]), which equates to an approximately 16 percent reduction in the 2035 Master Plan's estimated natural gas consumption (1,106,827 therms Master Plan buildout in 2035 – 174,590 therms reduction in natural gas = 932,237 therms in 2035 [110,683 MMBTU – 17,459 MMBTU = 93,224 MMBTU]). Replacing 174,590 therms of natural gas is estimated to require an increase in approximately 4,472 megawatt hours of electricity to achieve a reduction of approximately 600 metric tons per year of carbon	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		dioxide equivalent per year (MT CO_2e) because electricity is a less GHG intensive energy source. This building decarbonization requirement in new and existing buildings can be met using different combinations of building electrification in new and existing residential and non-residential buildings, provided that 174,590 therms of natural gas is replaced with 4,472 megawatt hours of electricity by 2035. To ensure that a minimum of 174,590 therms of natural gas is replaced by electricity-provided energy in new and existing buildings by 2035, building energy demand projections will be calculated and reported on during the building design phase for new and existing buildings to be retrofitted. Prior to the schematic design approval for each new building or existing building to be retrofitted, CSUMB shall provide a natural gas estimate with and without electrification, which shall be tracked internally. Annually, CSUMB shall review the amount of natural gas replaced by electricity in new buildings to ensure that substantial progress is being made towards meeting the 174,590 therms replacement requirement for new and existing buildings under the Master Plan by 2035. CSUMB may pursue and implement other GHG-reducing strategies (e.g., additional solar PV, heat pump conversion) as a mechanism for achieving the required GHG reductions (approximately 600 MT CO_2e) by 2035. To ensure GHG emissions reductions from such strategies are properly accounted for, the GHG emissions reductions associated with such strategies shall be calculated and reported on during the design phase of these strategies. Annually, CSUMB shall review the amount of GHG emissions reductions associated with these other GHG-reducing strategies, along with the GHG reductions associated with building electrification, as indicated previously, to ensure that substantial progress is being made towards meeting the required GHG reductions under the Master Plan by 2035.	
Impact GHG-2: Conflict with an Applicable Greenhouse Gas Reduction Plan. The Project may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The Project may conflict with an	Potentially Significant	**MM-GHG-1:** See Impact GHG-1 for this mitigation measure.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Specifically, the Project may conflict with CARB's Scoping Plan and related GHG reduction targets for 2030 and 2050, but would not conflict with the CSU Sustainability Policy, the CSUMB Campus Sustainability Plan, or AMBAG's 2040 MTP/SCS.			
Impact GHG-3. Cumulative Greenhouse Gas Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to GHG emissions, with the implementation of mitigation.	Less than Significant	No additional mitigation required beyond the mitigation measure identified for Impact GHG-1 above (MM-GHG-1).	Less than Significant
Hazards, Hazardous Materials, and Wildfire			
Impact HAZ-1: Routine Transport, Use, or Disposal of Hazardous Materials. The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than Significant	Mitigation not required.	Less than Significant
Impact HAZ-2: Upset and Release of Hazardous Materials. The Project would not potentially create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment from known or potential areas of contamination, including due the presence of hazardous materials sites.	Less than Significant	Mitigation not required.	Less than Significant

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact HAZ-3: Hazardous Materials Near Schools. The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less than Significant	Mitigation not required.	Less than Significant
Impact HAZ-4: Impair Emergency Response. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than Significant	Mitigation not required.	Less than Significant
Impact HAZ-5: Wildfire Hazards. The Project would not substantially impair an adopted emergency response or evacuation plan, exacerbate wildfire risk, require the installation or maintenance of infrastructure that would exacerbate wildfire risk, cause a significant risk of loss, injury, or death, involving wildland fires, or expose people or structures to significant post-fire risks.	Less than Significant	Mitigation not required.	Less than Significant
Impact HAZ-6: Cumulative Hazardous Materials, Emergency Response, and Wildfire Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to hazardous materials, emergency response, and wildfire.	Less than Significant	Mitigation not required.	Less than Significant

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Hydrology and Water Quality			
Impact HYD-1: Surface Water Quality Standards and Waste Discharge Requirements. The Project would not directly or indirectly violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality.	Less than Significant	Mitigation not required.	Less than Significant
Impact HYD-2: Groundwater. The Project would not substantially decrease groundwater supplies, interfere substantially with groundwater recharge, or impede sustainable groundwater management of the basin.	Less than Significant	Mitigation not required.	Less than Significant
Impact HYD-3: Alteration of Stormwater Drainage Patterns. The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would (i) result in substantial erosion or siltation on or off site, (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site, or (iii) increase or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Less than Significant	Mitigation not required.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact HYD-4: Cumulative Hydrology and Water Quality Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to hydrology and water quality.	Less than Significant	Mitigation not required.	Less than Significant
Land Use and Planning			
Impact LDU-1: Physically Divide Community. The Project would not physically divide an established community.	Less than Significant	Mitigation not required.	Less than Significant
Impact LDU-2: Conflict with Land Use Plan, Policy, or Regulation. The Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than Significant	Mitigation not required.	Less than Significant
Impact LDU-3: Cumulative Land Use Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to land use.	Less than Significant	Mitigation not required.	Less than Significant
Noise			
Impact NOI-1: Substantial Temporary Increase in Ambient Noise Levels. The Project would generate a substantial temporary construction-related increase in ambient noise levels in the vicinity of the Project in excess of standards established in	Potentially Significant	**MM-NOI-1:** CSUMB shall require that construction contractors implement the following practices and measures: • Construction activity shall generally be limited to the daytime hours between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 8:00 p.m. on weekends and holidays. If nighttime construction is required, noise levels shall not exceed 65 dB L_{max} (slow response) when measured at the construction site boundary between the hours of 7:00 p.m. and 7:00 a.m. Loud construction activity (e.g., asphalt removal, large-	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation

the local general plan or noise ordinance, or applicable standards of other agencies.		scale grading operations) shall not be schedule during finals week and preferably will be scheduled during holidays, summer/winter break, etc.
		• All construction equipment shall be properly maintained and equipped with noise-reducing air intakes, exhaust mufflers, and engine shrouds in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.
		• Electrical power, rather than diesel equipment, shall be used to run compressors and similar power tools and to power any temporary structures, such as construction trailers.
		• All stationary construction equipment (e.g., electrical generators, pumps, refrigeration units, and air compressors) and equipment staging areas shall be located as far as feasible from occupied residences or educational land uses.
		• When anticipated construction activities are expected to occur less than 175 feet from an existing on-campus or off-campus residential land use, one or more of the following techniques shall be employed to keep noise levels below an eight-hour A-weighted energy-equivalent level (L_{eq8h}) of 80 dBA at the potentially affected sensitive receptors:
		  ○ Reduce construction equipment and vehicle idling and active operation duration.
		  ○ Install or erect on-site a temporary, solid noise wall (or acoustical blanket having sufficient mass, such as the incorporation of a mass-loaded vinyl skin or septum) of adequate height and horizontal extent so that it linearly occludes the direct sound path between the noise-producing construction process(es) or equipment and the sensitive receptor(s) of concern.
		  ○ Where impact-type equipment is anticipated on site, apply noise-attenuating shields, shrouds, portable barriers or enclosures, to reduce the magnitudes of generated impulse noises.	

Impact NOI-2: Substantial Permanent Increase in Ambient Noise Levels. The Project could generate a substantial permanent increase in ambient noise levels	Potentially Significant	**MM-NOI-2:** Stadium Noise. To minimize noise levels generated by the replacement of the existing stadium with an expanded stadium with additional seating capacity, 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 new and	Significant and Unavoidable (Roadway Noise Only at

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, due to roadway noise and stadium noise.		expanded stadium. The assessment shall be conducted prior to final design. Noise reduction measures shall be incorporated into the design to reduce increases in existing operational noise levels at nearby noise-sensitive land uses to below the applicable threshold (i.e., less than 65 dBA CNEL). Such measures may include, but are not limited to, the incorporation of structural shielding, enclosed bleachers, and revised placement for amplified sound system speakers.	One Off-campus Location)
Impact NOI-3: Excessive Vibration. The Project would not generate excessive groundborne vibration or groundborne noise levels.	Less than Significant	**MM-NOI-3:** Recommended Vibration Monitoring Plan. While not required to reduce a significant impact, it is recommended that CSUMB or its designee prepare a vibration monitoring plan by a qualified acoustician prior to beginning construction of any project that involves pile driving (or any heavy construction operation known to exhibit a reference vibration velocity level of 0.2 ips PPV or greater magnitude at 25 feet) within 250 feet of an existing facility housing medical, semiconductor, testing, manufacturing, musical recording, or other instruments and processes that are known to be highly sensitive to vibration and may thus have function compromised by undue levels of groundborne-transmitted vibration. At a minimum, the vibration monitoring plan shall require data be sent to the University noise control officer or designee on a weekly basis or more frequently as determined by the noise control officer. The data shall include vibration level measurements taken during the previous work period. In the event that there is reasonable probability that future measured vibration levels would exceed FTA guidance (65 VdB or more stringent criteria as the existing facility activities may require), the University shall take the steps necessary to ensure that future vibration levels do not exceed such limits, including suspending further construction activities that would result in excessive vibration levels until either alternative equipment or alternative construction procedures can be used. Construction activities not associated with vibration generation could continue. In addition to the data described previously, the vibration monitoring plan shall also include the location of vibration monitors, the vibration instrumentation used, a data acquisition and retention plan, and exceedance notification and reporting procedures.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact NOI-4: Cumulative Noise and Vibration Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to noise and vibration.	Less than Significant	Mitigation not required.	Less than Significant
Population and Housing			
Impact POP-1: Induce Substantial Unplanned Population Growth. The Project would not induce substantial unplanned population growth in the area, either directly or indirectly.	Less than Significant	Mitigation not required.	Less than Significant
Impact POP-2: Displacement of People or Housing. The Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	Less than Significant	Mitigation not required.	Less than Significant
Impact POP-3: Cumulative Population and Housing Impacts. The Project would not have a cumulatively considerable contribution to substantial unplanned population growth or displacement of people or housing in the region.	Less than Significant	Mitigation not required.	Less than Significant
Public Services and Recreation			
Impact PSR-1: New or Physically Altered Fire Protection Facilities. The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, the construction of which could cause significant environmental	Less than Significant	Mitigation not required.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.			
Impact PSR-2: New or Physically Altered Police Protection Facilities. The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	Less than Significant	Mitigation not required.	Less than Significant
Impact PSR-3: New or Physically Altered Schools. The Project would not result in substantial adverse physical impacts associates with the provision of new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain performance objectives.	Less than Significant	Mitigation not required.	Less than Significant
Impact PSR-4: New or Physically Altered Parks. The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered parks, the construction of which could cause significant environmental impacts.	Less than Significant	Mitigation not required.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact PSR-5: Deterioration of Neighborhood and Regional Parks. The Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.	Less than Significant	Mitigation not required.	Less than Significant
Impact PSR-6: Cumulative Public Services Impacts. The Project would not have a cumulatively considerable contribution to significant cumulative impacts related to the construction of new or expanded fire, police, schools, and park and recreational facilities.	Less than Significant	Mitigation not required.	Less than Significant
Transportation			
Impact TRA-1: Conflict with Program, Plan, Ordinance, or Policy Addressing the Circulation System. The Project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities.	Less than Significant	Mitigation not required.	Less than Significant
Impact TRA-2: Vehicle Miles Travelled. The Project would not result in a VMT-related impact.	Less than Significant	Mitigation not required.	Less than Significant
Impact TRA-3: Geometric Design Hazards. The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less than Significant	Mitigation not required.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact TRA-4: Emergency Access. The Project would not result in inadequate emergency access.	Less than Significant	Mitigation not required.	Less than Significant
Impact TRA-5: Cumulative Transportation Impacts. The Project's incremental effect would not be cumulatively considerable and would not contribute to or result in a significant cumulative impact related to transportation impacts.	Less than Significant	Mitigation not required.	Less than Significant
Utilities and Energy			
Impact UTL-1: Construction of New or Expanded Utilities. The Project would not require or result in the relocation or construction of new or replacement water, wastewater treatment, electric power, natural gas, or telecommunications facilities, the construction of which would result in significant effects.	Less than Significant	Mitigation not required.	Less than Significant
Impact UTL-2: Adequacy of Water Supplies. Sufficient water supplies are available to serve the Project and reasonably foreseeable future development in the service area during normal, dry, and multiple-dry years.	Less than Significant	Mitigation not required.	Less than Significant
Impact UTL-3: Wastewater Treatment Capacity. The Project would not exceed wastewater treatment capacity.	Less than Significant	Mitigation not required.	Less than Significant
Impact UTL-4: Solid Waste. The Project would not generate solid waste in excess of state standards, or in excess of the capacity	Less than Significant	Mitigation not required.	Less than Significant

Table 1-1
Summary of Project Impacts

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and the Project would comply with federal and state management and reduction statutes and regulations related to solid waste.			
Impact UTL-5: Wasteful Energy Consumption. The Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than Significant	Mitigation not required.	Less than Significant
Impact UTL-6: Conflicts with Energy Plans The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than Significant	Mitigation not required.	Less than Significant
Impact UTL-7: Cumulative Utilities and Energy Impacts. The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to utilities and energy.	Less than Significant	Mitigation not required.	Less than Significant

CHAPTER 2
INTRODUCTION

The California Environmental Quality Act (CEQA) serves as the main framework of environmental law and policy in California. CEQA emphasizes the need for public disclosure and preventing or significantly reducing environmental damage associated with proposed projects. Unless the project is deemed categorically exempt, CEQA is applicable to any project that is subject to a discretionary approval by a public agency in order to be processed and established. The Project consists of implementation of the proposed California State University Monterey Bay (CSUMB) Master Plan (proposed Master Plan), including Project Design Features (PDFs) drawn from the CSUMB Master Plan Guidelines (Master Plan Guidelines),[1] and five "near-term" development components proposed to be constructed pursuant to the proposed Master Plan within the next ten years (collectively, the Project). The Project does not qualify for any of the statutory or categorical exemptions listed in the CEQA Statute and Guidelines (Cal. Pub. Resources Code, § 21000 *et seq*.; Cal. Code Regs. tit. 14, § 15000 *et seq*.), and, therefore, must undergo CEQA review.

2.1 PURPOSE OF THE EIR

Under CEQA, the lead agency for a project is the public agency with primary responsibility for carrying out or approving the project, and for implementing the requirements of CEQA. As the CEQA lead agency for the Project, the Board of Trustees of the California State University (Board of Trustees)[2] prepared this Environmental Impact Report (EIR) under CEQA (Cal. Pub. Resources Code, § 21000 *et seq*.) and the CEQA Guidelines (Cal. Code Regs. tit. 14, § 15000 *et seq*.). An EIR is an informational document that is required to (1) identify the potentially significant environmental effects of a project on the environment, (2) indicate the manner in which those significant effects can be avoided or significantly lessened via the implementation of potentially feasible mitigation measures, (3) identify a reasonable range of potentially feasible alternatives to a project that would eliminate or substantially lessen any significant environmental effects, and (4) identify any significant and unavoidable adverse impacts that cannot be mitigated or otherwise reduced. According to the CEQA Guidelines, "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. This EIR provides information about the

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1 The Master Plan Guidelines were made available to the general public and local agencies for review and comment in 2017 under the title "CSUMB Comprehensive Master Plan." Since that time the title has been changed to "Master Plan Guidelines" and minor revisions have been made.

2 The Board of Trustees of the California State University is the State of California acting in its educational capacity and is responsible for the oversight of the California State University system, including the CSU Monterey Bay campus, one of 23 campuses. It adopts rules, regulations, and policies governing CSU Monterey Bay. It has authority over curricular development, use of property, development of facilities, and fiscal and human resources management. As such, the Board of Trustees is the lead agency under CEQA and is responsible for certification of the EIR for the Project and Project approval.

potential effects of the Project on the local and regional environment for the lead agency, responsible and trustee agencies, and the public.

The Board of Trustees is required to consider the information in the EIR, along with any other relevant information, in making its decisions about the Project. Although an EIR does not determine the ultimate decision that will be made regarding implementation of a project, CEQA requires lead agencies to consider the information in the EIR and make findings regarding each significant effect identified in the EIR. The Board of Trustees has the sole authority to consider and certify the Final EIR, approve the Project, and adopt a Mitigation Monitoring and Reporting Program, Findings of Fact, and Statement of Overriding Considerations, if warranted. Other agencies may also use this EIR in their review and approval processes, as indicated in Chapter 3, Project Description.

2.2 SCOPE OF EIR

Projected growth and development anticipated by the Project through approximately 2035 are evaluated in this EIR at a program level. The Project also includes five "near-term development components" in the proposed Master Plan that are expected to be developed within the next ten years. The EIR for the Project provides descriptions of these components and evaluates them at a project level. Therefore, this EIR is both a program and project EIR. The distinctions between a "program" and a "project" EIR and the associated level of analysis is described, below:

- <u>Program EIR</u>: Under state and California State University CEQA Guidelines, this EIR is being prepared, in part, as a "program" EIR. A program EIR may be prepared for a series of actions that are related geographically, or as part of a series of actions for adopting rules, regulations, plans, or general criteria for a continuing program or for individual activities carried out under the same authorizing law or regulation (Cal. Code Regs. tit. 14, § 15168). Individual projects pursued in the future under the proposed Master Plan will be examined in light of the program analysis contained in this EIR to determine whether additional environmental documentation must be prepared.
    - If an individual project is within the scope of the program EIR and would not have new or more severe significant effects, no new environmental document would be required (Cal. Code Regs. tit. 14, § 15168[c][2]). In this instance, the CSU prepares a finding of consistency with the Master Plan EIR (CSU 2019).
    - If some changes or additions are necessary, but no new or more severe significant effects would result, an addendum to the program EIR would be prepared (Cal. Code Regs. tit. 14, § 15164[a]).
    - If an individual project would have significant effects that were not examined in the program analysis of this EIR, a new initial study would need to be prepared leading

to either an EIR or negative declaration, which may be tiered from the program analysis in this EIR (Cal. Code Regs. tit. 14, § 15168[c][1]). "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project (Cal. Code Regs. tit. 14, § 15152). An EIR, rather than a negative declaration, will be required when the individual project may cause significant effects on the environment that were not adequately addressed in the programmatic analysis of this EIR. Significant environmental effects will be considered to have been "adequately addressed" if (i) they have been mitigated or avoided as a result of mitigation measures or requirements that are set forth in the programmatic analysis of this EIR and are adopted by the Board of Trustees or a responsible agency or (ii) the effects have been examined at a sufficient level of detail in the programmatic analysis of this EIR to enable them to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the individual project (Cal. Code Regs. tit. 14, § 15152[f]).

- Project EIR: Under state and California State University CEQA Guidelines, this EIR is being prepared, in part, as a "project" EIR. A project EIR examines the environmental impacts of a specific development project. This portion of the EIR will focus primarily on the changes in the environment that would result from each of the five near-term development components included in the Project. The EIR will examine all phases of these development components at a site-specific level, including planning, construction, and operation (Cal. Code Regs. tit. 14, § 15161) and is intended to provide comprehensive environmental clearance for these projects.

2.3 ENVIRONMENTAL REVIEW AND APPROVAL PROCESS

2.3.1 Scoping

The CEQA Guidelines authorize and encourage an early consultation or scoping process to help identify the range of actions, alternatives, mitigation measures, and significant effects to be analyzed and considered in an EIR, and to help resolve the concerns of affected regulatory agencies, organizations, and the public (Cal. Code Regs. tit. 14, § 15083). Scoping is designed to explore issues for environmental evaluation, ensuring that important considerations are not overlooked and uncovering concerns that might otherwise go unrecognized.

On May 12, 2017, a Notice of Preparation (NOP) was published for the Project to determine the scope and extent of environmental issues to be addressed in this EIR. The NOP was circulated for a 30-day comment period from May 12, 2017 to June 12, 2017. EIR scoping meetings were held on May 23, 2017 to solicit input from interested agencies, individuals, and organizations. Scoping meetings with the cities of Marina and Seaside, County of Monterey, Transportation Agency of Monterey County (TAMC), and Caltrans were held in February 2018 to specifically address the transportation scope of analysis in the EIR, which was originally based on intersection and freeway level of service (LOS).

On August 9, 2019, a Revision to Previously Issued NOP was published for the Project to notify agencies, organizations, and other interested parties of a revision to the originally proposed transportation methodology to be used in the EIR, and to request comments regarding the proposed revised methodology. The revision was made in response to Senate Bill 743 and associated revisions to the State CEQA Guidelines that became effective December 28, 2018, after release of the original NOP. The Revision to Previously Issued NOP provided notification that the EIR's transportation analysis would rely on vehicle miles traveled (VMT) and other applicable transportation impact analysis criteria included in the revised State CEQA Guidelines in lieu of the originally proposed LOS methodology. In all other respects, the NOP issued May 17, 2017 was unchanged.

The original NOP and Revision to Previously Issued NOP are provided in Appendix A. All comments received on the original NOP and Revision to Previously Issued NOP are provided in Appendix B. A summary of pertinent comments received on the original NOP and Revision to Previously Issued NOP is included at the beginning of each resource section in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures. To the extent that issues identified in public comments involve potentially significant effects on the environment according to the CEQA, and/or were raised by responsible and trustee agencies, they are identified and addressed in this EIR.

2.3.2 Public Review of Draft EIR

The Draft EIR will be distributed for a 45-day public review period from February 4, 2022 to March 21, 2022. During this public review period, written comments on the adequacy of the Draft EIR can be submitted by all interested public agencies, organizations, community groups, and individuals to the following contact by mail or e-mail no later than 5pm on March 21, 2022:

Anya Spear,
Director of Strategic Initiatives,
CSUMB Office of the President,
100 Campus Center, Building 1
Seaside, California, 93955
aspear@csumb.edu

The Draft EIR will be available for public review during the comment period at the following locations:

- Online at https://csumb.edu/facilities/planning/
- CSUMB Library (Reference Desk), on the CSUMB campus
- Seaside Branch Library (Reference Desk), 550 Harcourt Avenue, Seaside California
- Marina Branch Library (Reference Desk), 190 Seaside Circle, Marina California

A recorded public informational presentation is available at the same campus online web link above. The presentation will provide an overview of the proposed Master Plan, conclusions of the Draft EIR, and information about how to submit written public comments on the adequacy of the information presented in the Draft EIR. CSUMB encourages public agencies, organizations, community groups, and all other interested persons to provide written comments on the Draft EIR prior to the end of the 45-day public review period. If any agency, organization, group, or person wishes to make a legal challenge to the Trustees of the California State University's final decision on the Project, that agency or person may be limited to addressing only those environmental issues that they or someone else raised during the 45-day public review period for the Draft EIR.

2.3.3 Final EIR/Project Approval

Following the close of the public and agency comment period on the Draft EIR, responses will be prepared for all comments received during the public review period that raise CEQA-related environmental issues regarding the Project. The responses will be published in the Final EIR.

As required by CEQA, written responses to comments submitted by public agencies will be provided to those agencies for review at least 10 days prior to the Board of Trustees' consideration of certification of the EIR. The EIR will be considered by the Board of Trustees in a public meeting anticipated for May 2022 and will be certified if it is determined to be in compliance with CEQA. Upon certification of the EIR, the Board of Trustee will consider the Project for approval during the same public meeting.

2.3.4 Adoption of Mitigation Monitoring & Reporting Program

CEQA requires that a program to monitor and report on mitigation measures be adopted by lead agencies as part of the project approval process. CEQA requires that such a program be adopted at the time the lead agency determines to carry out a project for which an EIR has been prepared to ensure that mitigation measures identified in the EIR are implemented. The Mitigation Monitoring and Reporting Program will be prepared during the preparation of the Final EIR so that it can reflect any changes or revisions to mitigation measures made in response to public comments on the Draft EIR.

2.4 ORGANIZATION OF THIS EIR

The content and format of this EIR are designed to meet the requirements of CEQA and the CEQA Guidelines (Cal. Code Regs. tit. 14, §§ 15122 through 15132). This Draft EIR is organized into the following chapters so that the reader can easily obtain information about the Project and the specific environmental issues. Figures are placed at the end of each chapter, or in the case of Chapter 4, figures follow each major section (Section 4.1, Section 4.2, etc.).

- **Chapter 1, Executive Summary**, presents background information related to the Project; provides a Project overview and alternatives to the Project being considered; identifies issues to be resolved and areas of known controversy; and summarizes the Project environmental impacts and mitigation measures.
- **Chapter 2, Introduction**, explains the CEQA process; describes the purpose and scope and the EIR; provides information on the review and approval process; and outlines the organization of this EIR.
- **Chapter 3, Project Description**, provides an overview of the Project; provides information about the location, setting, and background for the Project; identifies the Project objectives; provides a detailed description of the Project characteristics; and lists the likely approvals for the Project.
- **Chapter 4, Environmental Setting, Impacts, and Mitigation Measures**, explains the approach to the environmental analysis for this EIR, and provides environmental setting, impacts, and mitigation measures for the topics under study in this EIR.
- **Chapter 5, Other CEQA Considerations**, identifies the growth-inducing impacts; the significant and unavoidable impacts; and the significant and irreversible commitment of resources associated with the Project.
- **Chapter 6, Alternatives**, describes the alternatives to the Project that were considered but eliminated from further consideration; analyzes the environmental impacts of alternatives to the Project and compares them to the Project; and identifies the environmentally superior alternative.
- **Chapter 7, List of Preparers and Persons Consulted**, lists the organizations and individuals who were involved in preparing this EIR and the individuals who provided information.
- **Appendices** contain additional information used in preparing this Draft EIR. Appendix A contains the original NOP and the Revision to Previously Issued NOP that was distributed during the scoping periods for the Project. Appendix B contains the comment letters that were submitted in response to the original NOP and the Revision to Previously Issued NOP. Appendix C contains the CSUMB Student Housing and Parking Management

Guidelines. Appendix D contains the technical support for the air quality and greenhouse gas emissions calculations. Appendix E contains the Biological Resources Report. Appendix F contains the Cultural Resources Report and the Built Environment Report. Appendix G contains the noise measurements and calculations. Appendix H contains the Transportation Analysis.

2.5 REFERENCES

California Environmental Quality Act Statute and Guidelines (California Public Resources Code, Section 21000 *et seq*.; 14 California Code of Regulations15000 *et seq*.)

CSU (California State University). 2019. *California State University CEQA Handbook*. April 2019.

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CHAPTER 3
PROJECT DESCRIPTION

3.1 PROJECT OVERVIEW

The Project and the subject of this Draft EIR is the proposed California State University, Monterey Bay (CSUMB) Master Plan (proposed Master Plan), including Project Design Features (PDFs) drawn from the CSUMB Master Plan Guidelines (Master Plan Guidelines[1]), including five "near-term" development components to be constructed pursuant to the proposed Master Plan within the next 10 years (collectively, the Project). The Project would provide the basis for the physical development of the CSUMB campus consistent with the vision identified in the Master Plan Guidelines and the mission of the University.

The Project would provide a blueprint for land uses and building and facility space requirements to support an on-campus enrollment of 12,700 full-time-equivalent students (FTES[2]) and 1,776 FTE faculty and staff by the year 2035. Achieving this growth would result in an increase of approximately 6,066 FTES and 752 FTE faculty/staff over existing levels in academic year 2016-2017,[3] which were 6,634 FTES and 1,024 FTE faculty/staff.

The Project also would result in a net increase of approximately 2.6 million gross square feet (GSF) of new academic, administration, student life, athletic and recreational, and institutional partnership[4] facilities, and housing. On-campus housing would be constructed sufficient to continue to accommodate 60 percent of FTES and existing housing would accommodate 65 percent of FTE faculty and staff, with a projected increase of 3,820 student beds and 757 converted residential units for faculty and staff. The Project also would accommodate

[1] The Master Plan Guidelines were made available to the general public and local agencies for review and comment in 2017 under the title "CSUMB Comprehensive Master Plan". Since that time the title has been changed to "Master Plan Guidelines" and minor revisions have been made (Page 2020).

[2] Full-time equivalent student (FTES) is the unit of measurement used to convert class load to student enrollment. At CSUMB, one FTES is equal to 15 units. Thus, one FTES is equal to one student enrolled in 15 units or three students each enrolled in 5 units. A related unit of measurement is "headcount." In the case of one student taking 15 units, the headcount is 1; in the case of three students collectively taking 15 units, the headcount is 3.

[3] Academic year 2016-2017 is used in the EIR as the basis for evaluating the net increase in enrollment and development with the Project as it is the year that the original Notice of Preparation was released and as enrollment growth has not substantially increased since that time. Specifically, enrollment in academic year 2018-2019, the most recent academic year pre-dating the COVID-19 Pandemic, was approximately 6,946 FTES, which is not substantially greater than 6,634 FTE for academic year 2016-2017, and enrollment for subsequent academic years has been affected by the COVID-19 Pandemic and is not representative or as conservative. Using the slightly lower enrollment data for academic year 2016-2017 allows for a more conservative basis for the impact analysis in the Draft EIR, as it results in a somewhat greater net increase in enrollment with the Project than would exist with the use of academic 2018-2019 enrollment data.

[4] Institutional partnerships are projects involving public-public or public-private partnerships and long-term contractual relationships that use or develop CSU real property to further the educational mission of the campus.

redevelopment and growth in outdoor athletics and recreation facilities to serve campus needs, with space set aside for additional athletic fields, tennis courts, and pools, as well as for replacement of the existing stadium, field house, and pool house.[5]

As part of the Project, numerous PDFs are included that address various topics including open space, transportation, water and wastewater systems, energy systems and greenhouse gas reduction, and design. For example, transportation PDFs will enhance and expand the campus' existing Transportation Demand Management (TDM) program in order to further reduce vehicle trips and prioritize pedestrian and bicycle movement.

As noted above, the Project includes specific development components identified in the proposed Master Plan and expected to be constructed in the next 10 years; these Project components are referred to throughout this EIR as "near-term development components." These near-term development components include: Student Housing Phase III (600 student housing beds); Academic IV (95,000 GSF of classroom/instructional space); Student Recreation Center (70,000 GSF of recreation space); Student Housing Phase IIB (400 student housing beds); and Academic V (76,700 GSF of classroom/instructional space).

Portions of the campus not currently proposed for development under this Project could be the subject of future development proposals. Such development proposals could be institutional partnerships or campus projects. Environmental review under CEQA would be pursued if and when such development proposals are pursued.

3.2 PROJECT LOCATION AND SETTING

3.2.1 Location

The CSUMB campus is located approximately 100 miles south of San Francisco and is situated north of the Monterey Peninsula and west of the Salinas Valley, as shown in Figure 3-1. The campus occupies approximately 1,396 acres in the northwestern portion of the former U.S. Department of the Army (Army) Fort Ord military base and lies within three separate governmental jurisdictional boundaries: the City of Marina, the City of Seaside, and unincorporated Monterey County, as shown on Figure 3-2. As an entity of the State of California, the California State University (CSU), including CSUMB, is not subject to local governmental planning and zoning regulations.

5 The Freeman Stadium Facilities Renovation Project, approved by the CSU Board of Trustees in September 2021, was the subject of separate CEQA review (DDA 2021) and will implement renovations to the stadium in the interim, prior to replacement contemplated by the proposed Master Plan.

SOURCE: Page/BMS Design Group (2017)

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FIGURE 3-1
Regional Location

CSU Monterey Bay Master Plan EIR

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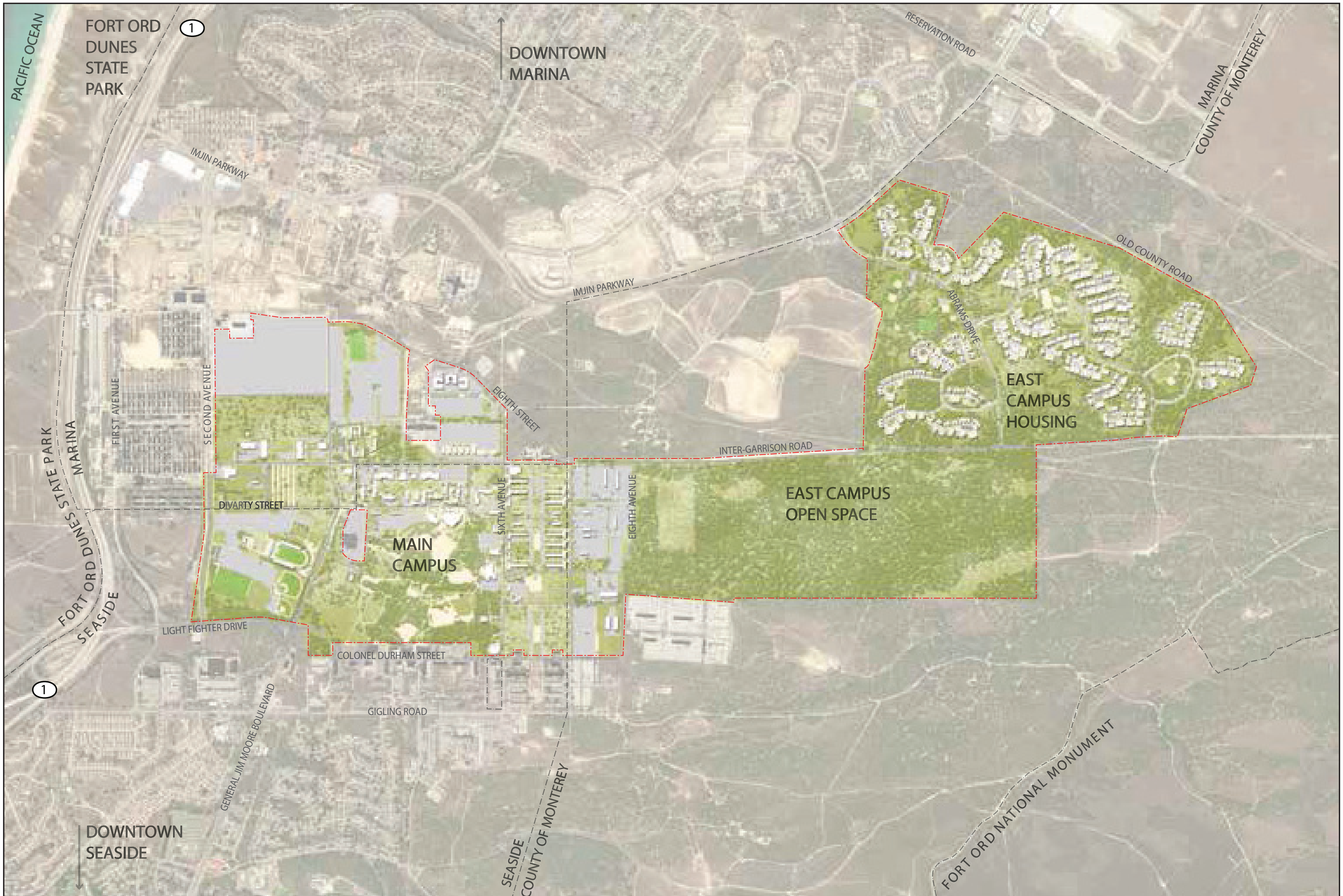

SOURCE: Page / BMS Design Group (2017)

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FIGURE 3-2

CSUMB Campus Location

CSU Monterey Bay Master Plan EIR

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As shown on Figure 3-2, primary access to CSUMB is available from Highway 1 via the main entrance at Lightfighter Drive to the south and from Imjin Parkway to the north. Access is also provided via Second Avenue from the north, General Jim Moore Boulevard from the south, and Inter-Garrison Road from the east. Inter-Garrison Road connects the East Campus Housing area to the Main Campus.

3.2.2 Setting

The campus slopes gently towards Monterey Bay and includes both developed and open space areas. As shown on Figure 3-2, the campus consists of three distinct areas: Main Campus, East Campus Housing, and East Campus Open Space (ECOS).[6]

All university facilities, with the exception of the East Campus Housing, are located west of Eighth Avenue, south of Eighth Street and north of Lightfighter Drive and Colonel Durham Street in the Main Campus. The Main Campus consists of new and renovated campus buildings, paved parking areas and other paved areas from the former military base, and open space areas including the Cypress Grove, the Northern Oak Woodland, the Southern Oak Woodland, and the Crescent.

The ECOS is a large, undeveloped natural open space area bordered by Eighth Avenue to the west, Inter-Garrison Road to the north, and the campus boundary to the south and east. The ECOS is primarily oak woodland and has an informal system of trails. Two major electrical transmission lines (a 60-kilovolt [kV] line to the Fort Ord area and a 115-kV line to the Monterey Peninsula) traverse the northern and central portions of this area, as well as the eastern edge of the East Campus Housing area. An underground natural gas transmission pipeline owned by Pacific Gas & Electric (PG&E) also traverses the ECOS.

The East Campus Housing area is located north of Inter-Garrison Road and consists of two residential subdivisions, Schoonover and Frederick Park, with a total of 1,220 dwelling units for students, faculty, and staff, although not all are currently available for rent by the campus community; the dwelling units also house other Community Housing Partners.[7] Of the total units, 67 units are owned by faculty and staff. These dwelling units were originally constructed by the Army and range from duplex to five-plex townhouse-style and multi-family-apartment complexes with a mix of two- to three-bedroom units.

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[6] CSUMB received title to the East Campus Open Space property with deed restrictions related to munitions cleanup from the Fort Ord Reuse Authority in 2020.

[7] Community Housing Partners are made up of educational partners and military partners. Per the housing property conveyance to the CSU, CSU agrees to permit active duty military personnel, Department of Defense civilian employees and their families residing in on-campus housing units to remain until such time as 90 percent of the units are occupied by students and/or CSU employees and students and/or employees of other area institutions of higher education.

The subdivisions are sited along the ridges of gently sloping topography and are intermixed with several small neighborhood parks and undeveloped open space characterized by oak woodlands, chaparral, and pockets of grassland.

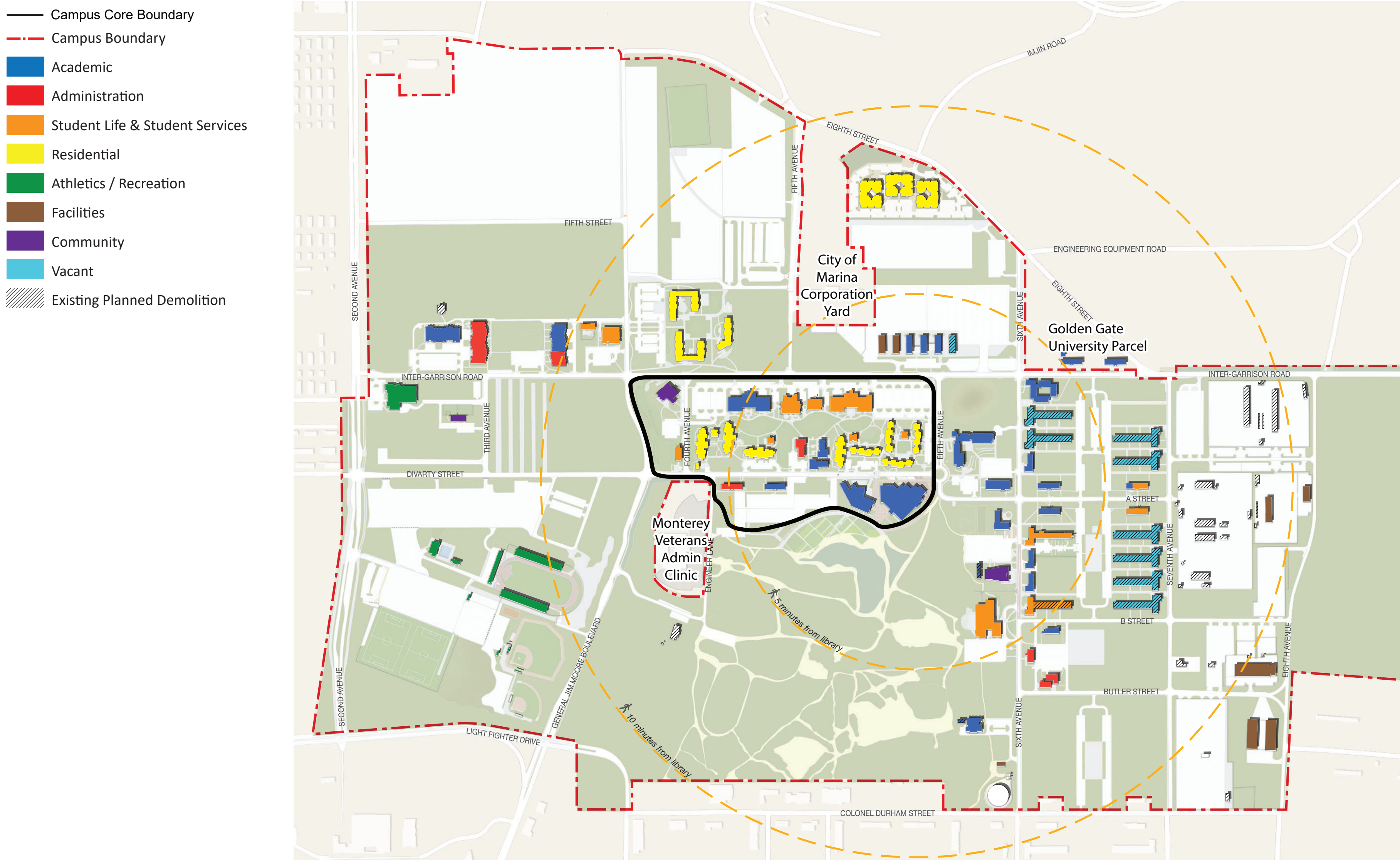
3.2.3 Existing Campus Conditions

During the 2016-2017 academic school year, CSUMB's total enrollment was 6,634 FTES and 1,024 FTE faculty and staff members. The Office of Institutional Assessment and Research at CSUMB has calculated that one third of CSUMB students come from the Monterey Bay tri-county area (Monterey, San Benito, and Santa Cruz counties) and approximately 45 percent stay in the region after graduation. Over half of the students are first-generation college students.

Existing campus facilities total approximately 3.2 million GSF of building and facility space, consisting of 53 buildings for academic, administration, and student life uses; 14 residential buildings; and 5 sports and recreational facilities. Existing buildings on the Main Campus, including buildings to be demolished, are shown on Figure 3-3 along with their associated uses. Additionally, two new buildings have recently been completed, the Academic III classroom building was completed in the summer of 2019 and the Otter Student Union in the summer of 2021. The Monterey Bay Charter School, an institutional partnership project, has completed CEQA review and proposes to lease campus property for construction of the school.

The majority of the occupied former Army structures are aged, but in generally serviceable condition. Many structures have undergone large-scale renovations and/or demolition. Of the total 324 derelict military structures, all have been removed over the last 10 years, with the last 30 buildings demolished in 2018. All of these buildings were abandoned or being used as temporary storage. Renovations that would bring these structures up to state codes were found to be cost-prohibitive.

Currently, there are 3,980 student beds in Main Campus and East Campus Housing, including the recently constructed and acquired Promontory housing located along Eighth Street. There are 754 existing on-campus faculty/staff/Community Housing Partner units in East Campus Housing at Schoonover Park I & II, of which 676 units are currently rentable and 67 units are owned homes. In total, 60 percent of FTES and 45 percent of FTE faculty and staff were housed in Main Campus and East Campus housing during the 2016-2017 academic year.



SOURCE: Page / BMS Design Group (2017)

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FIGURE 3-3

Existing Main Campus Building Use

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3.3 CSUMB HISTORY AND MASTER PLAN BACKGROUND

3.3.1 Fort Ord Military Base Conversion and Land Conveyance

CSUMB is one of 23 campuses in the CSU system, and is located on the former Fort Ord military base. Through the base conversion process, the Economic Development Conveyance (EDC) process, and Public Benefit Conveyance (PBC) process, CSU received approval in May 1994 for the conveyance of approximately 1,387 acres of property at Fort Ord to establish the new CSUMB campus. The Fort Ord base was officially closed in 1994 based on the recommendations of the Base Realignment and Closure (BRAC) Commission. Subsequently, the Fort Ord Reuse Authority (FORA) was created to oversee the planning, financing, and implementation of the reuse and recovery programs described in the 1997 Fort Ord Base Reuse Plan (BRP). On June 30, 2020, FORA's legal mandate expired and the authority dissolved. The Fort Ord BRP identifies CSUMB and two other higher education institutions—the University of California Monterey Bay Education, Science, and Technology Center (UC MBEST) and Monterey Peninsula College, that also received Fort Ord property conveyances pursuant to the BRAC process—as catalysts for the economic revitalization of the region and integral to the community-building strategy for the base. The CSUMB campus opened in the fall of 1995 on 400 acres. The current size of the CSUMB campus is 1,396 acres,[8] consisting of the original conveyance of 1,387 acres, plus an additional 9 acres, which was added to the campus with the University's purchase of the Promontory housing located along Eighth Street.

3.3.2 2007 CSUMB Master Plan[9]

The 2007 Master Plan for the CSUMB campus authorized an on-campus traditional student enrollment of 8,500 FTES and 3,500 FTES non-traditional, primarily off-campus students,[10] for a total of 12,000 FTES, with 1,833 FTE faculty and staff. This 2007 Master Plan was approved and the EIR certified by the Board of Trustees of the California State University (CSU Board of Trustees) in 2009.

Transportation mitigation measures contained in the 2007 Master Plan EIR required CSUMB to conduct traffic counts to monitor increases in campus-related trip generation. A baseline traffic level tied to Fall 2008 levels was established at 8,550 average daily vehicle trips, with the allowable

[8] This acreage does not include the recent purchase by CSU of a 7.3-acre property along Eighth Street between Sixth Avenue and Inter-Garrison Road, from Golden Gate University in December 2021.

[9] The 2007 Master Plan was adopted by the CSU Board of Trustees in 2009. It is referred to as the 2007 Master Plan throughout this EIR for consistency with the 2007 Master Plan EIR title and to avoid confusion.

[10] Based on the definitions provided in the 2007 Master Plan EIR, "traditional" students are resident and commuting students who primarily take classes on-campus, whereas "non-traditional" students are those students whose primary contact with the campus is via distance learning (e.g., taking courses offered over the Internet) and/or with periodic short-term and intensive on-campus resident learning experiences.

increase capped at 4,361 additional average daily trips, for a total of 12,911 average daily trips. Above this level, the 2007 Master Plan EIR determined that significant traffic impacts could occur, based on the level of service (LOS) analysis included in that EIR, which was the transportation metric used in transportation impact analyses at the time that EIR was prepared.[11]

CSUMB is obligated to undertake further environmental review prior to exceedance of this cap to assess the potential for corresponding significant environmental impacts, or, absent further environmental review, to decrease impacts by increasing TDM measures or limiting campus growth, including enrollment growth.

Since 2008, CSUMB has conducted the required traffic counts to determine the number of vehicle trips generated by the 2007 Master Plan, and with one exception, the annual total of campus-related average daily vehicle trips has gradually increased due primarily to increasing enrollment. For the academic year 2016-2017, the campus generated 10,545 trips per day, which remained under the allowable annual cap. For academic year 2019-2020, which reflects current conditions prior to COVID-19 Pandemic, the campus generated 11,626 trips per day, which also remains under the allowable annual cap.[12]

The proposed Master Plan would increase on-campus enrollment from approximately 6,630 FTES to 12,700 FTES students. CSUMB has prepared this Draft EIR to assess the potential environmental impacts, including transportation-related impacts, associated with the Project using current analytical methods required by CEQA (e.g., VMT) in order to identify appropriate and feasible mitigation measures for any/all significant impacts.

3.3.3 2016 Master Plan Revisions

In 2016, several projects were approved and resulted in revisions to the 2007 Master Plan. These revisions provided for: (1) the necessary changes to site the Monterey Bay Charter School off of Colonel Durham Street between Sixth and Seventh Avenues; (2) changes to the campus's boundaries along Eighth Street associated with the acquisition of parcels contiguous to the campus where the Promontory housing is located; and (3) the necessary changes to site the Student Union on an existing parking lot in the campus core and consolidate existing parking in a new lot located along Seventh Avenue. The current Master Plan is shown in Figure 3-4.

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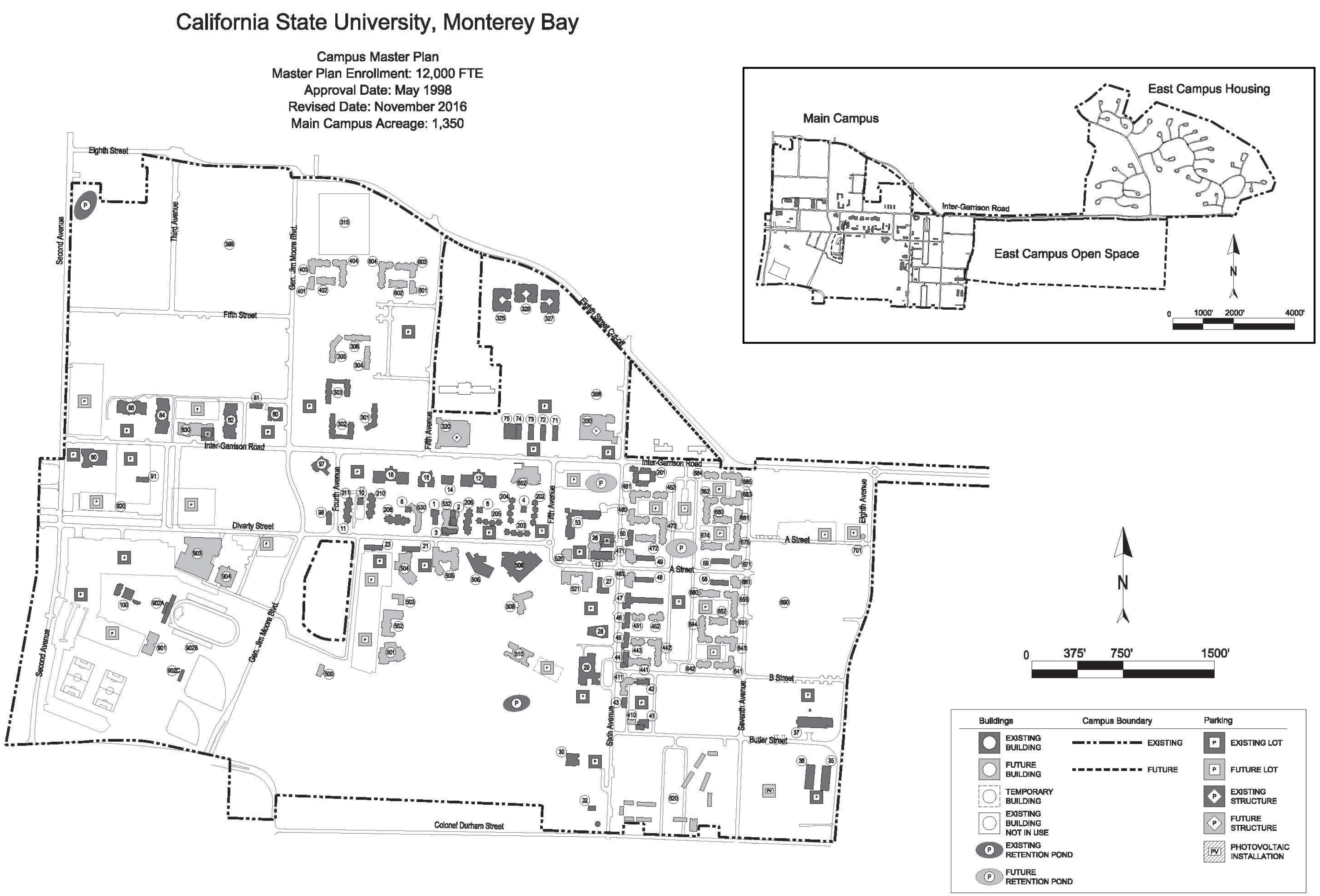
[11] Recent legislation in California, Senate Bill 743, changed the metric by which significant transportation impacts under CEQA are assessed from level of service, or LOS, to vehicle miles traveled or "VMT".

[12] The trip count for 2019-2020 used prior year trends for the Spring 2020 semester, given the COVID-19 Pandemic.



California State University, **Monterey Bay**

Master Plan Enrollment: 12,000 FTE

Master Plan approved by the Board of Trustees: May 1998

Master Plan Revision approved by the Board of Trustees: November 2004, March 2006, May 2009, September 2016, November 2016

1. Administration Building
2. Del Mar Hall
3. Playa Hall
4. Wave Hall
6. Surf Hall
8. Sand Hall
10. Dunes Hall
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14. Otter Express
16. Dining Commons
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671. *Student Housing V*
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675. *Student Housing IIB*
680. *Student Housing IV*
681. *Student Housing IV*
682. *Student Housing IV*
683. *Student Housing IV*
684. *Student Housing IV*
685. *Student Housing IV*
690. *Campus Partnerships II*
701. *Cell Tower*
830. *Child Care/Administration Center*
901. *Research Institute*
902A. Field House
902B. *Sports Complex Addition*
902C. Field Office
903. *Varsity Sports Complex*
904. *Varsity Sports Complex*
920. *Campus Partnership III*

LEGEND:
Existing Facility / *Proposed Facility*

NOTE: Existing building numbers correspond with building numbers in the Space and Facilities Base (SFDB) *Facility*

FIGURE 3-4

Existing Master Plan

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The CEQA documents prepared to support these revisions included:

- The Monterey Bay Charter School Initial Study/Mitigated Negative Declaration (SCH # 2016031034), which was adopted by the CSU Board of Trustees in 2016;
- An Addendum to the Promontory at California State University Monterey Bay Specific Plan Initial Study/Mitigated Negative Declaration (SCH# 2013021045)[13] for the acquisition associated with the Promontory, which was prepared in 2016 on behalf of the University Corporation at Monterey Bay;[14] and
- An Addendum to the California State University Monterey Bay 2007 Master Plan Final EIR for the Student Union relocation, which was considered by the CSU Board of Trustees in 2016.

3.4 PROJECT OBJECTIVES

CEQA provides that the statement of a project's objectives should be clearly written to define the underlying purpose of a project in order to permit development of a reasonable range of alternatives and aid the lead agency in making findings when considering a project for approval. The underlying purpose of the Project is to support and advance the University's educational mission, as defined by the California Education Code, 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 Project would authorize the physical development of the campus in a manner that would accommodate an on-campus enrollment of 12,700 FTES. The following objectives of the Project have been established in support of its underlying purpose:

1. 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 12,700 FTES;
    - Provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population; and
    - Develop into a comprehensive university campus that graduates students that can meet the needs of regional and statewide employers, while preserving and enhancing the quality of campus life.

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13 The Promontory at California State University Monterey Bay Specific Plan Initial Study/Mitigated Negative Declaration (SCH# 2013021045) was certified by the City of Marina City Council on July 2, 2013.

14 The University Corporation at Monterey Bay (the "Corporation") exists to enhance the educational program of the campus; directly serve students, faculty, and staff; and provide services to the public. Although the Corporation is a legally separate 501(c)(3) nonprofit corporation, it is a fully integrated part of the California State University, Monterey Bay campus.

2. Implement strategies to facilitate student academic success, academic excellence, institutional capacity, and regional stewardship.
3. Focus new building development on existing paved and developed infill sites on the Main Campus to provide compact and clustered development and make efficient use of campus land.
4. Provide and concentrate facilities for expansion of academic programs and administrative functions on the Main Campus, in or near the campus core to:
    - Create a compact campus core;
    - Provide synergies between existing and new educational and research programs;
    - Provide for a 10-minute walking distance from transportation hubs and between classroom buildings;
    - Facilitate use of shared resources among programs, such as classroom and lab space;
    - Facilitate faculty and student interaction; and
    - Promote an environment conducive to learning.
5. Provide on-campus housing for 60 percent of FTES and 65 percent of FTE faculty and staff to reduce vehicle trips to campus, meet other Master Plan Guideline's sustainability priorities and objectives, and promote recruitment, retention and engagement of faculty and staff.
6. Provide a diversity of housing types to serve a broad range of student, faculty and staff housing needs.
7. Create a unique campus character through buildings, outdoor spaces, pathways, bikeways, and roadways that connect those spaces while also producing a sense of community on campus.
8. Provide emphasis on pedestrian access and alternative transportation and attain a modal shift from vehicles to more pedestrian, bicycle, and transit use by:
    - Establishing bicycle and pedestrian networks that provide safe, direct, and attractive connections to work and school;
    - Establishing restrictions to general vehicle travel through the campus core and locate vehicle circulation and parking on the campus periphery to provide for a walkable campus core; and
    - Providing other land development strategies (e.g., multimodal hubs) to support TDM (Transportation Demand Management), which is intended to reduce drive-alone travel modes and encourage greater use of transit, walking, and bicycle commuting and reduce dependence on automobiles.

9. Preserve and enhance natural open spaces and develop formal open spaces so they become integral to the character of the campus.
10. Integrate natural and formal open spaces into the framework for capital development. Organize the built environment around an open space network to integrate the natural and built environments and enhance outdoor learning, social interaction, recreation, and the overall campus ambiance.

3.5 PROJECT TECHNICAL, ECONOMIC, AND ENVIRONMENTAL CHARACTERISTICS

3.5.1 Enrollment and Campus Population Projections

The Project would increase on-campus enrollment to 12,700 FTES with 1,776 FTE faculty and staff by the year 2035, as summarized in Table 3-1. As there were 6,634 FTES on campus in the 2016–2017 academic year, the Project would increase enrollment by approximately 6,066 FTES over existing enrollment levels. As there were approximately 1,024 FTE faculty and staff on campus in the 2016–2017 academic year, the Project would increase faculty and staff levels by approximately 752 FTE over existing levels. The campus anticipates that student population projections relating to the proportion of undergraduate to graduate students (approximately 95 percent undergrad) would remain constant. Future faculty and staff FTE and headcount are assumed to grow proportionally relative to current student-to-faculty and student-to-staff ratios.

As to institutional partnerships, the Project would result in a total net increase in population for institutional partnerships of approximately 190 people, as summarized in Table 3-2, based on the proposed Panetta Institute of Public Policy building program (Panetta Institute of Public Policy 2016). As described previously, institutional partnerships are projects involving public-public or public-private partnerships and long-term contractual relationships that use or develop CSU real property to further the educational mission of the campus. While other Institutional Partners could propose development on the campus, such potential future uses are too speculative to estimate at this time. Environmental review under CEQA would be pursued if and when such development proposals are pursued (see Section 3.5.2, Proposed Master Plan, for additional information about Institutional Partners).

Table 3-1
Existing and Projected CSUMB Population

Population	Existing Conditions (2016-2017)		Future CSUMB Population (2035)		Net Increase in Population Compared to 2016-2017	
	FTE	Headcount	FTE	Headcount	FTE	Headcount
Students	6,634[b]	7,021[a]	12,700	13,344	6,066	6,323
Faculty and Staff [1-4]	1,024	1,410	1,776	2,446	752	1,036
Total Population	**7,658**	**8,431**	**14,476**	**15,790**	**6,818**	**7,359**

Sources: a. CSU 2016-2017a; b. CSU 2016-2017b

Notes:

1. The total CSUMB faculty and staff population includes campus affiliate and auxiliary employees. Affiliates (or contractors) are professionals who provide services that support CSUMB through contractual arrangements with the University or an auxiliary. The CSUMB Auxiliary includes the staff of the Corporation, Student Union and Foundation.
2. The total CSUMB faculty and staff population was calculated by CSUMB's Institutional Assessment and Research (IAR) department. According to IAR, 1 FTE = full time faculty or staff + part time faculty or staff divided by 3.
3. Affiliate head count (HC) populations were converted to FTE by multiplying by 0.726, which is approximately the ratio of HC to FTE population conversion provided by IAR for the baseline year 2016/17.
4. Future staff/faculty to student ratios were projected out based on the 2016/17 ratios.

Table 3-2
Existing and Projected Institutional Partnership Headcount Population

Population	Existing Conditions (2016-2107)[1]	Future Total Population (2035)[2]	Net Increase in Population Compared to 2016-2017[3]
Staff	12	22	10
Students/Researchers	20	200	180
Total Population	**32**	**222**	**190**

Notes:

1. Existing population estimated by CSUMB staff based on the amount of existing space on campus occupied by the Panetta Institute of Public Policy.
2. Future population is based on the Detailed Building Program in the Panetta Institute for Public Policy Phase 1 Site Analysis and Feasibility Study, 2016. The future increase in population does not include event visitors associated with a proposed new 700-seat auditorium, as that population would not add to the average daily population on the campus. When this project is proposed, project-level CEQA analysis would analyze this, and other possible uses associated with the project.
3. As the new Panetta facility will replace the existing space occupied by the Panetta Institute of Public Policy, the existing population is subtracted from the future increase to get the net increase in population with this project.

3.5.2 Proposed Master Plan

3.5.2.1 Overview

In accordance with the policy of the CSU Board of Trustees and the California Education Code, a master plan revision is required when a previously identified building on the master plan is proposed to be moved to a new location, or a new building not previously shown on the master plan is proposed in a particular location.[15,16] In this case, the proposed Master Plan would result in multiple new buildings and other changes compared to the current approved Master Plan; therefore, a master plan revision is required. Figures 3-4 and 3-5 depict the current approved Master Plan and the proposed Master Plan. The proposed Master Plan is described below.

3.5.2.2 Proposed Master Plan Development

The development identified in the proposed Master Plan (Figure 3-5), includes projects to support the existing campus population, plus the additional space and facilities necessary to support planned on-campus enrollment growth to 12,700 FTES and 1,776 FTE faculty and staff by the year 2035. The proposed Master Plan includes space and facilities necessary for the campus's academic, student life, administration, residential, athletics, recreation, and support functions. This includes accommodation of residence halls, classroom buildings, and a mix of amenities that would contribute towards a diverse and dynamic campus life.

15 Integrated California State University Administrative Manual, Section II – Physical Master Plan and Off-Campus Centers, Section 9010, Definition of Minor Master Plan Revision.
16 Cal. Ed. Code, tit. 3, § 66606.

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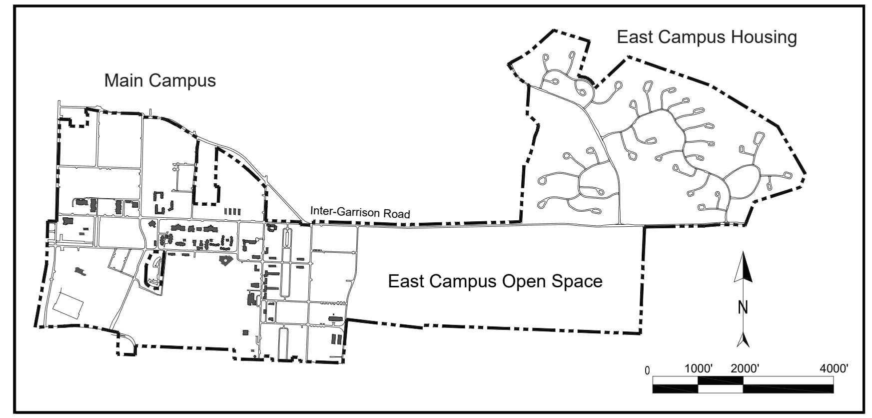
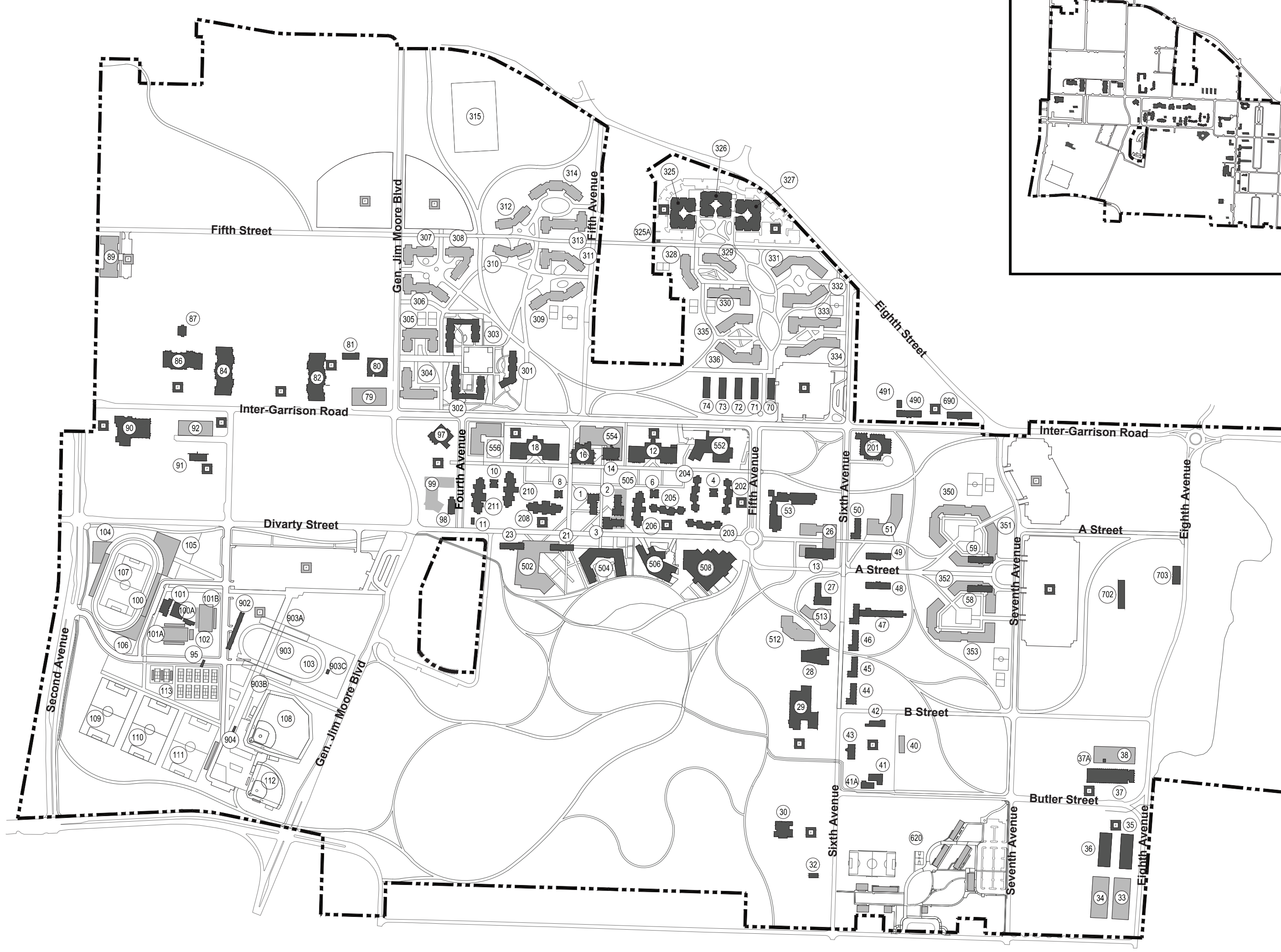
California State University, Monterey Bay

Campus Master Plan
Master Plan Enrollment: 12,700 FTE
Approval Date: May 1998
Revised Date: March 2022
Main Campus Acreage: 1,395





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651. *Student Housing V*
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655. *Student Housing V*
660. *Student Housing V*
661. *Student Housing V*
671. *Student Housing V*
674. *Student Housing IIB*
675. *Student Housing IIB*
680. *Student Housing IV*
681. *Student Housing IV*
682. *Student Housing IV*
683. *Student Housing IV*
684. *Student Housing IV*
685. *Student Housing IV*
690. *Campus Partnerships II*
701. *Cell Tower*
830. *Child Care/Administration Center*
901. *Research Institute*

902A. Field House
902B. *Sports Complex Addition*
902C. Field Office
903. *Varsity Sports Complex*
904. *Varsity Sports Complex*
920. *Campus Partnership III*

LEGEND:
Existing Facility / *Proposed Facility*

NOTE: Existing building numbers correspond with building numbers in the Space and Facilities Base (SFDB) *Facility*

SOURCE: Page / BMS Design Group (2018)

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FIGURE 3-5
Proposed Master Plan

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Table 3-3 summarizes the existing and future development envisioned in the proposed Master Plan. Of the approximately 2.9 million GSF of total new development that is proposed, approximately 1.7 million GSF would be constructed in Horizon I and approximately 1.2 million GSF would be constructed in Horizon II (Page 2020). Some of the future building development would include demolition of existing buildings that are currently being used for academic and/or student purposes. The proposed Master Plan anticipates that up to 24 buildings, totaling approximately 256,400 GSF, would be demolished as part of the construction of new buildings (see Table 3-4).[17] When the demolition of existing structures is considered, implementation of the Project would result in a total net increase of approximately 2.6 million GSF by the year 2035, with a total future building space on the campus of approximately 5.9 million GSF. Figures 3-3 and 3-6 illustrate the existing and future building locations on the campus with intended building use (e.g., academic, residential, administration). Figure 3-7 provides an illustrative plan showing existing and proposed buildings.

Table 3-3
Proposed Master Plan Development

Campus Space	Beds/Units	GSF[1]	Implementation	
			Horizon I	Horizon II
Existing Space (2016-2017)				
Main Campus Facilities (Non-Residential)[2]	—	1,142,777	NA	
Student Housing Main Campus	2,600 beds	1,171,264	NA	
Student Housing East Campus Housing[3]	1,380 beds / 466 units			
Faculty, Staff & Community Partners Housing (East Campus Housing)[4]	754 units	876,515	NA	
Total Existing Space	**3,980 beds / 1,220 units**	**3,190,556**	NA	
Approved but not Constructed Project				
Monterey Bay Charter School	—	60,000	✓	
Total Pending or Approved Space	—	**60,000**	✓	
Proposed Master Plan - New Development[5]				
Academic Space	—	403,160		
• Academic IV		95,000	✓	
• Academic V		76,704	✓	
• Academic VI		76,704		✓
• Academic VII		76,704		✓
• Academic VIII		76,704		✓
• Greenhouses[6]		1,344	✓	
Institutional Partnerships - Panetta Institute	—	64,000	✓	
Administration Buildings	—	77,454	✓	

[17] Buildings and/or structures proposed for future demolition include those identified in the building condition survey as being in poor condition or where their site could help the campus meet its planning goals.

Table 3-3
Proposed Master Plan Development

Campus Space	Beds/Units	GSF[1]	Implementation	
			Horizon I	Horizon II
"Student Life" Buildings	—	270,764		
• Childcare Center		23,000	✓	
• Student Life Space (Phase I and II)[6]		145,473	✓	
• Campus Arts & Auditorium		82,291		✓
• Student Union Phase II		20,000		✓
Indoor Recreation Buildings and Facilities	—	165,343		
• Recreation Center (Phase I and II)		70,000	✓	
• Recreation Center Addition (Phase III)		64,574		✓
• Wellness Center		30,769	✓	
Outdoor Athletics & Recreation Support	—	59,679		
• Stadium House		40,177	✓	
• Otter Retail Space	—	10,502	✓	
• Aquatics Center		7,000		✓
• Field House		2,000	✓	
Facilities Building	—	73,590		
• Facilities Building		23,590	✓	
• Facilities Storage Buildings		50,000	✓	
Housing	3,820 beds / 757 units	1,760,000		
• East Campus Housing Conversion[7]	-1,380 beds / 757 units	NA	✓	
• Student Housing Phase IIB	400 beds	160,000	✓	
• Student Housing Phase III	600 beds	200,000	✓	
• Student Housing Phase IV	600 beds	200,000	✓	
• Student Housing Phase V	600 beds	200,000	✓	
• Student Housing Phase VI	600 beds	200,000	✓	
• Student Housing Phase VII	600 beds	200,000		✓
• Student Housing Phase VIII	600 beds	200,000		✓
• Student Housing Phase IX	600 beds	200,000		✓
• Student Housing Phase X	600 beds	200,000		✓
Total New Space with Master Plan[7]	**3,820 beds / 757 units**	**2,873,990**	NA	
Existing Building	**3,980 beds / 1,220 units**	**3,190,556**	NA	
Approved and Pending Building Projects	NA	**60,000**	NA	
Total New Building Space with Master Plan[7]	**3,820 beds / 757 units**	**2,873,990**	NA	
Total Building Space to be Demolished	NA	**-256,366**	NA	
Net Increase in Building Space with Master Plan[6]	**3,820 beds / 757 units**	**2,617,624**	NA	
TOTAL FUTURE BUILDING SPACE	**7,800 beds / 1,220 units**	**5,868,180**	NA	

Notes:

1. GSF = gross square feet
2. Excludes existing baseball, softball, soccer and recreation fields and stadiums seating = 596,375 GSF.
3. Of the 466 units in East Campus Housing (Frederick Park I & II) for student housing, 460 units currently house 1,380 student beds and the remaining 6 units are used for offices.

4. Of the 754 units in East Campus Housing (Schoonover Park I & II) for faculty, staff, and Community Housing Partners, 676 units are currently rented or owned.
5. New Master Plan development does not include development on the faculty and staff housing reserve site or the potential athletics expansion area, as development in these areas is not part of the Project. Likewise, institutional artnership development beyond the Panetta Institute and the Monterey Bay Charter School is also not part of the Project.
6. To support mixed use development, Student Life space will be allocated within future buildings, as needed. Thus, it is not located on the proposed Master Plan (Figures 3-5 and 3-6) as a specific building. Greenhouses are also not located on the proposed Master Plan.
7. The 757 units for faculty and staff housing would be provided by reallocating and converting existing student housing to faculty and staff housing units and by converting units that are currently not rentable and units occupied by Community Housing Partners. No new faculty and staff housing units would be constructed under the proposed Master Plan.

Table 3-4
Proposed Master Plan Building Removal

Building #	Building Name	Square Footage (GSF)
1	Administration	5,820
2	Playa Hall	5,829
3	Del Mar Hall	5,820
13	Science Research Lab Annex	12,743
14	Otter Express	7,191
16	Dining Commons	14,080
21	Beach Hall	5,627
23	Tide Hall	5,627
42	Watershed Institute	3,772
44	Pacific Hall	5,000
45	Coast Hall	5,000
46	Harbor Hall	5,000
58	Green Hall	5,627
59	Reading Center	5,627
70	Visual & Public Arts – Far East (Potential Removal)	4,816
87	Panetta Institute Storage	2,695
95	Soccer Field Restrooms	525
100	Aquatics Center Pump House	1,322
902	Field House	5,250
903	Stadium Track and Field	137,400
903A	Stadium Seats North	5,364
903B	Stadium Seats South	5,364
903C	Field Electrical	150
904	Field Office	385
Total Square Footage		**256,366**

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Academic
Administration
Student Life and Student Services
Residential
Athletics and Recreation
Development Reserve
Facilities
Community
Institutional Partnership
Campus Boundary
Campus Core Boundary

Notes:
1. All spaces shown in removed buildings are accommodated in the new facilities.
2. Buildings are classified according to their predominant use.

SOURCE: Page / BMS Design Group (2017)

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FIGURE 3-6
Future Building Use Plan

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SOURCE: Page / BMS Design Group (2017)

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FIGURE 3-7
Illustrative Plan

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The proposed Master Plan builds on and intensifies the existing pattern of campus land uses while shifting the overall campus center of gravity to the campus core to better integrate existing housing to the north with the campus core. The campus core is bounded by General Jim Moore Boulevard on the west, Inter-Garrison Road on the north, Sixth Avenue on the east, and Divarty Street / A Street and the Crescent on the south (see Figure 3-6). A floor area ratio (FAR) of 1.0 (aggregate non-residential program) and a 0.75 FAR (residential program) was applied to determine the total land area needed to accommodate Master Plan growth (Page 2020). These ratios are consistent with other CSU and University of California campuses, and would support the creation of a more compact, walkable campus environment. The proposed Master Plan identifies the need for approximately 82 acres for planned growth, consisting of 27 acres for non-residential uses and 55 acres for student housing. Additional land would need to be set aside for food production if pursuing the Living Community Challenge. See Section 3.5.3, Project Design Features, for a description of the Living Community Challenge.

Academic and Administration

Five new academic buildings (i.e., Academic IV through Academic VIII), greenhouses, and administration buildings are proposed, as included in Table 3-3 and generally shown Figures 3-5 and 3-6. These buildings would be located in or near the campus core to facilitate walking between classes during a ten-minute class change and to activate the campus core. Proposed greenhouses are included in Table 3-3 but not yet specifically sited on campus. A potential site or sites for such greenhouses would be identified when such uses are pursued in the future.

Institutional Partnerships

There are two known institutional partnership projects anticipated by the Project. The Panetta Institute for Public Policy is one existing established partnership with a long-standing affiliation with the CSUMB with a general location proposed near Second Avenue and Fifth Street, and the Monterey Bay Charter School has a pending new campus for their school on the CSUMB campus in the general area between Colonel Durham Street and Butler Street, and Sixth and Seventh avenues (see Figure 3-6). These institutional partnership locations are sited on the campus edges, where they interface most effectively with the surrounding communities and support local community revitalization.

The Freeman Stadium Facilities Renovation Project was previously evaluated in an Initial Study/Mitigated Negative Declaration (DDA 2021) and approved in September 2021, is also an institutional partnership with Monterey Bay Football Club. The project will implement renovations to comply with national and international standards for hosting National Collegiate Athletic Association (NCAA) and United Soccer League (USL) soccer games. These renovations to the stadium will be implemented in the interim, prior to stadium replacement contemplated by the proposed Master Plan.

CSUMB released a request for proposals in May 2021 for experienced project specific developers, or a master developer to develop the northwest corner of the campus along Second Avenue, where it interfaces with the surrounding community and would support local community revitalization. The Second Avenue Development is generally defined as a mixed-use development with residential and commercial uses. As of the release of this Draft EIR, an interested developer has been identified but it is unknown whether such a project will go forward and if pursued, what the specific characteristics of the project would be. Given the speculative nature of this project, it is not part of the proposed Master Plan, which identifies this area as development reserve (see Figure 3-6). However, both the Freeman Stadium Facilities Renovation Project and the Second Avenue Development are evaluated as cumulative projects in this EIR (see Section 4.0, Introduction to Analysis, for a listing of cumulative projects).

CSUMB is actively seeking other beneficial public-private and public-public partnership opportunities that would serve both CSUMB and the local community. Potential future uses could include student housing, recreational uses, performance venues, research centers, institutes, not-for-profit organizations, and other mixed uses. While no other specific institutional partnerships are included in the proposed Master Plan, such uses could be proposed in the future, as indicated previously.

Student Life and Services

Existing student life functions include dining services, student wellness, and other student-oriented facilities most of which are and would continue to be concentrated in the campus core. As part of the Project, new student life buildings shown in Table 3-3 would be located in the campus core and existing student life buildings would be relocated to or near these areas in the campus core over time. New dining services locations would be included as ancillary uses in other buildings, such as housing. A new childcare center site along Inter-Garrison Road, west of General Jim Moore Boulevard, would be retained in its current location.

Athletics and Recreation

The CSUMB athletics and recreation area currently contains the majority of the University's existing athletics and recreation facilities and is located southwest of the campus core (see Figures 3-3 and 3-6). Under the Project, this site would be expanded and improved as a sports complex that can accommodate a range of sports and campus events. New athletic and recreation facilities would be sized to meet CSUMB's specific athletic and recreational needs. The new Student Recreation Center would be located on the Divarty Mall to separate indoor athletics uses at the Otter Sports Center from indoor recreation uses. The proposed Master Plan also accounts for redevelopment and growth in outdoor intercollegiate athletics (sports teams that compete with other universities) and campus recreation (Intramural Sports, Sports Clubs, Outdoor Recreation, Otter Cycle Center, Experiential Learning Center and Recreation Services) to serve campus needs. Outdoor facility program needs were generated using the Integrated California State University Administrative Manual (ICSUAM) guidelines. CSUMB currently has allocated 58 acres for proposed new and redeveloped outdoor athletics and recreational facilities and formal open space located in the athletics and recreation area and elsewhere on the Main Campus, which is sufficient space to serve the planned growth. Overall, the Project would provide approximately 28 acres of net new outdoor athletic and recreational facilities and formal open space lands.

Outdoor facilities within the athletics and recreation area would be shared between the athletics and recreation programs on campus. The plan is adaptable to accommodate future facilities, such as additional events venues, athletic, recreation and performance spaces, and other related uses. Table 3-5 summarizes potential additional outdoor facilities incorporated in the proposed Master Plan. Table 3-3 summarizes the support building space associated with the outdoor athletics and recreation program.

As indicated previously, the existing Freeman stadium and field house are being remodeled and will be shared between the campus and the Monterey Bay Football Club through a facility use agreement. However, the proposed Master Plan would ultimately replace the current 6,000-seat stadium, field house, and field with a new approximate 10,000-seat stadium sized and equipped to host intercollegiate soccer and track events and designed to specifically meet future athletic and student serving needs. The new stadium would be street facing at the campus gateway on Second Avenue and Divarty Street and would include a field house and administrative offices. A new plaza adjacent to the new stadium would provide space for pre-game and other events. The stadium would abut and compliment pedestrian access to Seaside's proposed retail space on the west side of Second Avenue. An additional plaza west of the baseball field would organize the tennis, soccer and ball fields. A multi-use playing field south of the western multimodal hub would be available for pick-up games or other events. Pedestrian connections would link the facilities with minimal road crossings, including a Class 1 pathway along the north side of the Athletics and Recreation District that would connect with the Fort Ord Recreation Trail and Greenway (FORTAG) and Monterey Bay Scenic Sanctuary trails.

Table 3-5
Outdoor Athletics and Recreation Program Fields, Courts & Pools

Facility Type	Existing	Future Addition	Total at Buildout
Stadium Field and Track[1]	1	1	1
Multi-purpose Field	1	1	2
Soccer Field2	2	1	3
Baseball Field	1	0	1
Softball Field	1	0	1
Tennis Courts	0	10	10
Swimming Pool	1	0	1

Table 3-5
Outdoor Athletics and Recreation Program Fields, Courts & Pools

Facility Type	Existing	Future Addition	Total at Buildout
Olympic Pool	0	2	2
Total Fields, Courts & Pools[3]	**7**	**15**	**21**

Notes:
1. A new 10,000-seat stadium, including field and track, will replace the existing 6,000-seat stadium. See Tables 3-3 and 3-4 for a description of the space associated with the new Stadium House and demolition of the existing Stadium House.
2. Soccer fields are located in the Athletics and Recreation District, with the exception of one field located north of the campus core near Eighth Street.
3. Additional basketball, sand volleyball and other recreational courts are and would continue to be provided in campus residential areas.

The athletic and recreation uses included in the proposed Master Plan would continue to support the campus population and events, with some use by outside organizations. New facilities that provide space beyond the minimal CSUMB program needs, for shared-use agreements, would require public-private partnership investment and additional analysis under CEQA. For example, Figure 3-6 identifies an area for potential future athletics and recreation expansion east of General Jim Moore Boulevard and north of Divarty Street.

Facilities

Existing facilities operations and support buildings are located on the campus edge, primarily between Seventh and Eighth avenues, and B Street and Colonel Durham Street. These existing facilities include several utility buildings, including the central plant; storage buildings; offices; shops; and the 1-megawatt (MW) solar panel array. Several new facilities and storage buildings are proposed with the Project along Eighth Avenue in the southeastern portion of the Main Campus. Facilities identified in Figure 3-6 also include new water storage tanks. CSUMB recently granted easements for several new MCWD water storage tanks on campus; construction of these tanks is underway by MCWD.

On-Campus Housing

Table 3-6 summarizes existing and proposed on-campus housing to continue to meet the goal of housing for 60 percent of FTES and to achieve the goal of housing 65 percent of FTE faculty and staff on campus. This would be accomplished through new student housing construction on the Main Campus, and reallocation of existing East Campus student housing to the Main Campus as East Campus housing gradually shifts to accommodating exclusively faculty and staff units. Specifically, the bed spaces in the Frederick Park neighborhoods I and II, located in East Campus

Housing, which currently houses approximately 1,380 students in 466 units,[18] would be relocated onto the Main Campus in new proposed student housing projects.

To house 65 percent of staff and faculty under the Project, the 466 units of student housing in the Frederick Park I and II would be converted for use by staff and faculty and student family housing. Additionally, approximately 280 units occupied by Community Housing Partners in Schoonover Park I & II, located in East Campus Housing, would gradually be converted for use by faculty and staff, as internal demand requires those units be made available. Additionally, the remaining units in Schoonover Park I and II will be converted to a rentable status, as part of the Project. Overall, there would be approximately 757 existing units of housing in East Campus Housing that would be converted for use by faculty and staff. While not currently needed to serve proposed Master Plan growth, a faculty and staff housing reserve area is identified on a portion of the East Campus Opens Space (see Figure 3-6). This area may be needed for long-term growth beyond an on-campus enrollment of 12,700 FTES. However, future development of this area is not part of this Project.

The proposed Master Plan identifies a campus-wide total of 7,800 student beds and 1,220 faculty and staff housing units to serve the proposed campus population. The CSUMB Housing Guidelines provides additional information about meeting the identified housing goals for the Project (CSUMB 2022).

Table 3-6
Existing and Proposed On-Campus Housing Beds/Units

Housing Type	Existing (2016-2017)	Total Future (2035)	Net Increase
Student Housing	**Beds**	**Beds**	**Beds**
Main Campus			
Existing Main Campus - Other	1,811	1,811	0
Existing Main Campus - Promontory	789	789	0
New Student Housing Phase IIB	—	400	400
New Student Housing Phase III	—	600	600
New Student Housing Phases IV-X	—	4,200	4,200
Existing Frederick Park I & II (East Campus Housing)[1]	1,380	0	-1,380
Total Student Beds	**3,980**	**7,800**	**3,820**
% Housed on Campus[2]	**60%**	**61%**	**1%**
Housing Goal	**60%**		

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[18] The Master Plan Guidelines reports that 720 students are housed in East Campus Housing, based on 2014 data. Since that time, beds have been added to these units to increase the number of students housed in this location.

Table 3-6
Existing and Proposed On-Campus Housing Beds/Units

Housing Type	Existing (2016-2017)	Total Future (2035)	Net Increase
Faculty and Staff[3] – East Campus Housing (ECH)	**Units Allocated to Faculty & Staff**	**Units Allocated to Faculty & Staff**	**Net Increase in Units Allocated to Faculty & Staff**
Existing Schoonover Park I & II – faculty and staff units[4]	463	463	0
Existing Schoonover Park I & II – Community Housing Partners units[4]	0	280	280
Existing Schoonover Park I & II – other units[4]	0	11	11
Existing Frederick Park I & II – student units[5]	0	466	466
Total ECH Units Allocated to Faculty and Staff	**463**	**1,220**	**757**
Total ECH Units	**1,220**	**1,220**	**1,220**
% Housed on Campus[6]	**45%**	**69%**	**24%**
Housing Goal	**65%**		

Notes:
1. Students currently occupy 460 Frederick I & II units with 3 beds in each unit = 1,380 beds.
2. 3,980 beds divided by 6,634 FTES in academic year 2016-2017 = 60% housed under existing conditions. 7,800 beds divided by 12,700 FTES in 2035 = 61% housed under future conditions.
3. Includes CSUMB faculty and staff as well as affiliates, which are companies that have been contracted by the Corporation to provide services that the Auxiliary has been asked to provide by the University (e.g., dining, bookstore), and the affiliate's employees work full-time on campus in that capacity. They are also referred to as contractors. The Auxiliary includes staff of the Corporation, Student Union and Foundation.
4. There is currently a total of 754 units in Schoonover Park I & II. Of that total, 396 units are rented and 67 units are owned by staff, faculty and affiliates = 463 units currently allocated to staff, faculty and affiliates. An additional 280 units are currently occupied by Community Housing Partners (CHP) and 11 units are off-line for wait list or short-term rentals or are being remodeled. In the future, all 754 units could be rented or owned by faculty, staff or affiliates since it is assumed the 280 CHP would ultimately move off campus. Thus, the total number of new Schoonover Park units available to staff, faculty and affiliates would be 280 + 11 = 291 units.
5. Converting 460 Frederick I & II student rental units plus six office units reallocates 466 units for faculty and staff housing. No new faculty and staff housing units will be constructed with the proposed Master Plan.
6. 463 units occupied by faculty and staff divided by 1,024 FTE faculty and staff in academic year 2016-2017 = 45% housed under existing conditions. 1,220 units occupied by faculty and staff divided by 1,776 FTE faculty and staff in 2035 = 69% housed under future conditions. 1,154 units of housing allocated for faculty and staff are required to meet the housing goal of 65% for faculty and staff.

Development Reserves

In addition to the faculty and staff housing reserve area identified on a portion of the East Campus Opens Space, Figure 3-6 also identifies other development reserves that may be needed for long-term growth beyond an on-campus enrollment of 12,700 FTES or for institutional partnerships. However, future development of these areas is not part of this Project.

3.5.3 Project Design Features

This section describes the Project Design Features (PDFs) included in the Project, which were developed based on the Master Plan Guidelines and that will be implemented as the campus proceeds with Project implementation. The PDFs are numbered and are referred to throughout the Draft EIR where relevant to the environmental analysis and, where applicable, have been incorporated into the technical analysis to determine impact significance. The PDFs will be incorporated into the Mitigation Monitoring and Reporting Program prepared for the Project that will be adopted by the CSU Board of Trustees when they consider approval of the Project to ensure their implementation.

This section separately addresses the Open Space Framework, Transportation and Circulation (Mobility), Water and Wastewater Systems, Energy Systems and GHG Reduction, and Design Themes and Special Area Plans. Each subsection provides an overview of the subject category (e.g., Open Space Framework), followed by a listing of each of the PDFs relevant to that category.

3.5.3.1 Open Space Framework

Overview

The Master Plan Guideline's open space framework and PDFs below seeks to preserve and enhance natural open space, defines and connects open spaces to facilitate activity and social interaction, and furthers the campus as a learning laboratory through the development of collaborative learning spaces. The selection of open space areas is based on the 2007 Master Plan EIR biological resources analysis, as well as on graduate student research and faculty plant surveys that have identified several sensitive plant, wildlife, and habitat areas.

The prominent natural open spaces on the campus include the existing Northern Oak Woodlands, Southern Oak Woodlands, Cypress Grove, East Campus Open Space, and natural areas around East Campus Housing, which are used for educational purposes, passive recreation, and in some areas, habitat conservation. The proposed connecting landscape ties the built and natural open space environments together and enhances the distinct campus character. Existing uses in the natural open space and connecting landscape include stormwater management and informal recreation such as hiking and cycling trails, disc golf and a rope challenge course. Significant development is not anticipated for these areas, although additional uses considered compatible with the natural open space character are planned as part of the Project, such as more passive recreation and trail development.[19] Other proposed campus open spaces would include: formal open areas, such as the Main Quad, Divarty Mall, Inter-Garrison Road through the campus core and the Crescent and Amphitheater; academic and residential neighborhood open spaces, such as smaller courtyards and quads; Sustainability Commons; athletics and recreation areas; and campus entries. The formal open space areas are future described in Section 3.5.2.7, Design Themes and Special Area Plans.

[19] A segment of the FORTAG regional trail network is anticipated through this area, which is being implemented by the Transportation Agency of Monterey County. The FORTAG Final EIR was certified in June 2020. The campus will support internal planning efforts and approvals for the portion of this regional project on campus lands.

The proposed open space framework, shown in Figure 3-8, defines a range of natural, formal, and connecting open space elements that together would create a cohesive campus setting and a stronger sense of place. The open space framework also provides for connections to existing and proposed regional trail networks. The Main Quad would continue to be the primary formal open space on campus where student events are held.

Project Design Features

Protect, Enhance and Connect the Natural Environment

PDF-OS-1: Open Space Types and Management. Manage and designate open space types consistent with Figure 3-8. Manage the natural open space and connecting landscape holistically to connect and protect habitats and sensitive species, percolate storm water runoff, visually unify the campus and connect bicycle and pedestrians to the built and natural environments. Avoid fragmenting natural open space and connecting landscape. Any development should allow for trail connections, peripheral streetscape improvements and the protection and access to viewsheds for the campus population.

PDF-OS-2: Natural Open Space Protection. Maintain, enhance and/or restore natural open spaces, native habitats and sensitive species, while allowing for educational and passive recreation uses, such as trails. At a minimum, manage in accordance with the Fort Ord Habitat Management Plan and Habitat Conservation Plan EIR requirements and/or other best management practices.

PDF-OS-3: Construction Best Management Practices. Establish and employ construction best management practices to avoid special-status plant and animal species and avoid or minimize erosion and sedimentation, where possible. Remove invasive species using best management practices during construction, demolition and landscape projects.

SOURCE: Page / BMS Design Group (2017)

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FIGURE 3-8
Open Space Types and Framework

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PDF-OS-4: Tree Restoration and Management Program. Continue and expand the CSUMB tree restoration program to maximize the health and stability of existing and replacement trees, while minimizing damage typically caused by the lack of proper tree care. The plan will include the following:

a. All tree management will be performed under the guidance of a Certified Arborist.

b. Heritage and mature trees, including those species no longer on the approved planting list, will be identified and managed with specific care.

c. Campus Planning will approve and direct major trimming (over 30 percent) and replacement of all removed trees over 4-inches in diameter.

d. Replacement of all removed trees 4-inches or greater in diameter at breast height (dbh), shall be provided at a minimum 2:1 ratio. The replacement ratio shall be based on the ultimate survival of planted trees and therefore the initial planting ratio will likely need to be higher.

e. No vehicles, with the exception of grounds service vehicles, shall park on or in landscaped areas or within the root line of any tree, which is equal to a distance half the height of the tree from the trunk.

f. Tree Campus USA certification will be pursued.

g. Establish comprehensive oak woodland management program and associated measures for the Southern Oak Woodland, East Campus Open Space and East Campus Housing oak habitats.

PDF-OS-5 Habitat Restoration Fund. Establish a habitat restoration fund to collect funds for the replacement of trees and/or habitat that may be removed or disturbed during construction of proposed development. Restoration costs would be included in project budgets and/or provided by third parties doing work on campus to ensure funds are available.

PDF-OS-6: Planting Specifications. After demolition and construction, stabilize newly created bare land with native plants and seed mixes to eliminate erosion. For permanent landscaping use consistent, low maintenance, native and drought-tolerant landscaping strategies that visually unify the campus by using a campus wide landscape palette informed by the campus Landscape Maintenance Plan and FORA

Regional Urban Design Guidelines[20] (RUDG) palettes (FORA 2016). Limit turf to formal, athletic and recreational, and residential neighborhood open space types.

Create a Strong Sense of Place

PDF-OS-7: Trail Features. Maximize landscaping, natural material surfaces and permeability along existing and future trails in the built environment in order to locally percolate stormwater runoff, encourage trail use and serve as a defining campus feature. Minimize human caused impacts along trail corridors by: minimizing obtrusive lighting, separating users by type and connecting people to and protecting the natural environment.

PDF-OS-8: Outdoor Seating. Expand outdoor seating options in landscaped open spaces associated with transit/bike/pedestrian malls, formal open space, pathway improvement projects and residential courtyards.

Integrate Learning Opportunities into Open Spaces

PDF-OS-9: Sustainability Commons. Establish the Sustainability Commons as the art, education and community-building center that serves as a model space for sustainable development and education.

PDF-OS-10: Academic Open Space. As part of academic building projects, create academic open spaces such as plazas and courtyards adjacent to academic buildings to create opportunities for student and faculty interaction, and for studying, socializing and rest.

Manage Hazards Associated with Open Space

PDF-OS-11: Minimize Wildland Fire Hazards. Prepare and implement a defensible space plan to address landscape requirements for structures located: (1) along the eastern edge of the Main Campus, along Eighth Street (east of Fifth Avenue) and along Eighth Avenue between Inter-Garrison Road and Colonel Durham Street; (2) adjacent to the Southern Oak Woodlands; (3) along the undeveloped portions of Inter-Garrison Road; and (4) at the East Campus Housing area. Review and enhance the existing University evacuation plans, as part of the defensible space plan, to incorporate preplanned evacuation routes and safe refuge areas for the entire campus community in the event of a wildfire or threat of a wildfire, which

20 Prior to its dissolution, FORA adopted Regional Urban Design Guidelines (RUDG) that govern the visual quality of Fort Ord. The guidelines focus on enhancing the region making this area attractive and inviting to ensure the economic vitality of the entire Monterey Peninsula. The guidelines establish criteria for road design, setbacks, building height, landscaping, signage, and other matters of visual importance.

would provide for the safe evacuation along key access routes around and through the campus. The defensible space plan shall conform to the requirements of California Public Resources Code § 4291 and California Government Code § 51182, which require creating and maintaining defensible space within 100 feet of structures. The plan shall also adhere to the defensible space standards outlined by the California Department of Forestry and Fire Protection.

3.5.3.2 Transportation and Circulation (Mobility)

Overview

Development Patterns Supporting an Effective Transportation System

The Project provides for land development strategies to support TDM and reduce drive-alone travel modes and encourage greater use of transit, walking and bicycle commuting. Specifically, the Master Plan Guidelines and PDFs below identify the on-campus housing goals that will be achieved with the Project, and indicate that a variety of housing types, mixed-use campus development and a compact campus core will be provided for.

Mobility Objectives

The Master Plan Guidelines and PDFs below identify the goal of strengthening and expanding the campus' existing TDM strategies to improve campus travel options and prioritize pedestrian and bicycle movement. Additionally, Section 3.4, Project Objectives, above, identifies a specific project objective (#9) to establish bicycle and pedestrian networks that provide safe, direct and attractive connections to work and school and to address land development strategies to support TDM and reduce drive-alone travel modes and encourage greater use of transit, walking and bicycle commuting. The TDM strategies would continue the campus trend to shift the campus drive-alone vehicle mode share[21] towards other modes of travel.

To achieve the objective of shifting mode share away from drive alone vehicles, the mobility PDFs identify TDM strategies to strengthen and expand the campus' existing TDM program. A TDM plan would be prepared to elaborate on these strategies and guide implementation.

Access and Circulation Plan

The Master Plan Guidelines and PDFs below identify four major entries which lead to two key arrival areas: Divarty Street and General Jim Moore Boulevard on the west side of campus, and Inter-Garrison Road and Sixth Avenue on the east side (see Figure 3-9). These key arrival areas would serve as multimodal hubs for transit, shuttle, and parking uses, which, in turn, would serve

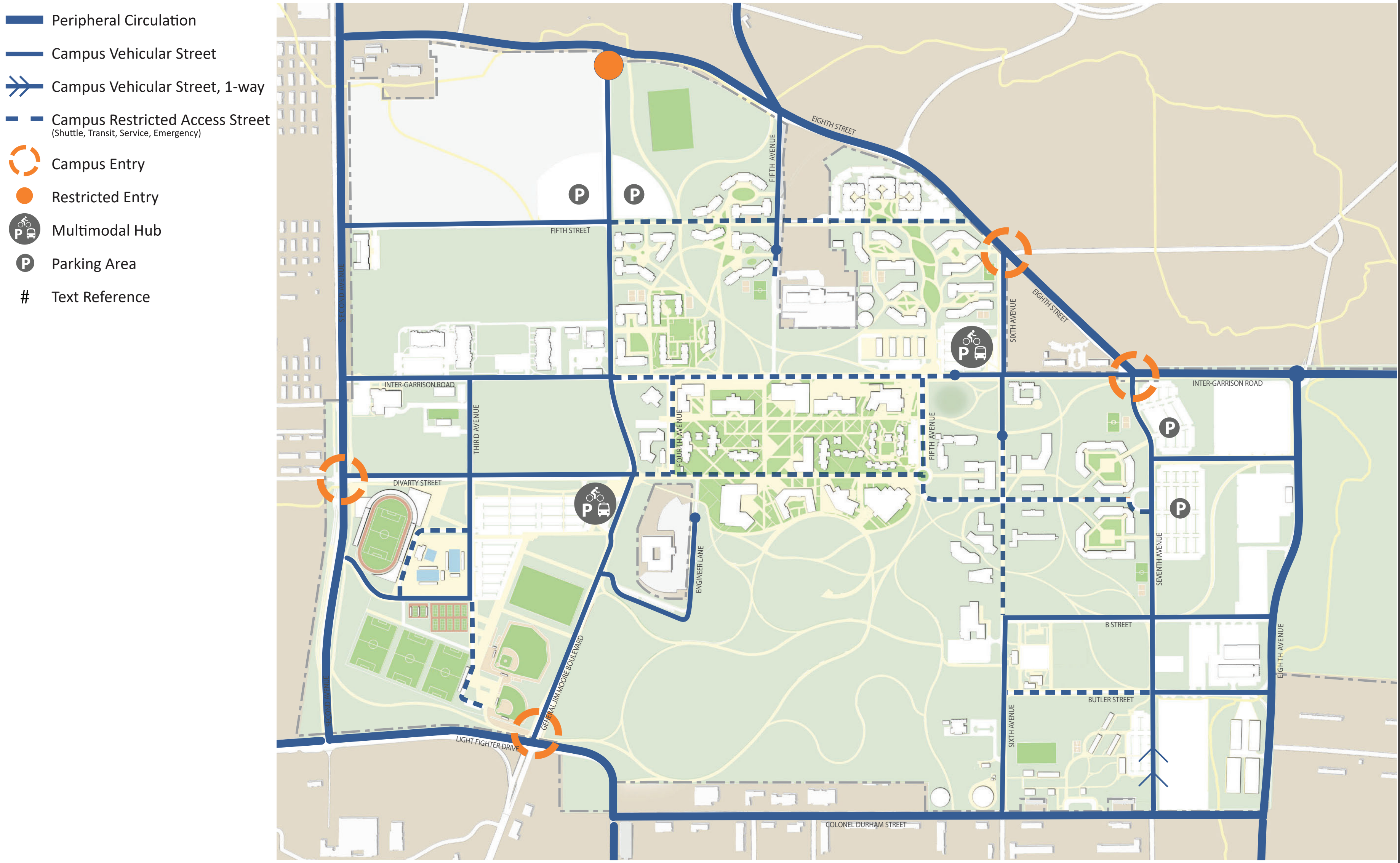
[21] A "mode share" is the percentage of travelers using a particular type of transportation.

as the main points of arrival to the campus, facilitate the transition to active modes of travel, and facilitate campus shuttle and regional transit facilities. The multimodal hubs would also include pick-up and drop-off areas for shared rides and taxi service. Amenities would include maps and wayfinding signage, bicycle services and resources, and preferential parking for rideshare, car share, electric, and low emission vehicles. The western multimodal hub would be located in the athletics and recreation area at General Jim Moore Boulevard and Divarty Street. The eastern multimodal hub would be located on the northeastern edge of the campus at Sixth Avenue and Inter-Garrison Road. Figure 3-9 illustrates the proposed vehicle circulation plan for the campus.

The Master Plan Guidelines and PDFs below also restrict and/or limit general vehicle travel through the campus core by limiting access at some locations to create a safe pedestrian and bicycle-oriented campus core. Inter-Garrison Road at its intersection with both Eighth Street and Seventh Avenue would be redesigned to encourage east-west through traffic to use Eighth Street or Eighth Avenue and promote Inter-Garrison Road as a transit, bicycle- and pedestrian-only street through the campus core. This would remove vehicle traffic from the campus core to create a more bicycle- and pedestrian-oriented environment. To support these strategies, restricted access is proposed on Fourth and Fifth avenues, and portions of Divarty Street, Inter-Garrison Road and Sixth Avenue. An improved extension of Fifth Street toward Eight Street is proposed to provide for improved access to north campus housing. In addition, the campus entry point at Eighth Street and General Jim Moore Boulevard would be designed to discourage through traffic from using General Jim Moore Boulevard, but would remain open for limited campus access to parking facilities and emphasize low-speed vehicle travel with high-quality bicycle, pedestrian, and transit facilities. Seventh Avenue between Colonel Durham Street and Butler Street would be designated one-way northbound to reduce vehicular traffic for safe turning into the Monterey Bay Charter School, and to create a safer crossing of the FORTAG. Service and emergency vehicles would be able to access all areas of campus, and drop-off and move-in access would be available at all student-housing locations.

Parking and Parking Management

Under the Project, parking would be removed from the campus core and two multimodal parking hubs prioritizing regional transit connections, shuttle service, carsharing, and visitors, and two general and/or residential lots would be created on the east and west sides of campus to separate vehicles from pedestrians and cyclists. These locations would contribute to a safe pedestrian and bicycle-oriented campus core. Some special designated stalls and accessible parking would be preserved within the campus core.



SOURCE: Page / BMS Design Group (2017)

FIGURE 3-9
Vehicular Circulation Plan

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Management of parking would be aligned with the expansion of the TDM strategies, as indicated in the Master Plan Guidelines and PDFs below, to make parking more efficient and remove non-essential lots from the campus core. Parking would be consolidated as new development occurs in multimodal hubs or general or residential lots. Limited special parking stalls would be provided discretely throughout campus to accommodate service vehicles, deliveries, loading and unloading activities, and trash pick-up. Appropriate numbers of accessible stalls would be allocated campus wide as required by code. A TDM plan would be prepared to address parking management.

Transit Circulation Plan

Improvements to transit, paratransit and shuttle systems, as well as regional transit services are anticipated in the Master Plan Guidelines and in the PDFs below. In addition to the multimodal hubs with new transit amenities, increased frequency of service and an overlapping network of services would be implemented throughout the campus with the Project. The campus shuttle network would also complement the most appropriate connections to regional transit networks as they develop around the campus.

With the Project, students with an active Otter ID card will continue to ride local and regional transit with no fare due at boarding of Monterey Salinas Transit (MST) buses. Access to this transit network will maintain frequent service between campus and the Monterey Peninsula, the City of Salinas, communities in the Salinas Valley and connections north to Santa Cruz and San Jose. Campus shuttle routes would continue to supplement local routes by providing frequent service between the Main Campus and East Campus Housing. During the first full academic year of the COVID-19 Pandemic (Fall 2020 - Spring 2021), the CSUMB campus was depopulated and learning was performed remotely, which meant suspension of contracted transit services with MST. Access to MST services renewed with the repopulation of campus in Fall 2021. In Spring 2022, on-campus shuttle service provided by MST (Line 26) was replaced and frequencies increased by a new vendor, MST late night weekend service to Monterey (Line 19) was discontinued, and Otter ID card access to the MST network remained in place. CSUMB will coordinate with MST with the objective to maintain convenient access for all CSUMB students to the MST bus network, and eventually to route those services through the new multi-modal hubs on campus proposed by the Project (see Figure 3-10). CSUMB will collaborate with MST and other local agencies as needed to analyze unmet transit needs as part of achieving its TDM goals.

A new campus circulator shuttle route would supplement this regional service with Main Campus dedicated last mile access to and between campus destinations, as well as from the new multi-modal hubs and general and/or residential parking lots. This circulator shuttle would utilize transit/pedestrian malls closed to general vehicular traffic. The result would be frequent and continuous shuttle service circulating around the campus core, with peak shuttle service serving campus housing. Additional shuttles may also be added to accommodate high levels of ridership during peak class times. Existing bus stops would be updated with new amenities, route information, lighting and some shelters. Additional stops would be added where appropriate.

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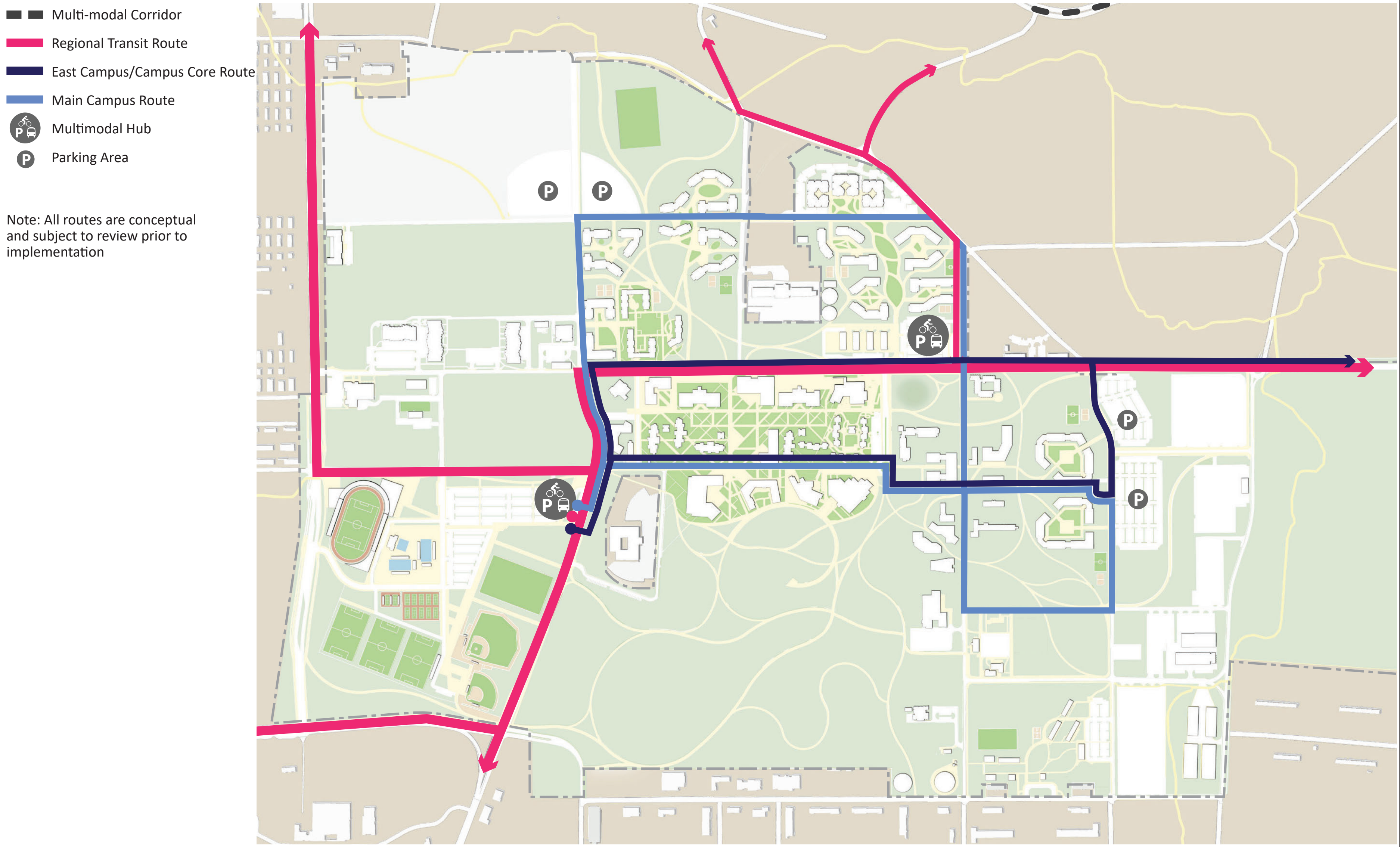

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FIGURE 3-10
Transit and Shuttle Circulation

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Bicycle and Pedestrian Circulation Plan

Bicycle improvements identified in the Master Plan Guidelines and PDFs below include creating a system of separated (Class I) facilities and improved connections within the campus and allow for FORTAG connections through the campus. Improved east-west bicycle access via Inter-Garrison Road and a multi-use path along the south side of Divarty Street west of General Jim Moore Boulevard are proposed. The pedestrian circulation plan proposes an expanded pathway network to enhance connectivity within the campus and to regional destinations. Divarty Street would be further developed as a pedestrian mall that would strengthen walking connections through the campus. The existing Sixth Avenue pedestrian mall would be expanded to A Street. Inter-Garrison Road is proposed to be converted from a regional vehicle way into a transit, bicycle, and pedestrian corridor, as described previously. The campus would continue to work with local jurisdictions to implement and improve bicycle and pedestrian routes between the Main Campus and the East Campus Housing. Bicycle and Pedestrian Circulation are shown on Figures 3-11 and 3-12, respectively.

Additional bicycle amenities include developing short (uncovered) and long-term (covered) bicycle parking throughout campus and implementing options such as a campus bicycle and/or scooter share programs as well as bicycle and pedestrian safety measures. These safety measures include separating bicycle and pedestrian travel to the maximum extent possible, limiting vehicular traffic speeds, providing for at-grade crossings to increase visibility, and installing non-obtrusive lighting and signage to increase visibility and safety. Additional pedestrian amenities include improving accessibility throughout the campus via the Campus ADA Transition Plan and universal design principles and providing informational signage to move people to walk instead of drive.

The TDM plan will include bicycle and pedestrian planning, to identify, prioritize, and design improvements.

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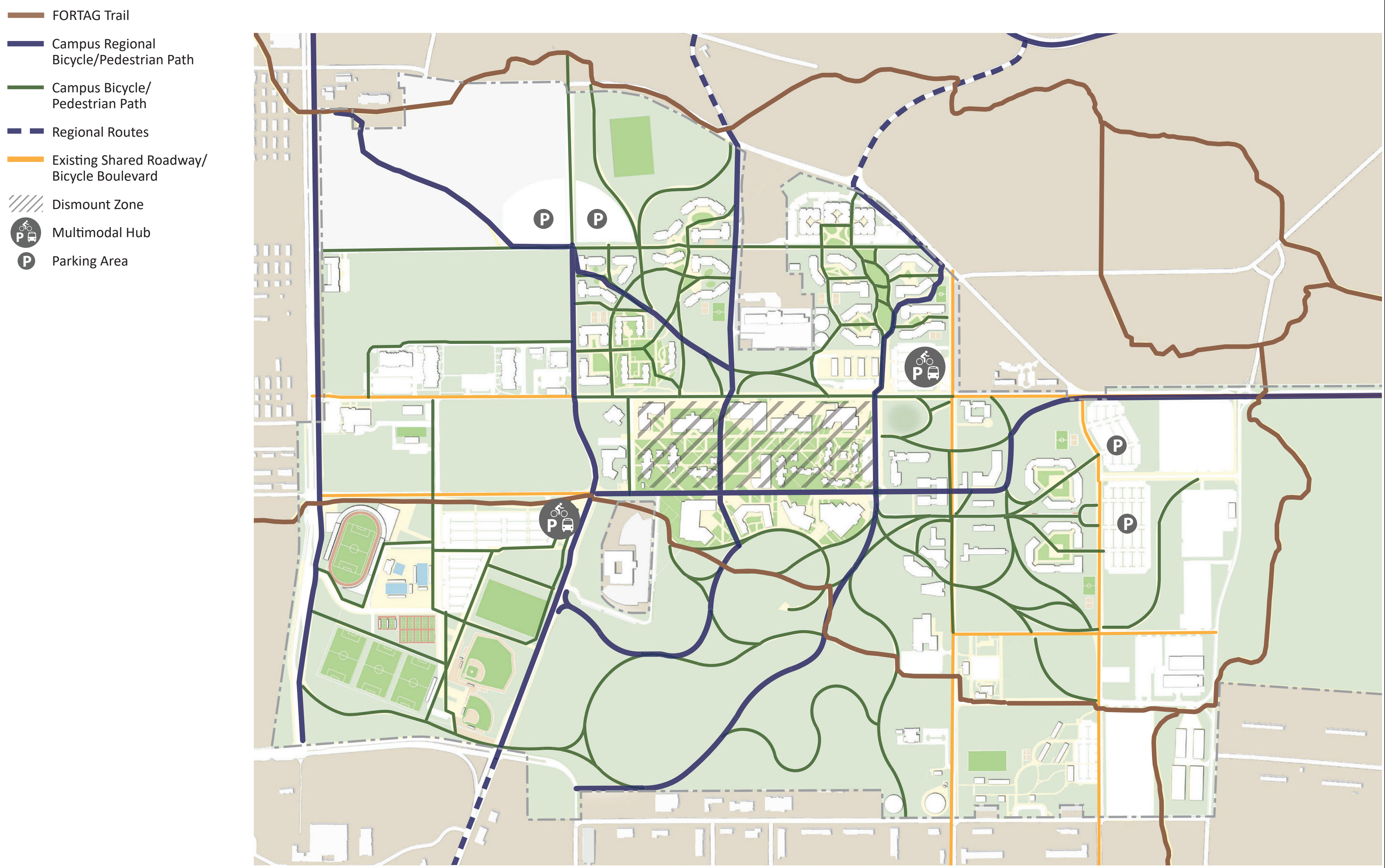

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FIGURE 3-11
Bicycle Circulation Plan

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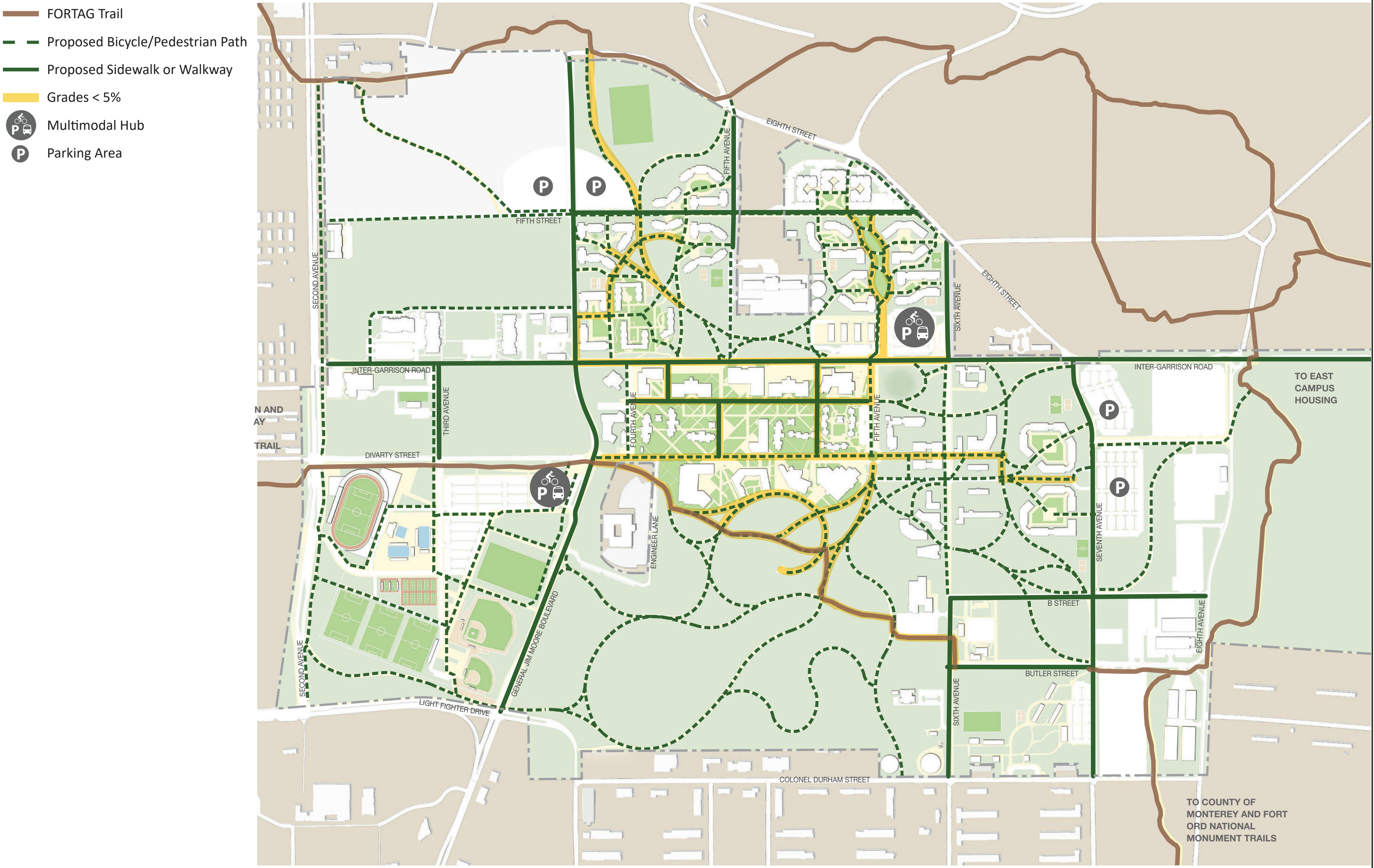

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FIGURE 3-12
Pedestrian Circulation Plan

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Project Design Features

Development Patterns Supporting an Effective Transportation System

PDF-MO-1: Faculty and Staff Housing. Move East Campus Housing student residents to the Main Campus, and reduce Community Housing Partner[22] residents in the East Campus Housing in order to accommodate housing for a minimum of 65 percent of faculty and staff. Continue to offer housing to staff and faculty at a minimum of 15 percent below market rate at units in Schoonover Park.

PDF-MO-2: Student Housing. Expand the Main Campus student housing to accommodate the existing East Campus Housing student residential population and to continue to house a minimum of 60 percent of FTES. Continue to require first and second year undergraduate students not residing in the tri-county area (Santa Cruz, San Benito and Monterey Counties) to live on campus. Require and provide housing for 90 percent of International Students to live on campus. These student housing requirements are specified in the CSUMB Student Housing and Parking Guidelines (see Appendix C).

PDF-MO-3: Mixed-Use Campus Development. To provide amenities that support and improve campus life and reduce vehicle travel off campus establish a mixture of uses in new and renovated residence halls, including but not limited to: multi-purpose classroom and social spaces, dining halls, convenience stores, mail services, housing staff offices and quiet study spaces.

PDF-MO-4: Mixture of Student Housing Types. Provide a mixture of bedroom and suite types across housing areas at a variety of rates. Accommodate a range of student types such as those with dependents, first year, returning students, residents, including traditional doubles, multiple occupant suites, student family apartments, accessible rooms, and live-in staff and faculty apartments.

PDF-MO-5: Compact Campus Core. Create a compact campus with increased density in the campus core to foster interaction and collaboration, reduce vehicle travel, and to create a vital campus community by implementing the following:

a. Establish future development sites in the campus core on existing parking lots or on low density building occupied sites when buildings are at the end of

[22] Community Housing Partners are made up of educational partners and military partners. Per the housing property conveyance to the CSU, CSU agreed to permit active duty military personnel, Department of Defense civilian employees and their families residing in on-campus housing units to remain until such time as 90 percent of the units are occupied by students and/or CSU employees and students and/or employees of other area institutions of higher education.

their useful life. Maintain a minimum floor area ratio (FAR) of 1.0 for the aggregate non-residential program, and 0.75 for the residential program.

b. Maintain the concentration of academic buildings within the campus core, allowing for pedestrian travel between buildings in under 10 minutes. Maintain student housing on Main Campus within a ten-minute walking radius of the campus core (see Figure 3-3).

Minimize Vehicle Travel and Greenhouse Gas Emissions

PDF-MO-6: TDM Plan. The campus will continue to implement, enhance, and expand TDM strategies to reduce single-occupant vehicle trips as part of a formal TDM Plan. The TDM Plan will include the following components:

a. TDM Strategies. Expand upon existing alternative transportation programs (carshare, universal transit pass, late night CSUMB-specific Monterey shuttle or shared ride credit, Otter Cycle Center, bike rentals, bike repair, guided bike tours, and bike counter programs) by using strategies taken from the CSU Transportation Demand Management (TDM) Manual (2012) and other best practices as a guide for project and program development.

b. Incentives Program. Establish and promote an incentives-based commuter program to encourage students, faculty and staff commuters to carpool and take active and transit modes of travel to campus.

c. Parking Management. Implement strategies and measures to reduce parking demand including the following:

- Consolidate academic and/or residential parking on the periphery of the campus and remove non-essential parking lots from the campus core per Figure 3-9. (See also PDF-MO-7 for information about multi-modal hubs.)
- Maintain the existing parking supply of approximately 4,720 parking spaces at the consolidated lots by implementing increased parking prices (i.e., no net increase in parking will be provided).
- Prohibit residential Freshmen and Sophomores from purchasing a parking permit, as specified in the CSUMB Student Housing and Parking Guidelines (Appendix C), to discourage Freshmen and Sophomores from using a car for travel.
- Limit purchase of multiple permits by one individual at one time to maintain the integrity of different permit types.

- Encourage transit and active transportation travel over single occupancy driving between East Campus Housing and the Main Campus.
- Expand Electrical Vehicle Charging (charging only) stalls in accordance with State regulations and CSU Executive Order direction, and equitably distribute locations across campus.
- Establish residential parking in proximity to new student residential development.
- Establish parking permit programs/restrictions and lot assignments that discourage movement of vehicles between campus parking locations (i.e., establish "park once" policy), Main and East Campus housing, and encourage active and transit modes of travel.
- Designate parking stalls in preferred locations for the promotion of carpooling, vanpooling, ridesharing and low and zero emission vehicles.
- Allow limited special parking stalls throughout campus to accommodate accessible and service vehicles, deliveries, loading and unloading activities.

d. Transit Services. Analyze unmet transit needs and expand transit services in collaboration with Monterey Salinas Transit and other local agencies as needed to provide the level of off-campus connections, inter-campus circulation and para-transportation identified in the TDM plan. (See also PDF-MO-12 through PDF-MO-16 for more information about transit services.)

e. Bicycle, Scooter and Pedestrian Improvements. Identify, prioritize, and design bicycle, scooter and pedestrian improvements using connecting landscape features where appropriate. Identify capital project improvements and prioritize for implementation. Implement improvements as part of nearby capital projects, where possible. Provide a maintenance plan that creates a system for maintaining pavement quality, signage, bicycle racks and painted markings. (See also PDF-MO-17 and PDF-MO-18 for more information about bicycle and pedestrian mobility.)

f. Monitoring. Conduct periodic campus-wide travel surveys to collect data on CSUMB student and faculty/staff transportation behavior, experiences, mode preferences, and mode shares.

g. TDM Program Administration. Expand and manage TDM services and programs. Establish new staff position(s) to coordinate TDM services and programs and encourage office administration roles to take on advocacy roles for these programs within their offices. Establish an annual budget for non-capital transportation facilities maintenance and upgrades, planning, and TDM programs.

PDF-MO-7: Multi-Modal Infrastructure. Expand the campus multi-modal transportation system infrastructure and programs. Establish two multimodal hubs, consistent with Figure 3-9, to provide centralized arrival points on campus from the four campus entries. The multimodal hubs will prioritize regional transit connections, shuttle service, carsharing, and visitors.

PDF-MO-8: Vehicle Restrictions. Establish restrictions to general vehicle travel through the campus core and locate vehicle circulation and parking on the campus periphery consistent with Figure 3-9. Establish consistent place-making roadway barriers, signs, special paving and landscaping to communicate restricted access roadway entrances. Eliminate the use of bollards, k-rails or industrial looking measures to restrict vehicle access. Maintain traffic speeds at safe levels for all road users and implement traffic calming measures where vehicle behavior routinely exceeds safe levels.

PDF-MO-9: Campus Entries. Create four major entries with signs which lead to two key arrival areas, including: Divarty Street and General Jim Moore Boulevard on the west side (Peninsula Gateway) and Inter-Garrison Road and Sixth Avenue on the east side (Valley Gateway) (see Figure 3-9).

PDF-MO-10: Wayfinding. Expand and maintain a comprehensive regional wayfinding sign sequence, in coordination with state and local agencies, from the primary campus entrances, to campus parking locations.

PDF-MO-11: Design Standards. Pursue universally accessible design throughout campus.

Promote Transit Mobility

PDF-MO-12: Access to Transit Services. Maintain free or discounted access to campus, local and regional transit services, free at the time of boarding on campus, for all students with an active Otter ID.

PDF-MO-13: Regional Connections. Maintain connections on regional transit from Main Campus to East Campus, surrounding cities, and regional urban centers.

PDF-MO-14: Expansion of On-Campus Services. Improve campus circulator shuttle via a new campus shuttle service and/or regional transit stops, on Main Campus, to provide service within one-quarter mile of all occupied buildings or high traffic programmed sites, and directly on site at multimodal hubs and general parking lots consistent with Figure 3-10. Timing for the development of this shuttle will be based on the TDM plan. Provide access to on-campus service within ¼ mile walk of campus of all occupied Main Campus buildings.

PDF-MO-15: Para-Transportation Service. Expand para-transportation services on campus. Maintain wheelchair accessibility on transit service through campus.

PDF-MO-16: Design Standards. At a minimum, maintain and design facilities serviced by transit to the standards developed by MST. Expand lighting and sheltered space with seating and posted service information at or within 100 feet of all transit fixed route stops. Expand wayfinding and live information for transit service at buildings with high pedestrian traffic.

Promote Pedestrian and Bicycle Mobility

PDF-MO-17: Bicycle/Scooter Mobility. Establish bicycle mobility as an important travel consideration, prioritized before internal vehicle travel, in campus development and programs by implementing the following:

a. Establish at least one form of bicycle route facility on or adjacent to all campus roadways consistent with Figure 3-11.

b. Maintain bicycle route facilities that connect to all local jurisdiction and regional bicycle route facilities consistent with Figure 3-11.

c. Expand bicycle connections from campus residential neighborhoods in the direction of commercial developments along the campus periphery.

d. Implement separated bicycle routes from regular vehicle travel lanes with physical buffers or develop separated paths as the preferred design alternative, where possible.

e. Establish bicycle and skateboard dismount zones in areas that experience regular heavy pedestrian traffic. Mark and sign consistently with the campus wayfinding plans/standards.

f. Expand and maintain both Class I (secure and covered facility) and Class II (standard outdoor rack) bicycle parking on site at every occupied building, and Class II bicycle parking at every outdoor event space, athletic venue, bus stop, and parking lot. Provide enough bicycle parking spaces to meet at a minimum LEED BD+C and or LEED ND standards. (See bicycle parking definitions in the Master Plan Guidelines.) Identify and develop scooter parking slow zones, prohibited zones and parking areas.

g. Expand pedestrian-scale lighting and wayfinding along all bicycle pathways.

h. Report and maintain a Bicycle Friendly University status from the League of American Bicycclists℠.

PDF-MO-18: Pedestrian Mobility. Establish pedestrian mobility as the primary travel consideration in campus development and programs by implementing the following:

a. Expand accessible pedestrian pathways at every bus stop, bicycle parking area and parking lot and connect to the closest appropriate building consistent with Figure 3-12.

b. Expand pedestrian connections from campus residential neighborhoods in the direction of commercial developments along the campus periphery.

c. Expand campus trails and pathway networks linking to surrounding destinations, including Marina, Seaside, regional transportation hubs, FORTAG, Fort Ord Dunes State Park, Fort Ord National Monument, the Presidio of Monterey, and Monterey County lands.

d. Expand and improve campus trails through natural open space areas with select amenities and trailhead signs at conveniently located entry points linked to popular campus pathways.

e. Maintain a paved pathway width for at least two people to walk side by side comfortably on roadside sidewalks and primary pedestrian paths. Minimum 8-foot width where possible.

f. Expand pedestrian-scale lighting, benches and wayfinding along all pedestrian pathways.

Avoid Construction Conflicts

PDF-MO-19: Construction Traffic Control Plan. When construction projects require significant work within existing roadways CSUMB will require the design team and/or the project contractor and their qualified registered Civil Engineer to implement a construction traffic control plan. This requirement will be incorporated into construction bid packages. The plans will conform with the current version of the State of California Department of Transportation Standard Specifications, where applicable, and will be reviewed and approved by CSUMB prior to implementation. The traffic control plan will include any detour plans and/or temporary traffic control devices warranted, per the current version of the California Manual on Uniform Traffic Controls Devices to provide for public safety, maintenance of access, temporary roadway closures, if needed, and construction-area signage. CSUMB shall inform emergency services, campus transportation and MST of any roadway or lane closures and alternative travel routes to ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures.

3.5.3.3 Water and Wastewater Systems

Overview

Water and Wastewater

The Master Plan Guidelines and PDFs below identify infrastructure improvements to serve campus growth. The Marina Coast Water District (MCWD) provides potable water and wastewater collection services to the campus and owns and maintains the infrastructure, including replacement of water and sewer lines that have reached the end of their useful lives through standard rates and charges. The MCWD serves the former Fort Ord including the University through a campus-wide system separated into three interconnected pressure zones designated Zones B-D based on elevation. The existing water distribution infrastructure is generally adequate to service proposed improvements and associated population growth. All new buildings would require water delivery pipeline connections to be extended or constructed from existing mains or from the existing service loops within the development areas. Many existing pipelines and smaller loops run through proposed development areas, which may require demolition or reconfiguration to meet the final development pattern. Whether relocation of these lines is necessary will be addressed during detailed site design of individual projects.

The MCWD sewer collection network includes off-site generated flows that are routed through the campus and on-site generated flows, both of which route through two primary collectors on campus, Collectors "H" and "N," before connecting into a regional interceptor sewer. The existing sanitary sewer collection infrastructure is sufficient for the proposed improvements included in the Project (Whitson Engineers 2019 and 2020). Existing pipelines and smaller laterals that run through proposed development areas may require demolition or relocation to service the final building layouts, and relocation may be necessary dependent upon detailed site design conducted in connection with the individual projects.

The campus has been allocated 1,035-acre feet per year (AFY) of potable water and contracted for 87 AFY of recycled water from MCWD for landscape irrigation and has been installing recycled-water irrigation connections where appropriate.

Storm Water

From a regulatory standpoint, CSUMB is located within the district of the Central Coast Regional Water Quality Control Board (Region 3) of California. Region 3 requires stormwater retention on site with infiltration as the preferred best management practice (BMP). The CSUMB Stormwater Master Plan specifies that campus redevelopment will infiltrate on site 100 percent of runoff from a hundred-year storm (Schaaf & Wheeler 2006). This requirement is being implemented as new construction projects are implemented. For example, recent campus developments have included on-site infiltration facilities, which have employed low impact development (LID)[23] approaches, as well as more conventional infiltration basins. The Master Plan Guidelines and PDFs below provide BMPs to implement the above requirement as development and redevelopment of the campus proceeds. The localized building-scale drainage network would feed into a larger campus-scale drainage network, where needed, to handle overflows from large storm events.

Project Design Features

Conserve Water and Promote Resiliency

PDF-W-1: Water Supply. Pursue development within the campus's water allocation,[24] or campus-generated supply by implementing the following:

a. Establish and implement indoor and outdoor water use thresholds below CalGreen Building Code standards for new development.

b. Establish internal water modeling for each capital project during the feasibility phase.

c. Establish potable water conservation projects in high water demand areas first, such as residential housing and sports facilities.

d. Retrofit high-using campus water fixtures with low-flow toilets and urinals.

e. Pursue reduced cooling demand and implement a district scale heat recovery chilling system to reduce the water needs of cooling towers.

f. Study expansion of non-potable water use to meet non-potable water demands in areas such as new projects, landscaping, toilet flushing, and industrial uses. Establish strategies for expanding methods of irrigating with recycled water supplies, including greywater, stormwater, and reclaimed water from either an outside supplier or self-production.

g. Work with partner agencies, such as MCWD, to achieve fiscally responsible water conservation measures.

h. Pursue aggressive water conservation and evaluate campus generated water supply possibilities on an ongoing basis to remain within the campus water allocation.

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23 The term low impact development (LID) refers to systems and practices that protect water quality and associated aquatic habitat by using or mimicking natural processes in the infiltration, evapotranspiration, or use of stormwater. The implementation of LID techniques can greatly improve the quality of stormwater runoff, restore the infiltration of water to the aquifer, eliminate costs associated with conventional drainage systems, and reduce development impacts such as erosion and flooding.

24 The campus has been allocated 1,035-acre feet per year (AFY) of potable water and contracted for 87 AFY of recycled water from MCWD for landscape irrigation.

i. Maintain an active role in planning regional potable and reclaimed water supplies. If regional water augmentation efforts are infeasible or supply cannot meet campus needs, study the establishment of an on-site water recycling facility, with a corresponding CSUMB-owned collection network.

Promote Low Impact Design Approach to Stormwater Management

PDF-W-2: Low-Impact Development (LID) Approach. Establish all landscapes as self-retaining stormwater management areas by using campus and building scale LID systems to maximize infiltration or retention for irrigation, and minimize stormwater runoff volumes into existing and larger campus-scale drain systems. This will be accomplished by implementing the following:

a. Maximize use of building-scale LID design features to protect water quality such as green roofs, rain gardens, swales, stormwater harvesting, infiltration trenches and pervious paving.

b. Maximize use of campus-scale LID design features to protect water quality such as porous paving, green streets, recreation fields, swales and basins.

c. Infiltrate all storm water runoff within campus boundaries or easements.

d. Develop standards for pervious pavement and pavement draining to natural areas as well as maintenance programs to support alternatives to concrete for pathways and outdoor gathering spaces.

e. Conduct project-specific drainage analysis and/or consistency analysis during the design of individual developments to demonstrate that all criteria of the CSUMB Stormwater Master Plan are met. Incorporate the above LID features, as needed, into the design of each development project to ensure these criteria are met.

PDF-W-3: Storm Water Quality - Implement a regular storm water maintenance program to protect water quality and follow best management practices, including but not limited to the following:

a. Minimize use of pesticides and quick release fertilizers and use principles of integrated pest management. Do not use such materials in or near storm water facilities.

b. Employ non-chemical controls (biological, physical and cultural controls) before using chemicals to treat a pest problem.

c. Maintain compliance with existing standards for special handling, removal, and disposal of hazardous materials to an approved location during any improvements to water supply and distribution systems when undertaken by the University, or by others on University Property.

3.5.3.4 Energy Systems and GHG Reduction

Overview

Under Executive Order 987 (June 2007), CSU established a policy addressing energy conservation, sustainable building practices, and physical plant management. The Second Nature Climate Commitment, signed by the campus in 2007 and reaffirmed in 2016, requires development of a climate action plan setting a date for achieving carbon neutrality. The CSUMB 2013 Climate Action Plan, developed as a guidance document in response to this commitment, established a carbon neutrality target year of 2030 for a campus of 8,500 FTES (CSUMB 2013). In 2020, CSUMB updated and replaced the 2013 Climate Action Plan with the 2020 Campus Sustainability Plan, which includes the Carbon Neutrality Roadmap as a technical appendix (CSUMB 2020).

The Master Plan Guidelines and PDFs also seek to reduce demand for energy through energy-efficient design of new buildings, use of efficient technologies, and developing campus energy supply and distribution systems that enable the campus to meet its carbon neutrality goal by 2030, as the population and campus building square footage increases.

Project Design Features

Achieving Carbon Neutrality and Designing for Energy Efficiency

PDF-E-1: Carbon Neutrality. Achieve carbon neutrality for scope 1&2[25] emissions, per the Carbon Neutrality Roadmap (CSUMB 2020), and strive to approach net positive energy[26] by implementing the following:

a. Pursue limiting use of natural gas to only lab space and select food preparation areas, and sourcing heating needs instead from renewable or electric sources. (This could be achieved through Central Plant Expansion & Heat Pump Conversion Project identified in the Carbon Neutrality Roadmap.)

b. Establish targeted applications for alternative energy sourcing when resources permit. If additional solar generation is developed, one priority application involves panel arrays as shade structures over parking lots, bus and bike shelters and walkways. For example, add solar on top of Seventh Avenue parking lot.

[25] Scope 1 carbon emissions are directly from fuel burned on campus (primarily natural gas for heating) or in university-owned vehicles. Scope 2 carbon emissions are associated with energy purchased by CSUMB and generated elsewhere, primarily grid electricity used on campus (CSUMB 2020).

[26] A net-positive energy building produces more energy than it consumes. These types of buildings may consume energy from electric utilities, but the energy they export to the energy grid equals or exceeds their consumption.

c. Establish the baseline embodied carbon footprint of each new development during the CSU Feasibility Study phase of a project and develop strategies for reducing this footprint and funding any additional associated costs as part of the Project.

d. Pursue multiple financing strategies for infrastructure and building improvements.

e. Pursue purchasing strategies for greenhouse gas emission offsets or other measures, if deemed necessary to close any remaining gaps at the end of the timeline to reach the 2030 carbon neutrality goal. If the purchase of renewable energy offsets is pursued, consider offsets from a certified green-e source.

f. Pursue potential participation in a CSU system Community Choice Aggregation (CCA) program[27], as an energy procurement option and as a vehicle for net positive energy, if this option can enhance campus-based strategies.

g. Explore public-private partnerships to fund renewable energy infrastructure.

h. Create a renewable energy strategic plan to align growth, phasing, and infrastructure investment.

i. Pursue low-emission or alternative fuel vehicles, when vehicle type allows, for campus service, department and program support fleet vehicles.

PDF-E-2: Design for Energy Efficiency. Design and retrofit infrastructure and buildings to minimize energy use by implementing the following:

a. Establish district-scale on-site energy production and distribution strategies rather than building by building.

b. Study expansion of the district-scale electrical, chilled and hot water distribution, to serve building heating and cooling needs.

c. Achieve a minimum 15 percent energy performance improvement target goal over current Title 24 code in new construction.

d. Achieve a minimum 5 percent energy performance improvement target goal over 2016-17 usage in existing facilities in aggregate.

e. Establish passive heating and cooling and thermal-mass building designs to reduce reliance on HVAC and ultimately to reduce required HVAC capacity.

[27] A Community Choice Aggregation program is an alternative to the investor-owned utility energy supply system in which local entities aggregate the buying power of individual customers within a defined jurisdiction in order to secure alternative energy supply.

f. Establish standards for campus-scale energy conversion systems by cost, performance, and the extent to which they can meet the campus carbon neutrality and net zero energy goals.

g. CSUMB shall design and build all new buildings and major renovations to meet minimum requirements equivalent to LEED “Silver," while aiming for the highest green building energy standards possible, which includes designing systems to meet LEED Platinum or equivalent, or net zero energy (on a campus wide basis).

Manage Energy Supply and Promote Resiliency

PDF-E-3: Manage Energy Supply. Meet future demand for energy in a safe, reliable, and cost-effective manner by implementing the following:

a. Maintain and perform regular energy efficiency upgrades to reduce energy use and maintain system resilience.

b. Recommission major buildings every five years, as funding is available.

c. Establish energy system efficiency retrofit projects with the assistance of the UC/CSU Energy Efficiency Partnership and programs like Savings by Design or other energy incentive programs.

d. Establish funding mechanisms and replacement and rehabilitation thresholds for existing energy systems as they near the end of their usable life.

PDF-E-4: Promote Resiliency. Expand or improve systems to be resilient to extreme weather or natural disasters and provide undisrupted service. Move overhead power lines underground and encourage Pacific, Gas & Electric to do the same with their overhead power lines on campus. Develop additional loop systems and points of supply to provide redundancy and reliability.

3.5.3.5 Design Themes and Special Area Plans

Overview

Two types of design themes are presented in the Master Plan Guidelines: architectural design themes, and landscape design themes. These architectural design themes articulate an architectural vocabulary that will result in a distinctive character for the CSUMB campus. The existing campus is a diverse mix of different building styles. While many of the former military buildings will remain for some time, the newly constructed buildings have embraced the opportunity to establish a design vocabulary more appropriate to a university campus - a vocabulary that reflects the three tenets of sustainability: placemaking, stewardship, and partnership. While there is a natural desire to promote consistency among campus buildings by providing a basic level of similarity among them, these architectural design themes allow greater freedom of architectural expression and visual distinction where it is appropriate, especially for special use or landmark buildings. Building design recommendations relate to building siting; orientation; massing; materials; efficiency related to energy, water, waste and access; and service and loading areas. The landscape themes are provided in the Master Plan Guidelines for each open space type described previously.

The architectural and landscape themes are to be applied to the six special area plans presented in the Master Plan Guidelines – Main Quad, Divarty Pedestrian Mall, Inter-Garrison Road, Crescent, Sustainability Commons, and the Athletics and Recreation District. The special area plans include a description of the design intent and accompanying design strategies for each area. The plans provide graphic recommendations for features such as paving, landscaping, tree placement, open space areas, and orientation of buildings with cross sections. Each of the special area plans is summarized below:

- **Main Quad –** The Main Quad would be redesigned to be a series of outdoor "rooms" rather than one large open space. New buildings constructed on existing parking lots would increase density in the campus core and help to frame the Main Quad spaces and create entry plazas and building courtyards. Plantings, paving and seating areas would be used to define the area and provide wind protection.
- **Divarty Pedestrian Mall –** Divarty Mall from General Jim Moore Boulevard to Sixth Avenue would be a central spine of the campus in which vehicular access would be limited to shuttle, service and emergency vehicles to create a safe and comfortable corridor for pedestrians and bicyclists and to provide student gathering spaces. New buildings would be sited to face Divarty and would frame the street by minimizing setbacks where possible. Mall improvements would include consistent planting, lighting and seating. Open spaces on the north side of Divarty Mall would become gathering spaces that extend the Mall. Flush curbs, landscaping and special paving would set it apart as a pedestrian mall.
- **Inter-Garrison Road –** Inter-Garrison Road would become a pedestrian- and bicycle-oriented corridor between General Jim Moore Boulevard and Fifth Avenue to improve the safety of students navigating the campus and to prevent regional cut-through traffic. Vehicular access would be limited to regional buses, campus shuttles, and service authorized and emergency vehicles. Streetscape and landscape improvements would enliven the corridor and contribute to a stronger sense of place. Buildings on the south side of Inter-Garrison Road would have entries onto the street. Consistent street improvements, such as wide sidewalks, street trees, pedestrian lighting, and crosswalks, would be included.

- **Crescent –** The Crescent currently forms an open space between the academic buildings along Divarty Mall and the Southern Oak Woodland natural area. The Crescent currently consists of a paved walkway with pedestrian lighting and a row of trees on either side. The northern section of the Southern Oak Woodland that abuts the Crescent would be enhanced with additional planting and seating options, as part of the Project. A new amphitheater for outdoor performances would be added to the Meadow for performances, outdoor classrooms, student meetings, socializing and studying.
- **Sustainability Commons –** The Sustainability Commons would be an art, education, and community-building center focused on healthy living, nutrition, sustainable and ecological design, art, and community service. The Sustainability Commons landscape could include garden-based demonstration areas, community gardens, sustainable agriculture plots, watershed management demonstration areas, outdoor kitchen and dining areas, locations to conduct research, and places for gathering.
- **Athletics and Recreation Area –** The athletics and recreation area would be organized around a central plaza, and as previously indicated, a new plaza is planned adjacent to the new stadium, providing a space for pre-game and other events. A multi-use space just south of the plaza would be available for pick-up games or other events and could be used in conjunction with the plaza for large events. A special area plan for the athletics and recreation area is included in the Master Plan Guidelines to guide the development of this area. This plan provides a possible layout for the facilities proposed in this area, including the new stadium and fieldhouse, retail, fields, pools, plazas, and multi-modal hub. The street-fronting facilities along the campus edge on Second Avenue would create a comfortable, safe and attractive environment for pedestrians and bicyclists. The two campus entries/gateways at Second Avenue and Divarty Street and at General Jim Moore Boulevard and Lightfighter Drive would be marked with gateway signage and landscaping. The new stadium would also help define the gateway at Second Avenue. The southern edge of the campus along Lightfighter Drive and Second Avenue would continue to be a forested area of mature trees. Stormwater management areas would be located along Second Avenue and throughout the site.

The PDFs below incorporate the key design elements relevant to the environmental impact analysis. The campus intends to implement all of the design guidelines contained in the Design Themes section of the Master Plan Guidelines as projects proceed, and eventually to include them in more detailed design standard documents.

Project Design Features

PDF-D-1: Building and Design Guidelines. The campus and/or Institutional Partners will implement the Design Themes and associated design concepts included in the

Master Plan Guidelines as all building and landscape projects are pursued. Additionally, FORA RUDG will be voluntarily complied with in all future improvements along the campus edges.

PDF-D-2: Design Review. Establish a Design Review Committee (DRC) on campus to review project architectural and stylistic consistency and contribution to the campus.

PDF-D-3: Building Height Limits. Within the campus core, new buildings would not exceed the existing Library's elevation above mean sea level (approximately 310 feet above sea level). Outside of the campus core, new buildings would not exceed 5 stories.

PDF-D-4: Accessibility. Expand wayfinding cues for sight and mobility impaired pedestrians. Establish interior design standards for supplemental accessible design elements, such as automatic door push plates.

PDF-D-5: Safety. Maintain lines of sight and incorporate crime prevention design principles into formal open spaces for safety and ease of surveillance.

PDF-D-6: Waste Collection. Centralize, conceal, color code and sign waste collection across several buildings to reduce pick-up locations and cost. Dumpsters should not be seen by pedestrians or building occupants.

PDF-D-7: Lighting. Aim to meet Neighborhood Development (LEED ND) light pollution reduction requirements in all new building and pathway development. Lighting power density will adhere to Title 24 maximums. New lighting at the replacement stadium shall use LED lights, reflectors, visors, shields and customized optics and technology to precisely aim and illuminate the field.

PDF-D-8: Noise. During the design phase of new buildings CSUMB, or its designee will prepare an acoustical study(s) of exterior proposed sound emissions generated from new stationary noise sources (outdoor-exposed HVAC systems, testing of emergency generators, etc.) that are to be located near existing sensitive receptor locations, including such receptor locations within 150 feet of new stationary noise sources. The study will inform measures to reduce noise to acceptable levels for nearby sensitive receptors. Additionally, the acoustical study(s) will determine the need for sound insulation within new buildings with noise-sensitive occupants (e.g., residences, classrooms) to ensure that exterior-to-interior noise intrusion from traffic or operation of stationary sources does not cause interior background sound levels of habitable spaces to exceed 45 dBA CNEL. Best engineering practices will be implemented in the design and selection of these systems and their noise-producing components, as well as means for noise control or sound abatement that would be expected to reduce noise from such stationary sources to comply with applicable standards at existing sensitive receptor locations.

PDF-D-9: Signage. Establish ecological, sustainable and historical interpretive signage within the natural open space and connecting landscape and near, and as part of, new pathway development. Highlight and educate users about the natural and cultural heritage of CSUMB property. Prohibit large advertising signs on campus, except those that may be associated with bus shelters.

PDF-D-10: Special Area Plans. The campus will pursue implementation of the special area plans included in the Master Plan Guidelines for the Main Quad, Divarty Pedestrian Mall, Inter-Garrison Road, the Crescent, Sustainability Commons and the Athletics and Recreation District.

PDF-D-11: Emerging Living Community. To the extent feasible, maintain status of an "emerging living community" as defined by "Living Community Challenge Plan," and described in the Master Plan Guidelines and the Living Community Challenge Vision Plan.[28]

3.6 NEAR-TERM DEVELOPMENT COMPONENTS

In addition to providing a framework for the development of facilities to accommodate the proposed student, faculty and staff growth, the Project includes several specific development components expected to be constructed in the next 10 years that are referred to as "near-term development components." These development components are included within Horizon 1 (see Table 3-3). A description of each development component is provided below, including anticipated year of construction; site locations are shown on Figures 3-13 and 3-14A through 3-14D. Proposed near-term development components could take place anywhere within the site boundaries, which include potential staging areas. The location of the staging areas within each site is provided as an example of where staging could occur but precise information about staging locations within the site boundaries are not definitive at this time. Approximate site acreage below includes the potential staging areas.

28 The Living Community Challenge is a framework for master planning, design, and construction and a tool to create a symbiotic relationship between people and all aspects of the built environment that was developed by the International Living Future Institute and strives to create a "socially just, culturally rich, and ecologically restorative" community.

Numbers

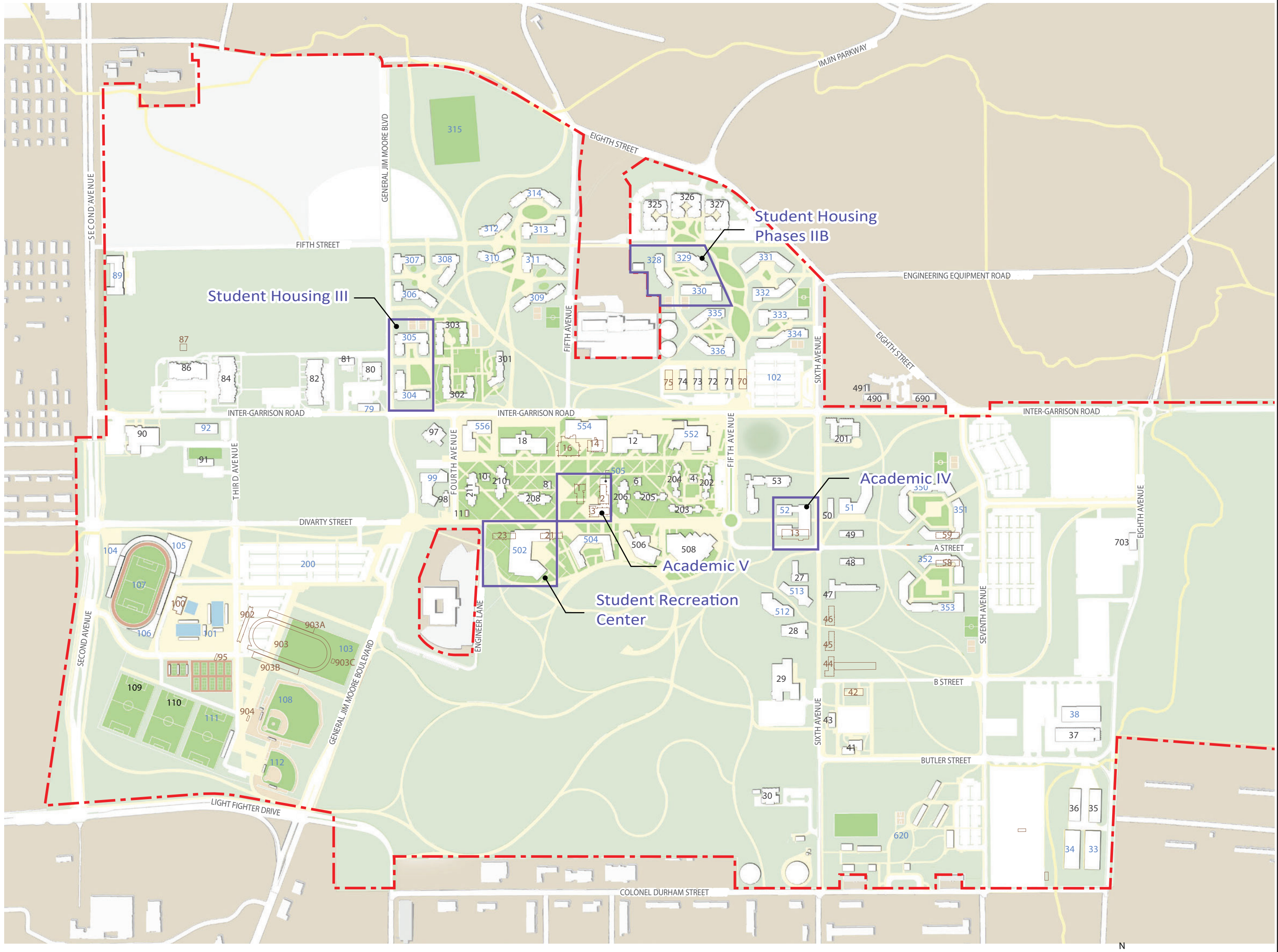
10X Existing Buildings Removed

10X Existing Buildings to Remain

10X Proposed Buildings

Existing Buildings Removed

Near-Term Projects



SOURCE: Page / BMS Design Group (2017)

DUDEK

FIGURE 3-13

Near-Term Development Component Sites

CSU Monterey Bay Master Plan EIR

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SOURCE: USDA NAIP (2016)

FIGURE 3-14A

Near-Term Development Component Site Boundaries

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CSU Monterey Bay Master Plan EIR

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SOURCE: USDA NAIP (2016)

DUDEK

FIGURE 3-14B

Near-Term Development Component Site Boundaries

CSU Monterey Bay Master Plan EIR

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SOURCE: USDA NAIP (2016)

DUDEK

FIGURE 3-14C

Near-Term Development Component Site Boundaries

CSU Monterey Bay Master Plan EIR

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DUDEK

SOURCE: USDA NAIP (2016)

FIGURE 3-14D

Near-Term Development Component Site Boundaries

CSU Monterey Bay Master Plan EIR

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3.6.1 Student Housing Phase III

Student Housing Phase III would provide an approximately 200,000-square-foot residential building complex with 600 beds on an approximately 6.4-acre site in the North Quad on an existing parking lot. The planned four-story buildings would provide a range of housing types. At least one apartment in each building would be dedicated to CSUMB Housing staff/student staff space.

Amenities would include: multi-purpose rooms and AV-connected classroom space,[29] laundry, indoor bike parking, lounges/communal rooms, half courts outside (basketball and/or sand volleyball), picnic tables, urban agriculture/garden, outdoor social spaces, art, and connections to pedestrian/bicycle paths and trails. An approximately 7,600-square-foot dining facility would be located on the ground floor.

New utility connections to adjacent services would be installed with this development. Additionally, appropriate building/site scale LID BMPs would be implemented. Construction staging would occur north of the North Quad in existing paved areas.

3.6.2 Academic IV

Academic IV would provide an approximately 95,000-square-foot science building devoted to laboratory, lecture, and office space located in the campus core on an approximately 4.0-acre site. The building would be up to four stories and would include an on-site emergency generator. Future construction would require demolition of existing Building 13 (Science Research Lab Annex) and portions of parking lot areas13 and 19. The development would include construction of a pedestrian/bike path north of existing Building 53 (Chapman Science Academic Center) for improved connectivity to the multimodal hub and parking to the east.

New utility connections to adjacent services would be installed with this development. Additionally, appropriate building/site scale LID BMPs would be implemented. Construction and staging would likely use parking lots 13 and 19 and/or close A Street between Fifth Avenue and Sixth Avenue.

3.6.3 Student Recreation Center Phases I and II

The approximately 70,000-square-foot Student Recreation Center would be located on an approximately 8.5-acre site south of the Main Quad and Divarty Street and includes demolition of Building 21 (Beach Hall) and Building 23 (Tide Hall), and portions of parking lots 23 and 508. This facility would primarily house recreation (potentially up to 75 percent) and the remaining space allocated to the Kinesiology department. Kinesiology has demonstrated steady growth in the last 5 years and lacks appropriate teaching spaces to support the curriculum.

The building would be up to two stories and would be constructed in two phases (Phase I – 2021, approximately 33,000 square feet; Phase II – 2026, approximately 36,000 square feet). The building

[29] Multipurpose space could be used as classroom space during the day and for housing programs at other times.

would include multi-use indoor courts (for uses such as intramural basketball, soccer and volleyball), including bleachers/seating, weight room (free weights and machines), a climbing wall, fitness rooms, cardio-dance studios indoor, lockers and restrooms, laundry rooms, equipment check out area, storage, Kinesiology department special instruction rooms, Kinesiology department faculty office, administrative office space and conference room, and outdoor court areas. Only intramural sports would occur in the Recreation Center, not indoor athletic team competitions.

New utility connections to adjacent services would be installed with this development. Additionally, appropriate building/site scale LID BMPs would be implemented. Construction staging would take place south of the building site and within the Crescent in previously disturbed open space areas with little or no habitat value.

3.6.4 Student Housing Phase IIB

Student Housing Phase IIB would provide an approximately 160,000-square-foot, student residential building complex south of the Promontory on a vacant paved lot approximately 7.2-acres in size. The planned four-story buildings would provide approximately 400 beds in apartments or suites for sophomores, juniors, and seniors. At least one apartment in each building would be dedicated to CSUMB Housing staff/student staff space. Planned amenities include laundry, indoor bike parking, lounges/communal rooms, half courts outside (basketball or sand volleyball), picnic tables, urban agriculture/garden, outdoor social spaces, art, and connections to pedestrian/bicycle paths and nature. A convenience store would be included.

New utility connections to adjacent services would be installed with this development. Additionally, appropriate building/site scale LID BMPs would be implemented. Construction staging is planned just east of the building in already paved areas.

3.6.5 Academic V

Academic V would provide an approximately 76,700-square-foot academic building on an approximately 2.7-acre site in the Main Quad and includes demolition of existing Buildings 1, 2, and 3 (Administration, Playa, and Del Mar buildings) and parking lot 18. The development would involve temporary relocation of the administration offices until the new Administration Building, another new building identified on the proposed Master Plan, is constructed. The building would support academic uses, i.e., learning and meeting spaces. The building would be up to four stories.

New utility connections to adjacent services would be installed with this development. Appropriate building/site scale LID BMPs would also be implemented. Construction staging would be conducted within the site boundaries on the Main Quad, and if necessary, in previously disturbed open space areas south of the Crescent.

3.7 DEMOLITION AND CONSTRUCTION

Construction would be performed by qualified contractors. Plans, specifications and construction contracts would incorporate stipulations regarding standard California State University requirements and acceptable construction practices, including evaluation and abatement of hazardous building materials or site conditions per regulatory requirements and best building practices prior to demolition, grading and demolition, safety measures, vehicle operation and maintenance, excavation stability, erosion control, drainage alteration, groundwater disposal, traffic circulation, public safety, dust control, and noise generation. Demolition of existing buildings and/or parking lots would take place where required to accommodate proposed development. Existing buildings subject to demolition are identified in Table 3-4.

3.8 PROJECT APPROVALS AND INTENDED USES OF EIR

As indicated in Chapter 1, Introduction, this EIR is an informational document for both agency decision-makers and the public and will be used by the CSU Board of Trustees to evaluate the potential environmental impacts of the Project. The CSU Board of Trustees is the lead agency responsible for certification of this EIR as adequate under CEQA and the related approval of the proposed Master Plan. This EIR could also be relied upon by state or federal responsible agencies with permitting or approval authority over any project-specific action to be implemented in connection with the Project.

This EIR provides program-level analysis of the proposed Master Plan as well as project-level analysis of five proposed near-term development components and may be used in the future evaluation of individual Master Plan projects. As individual Master Plan projects analyzed at a program level in this EIR are proposed for implementation, additional environmental review will be conducted to the extent required by CEQA. Any required additional review would occur subsequent to the Trustees' approval of the proposed Master Plan and certification of this proposed Master Plan EIR, at the time such projects are advanced by CSUMB for design and construction planning. See Section 2, Introduction, for additional information about when additional environmental review is required. The CSUMB campus is governed by the CSU Board of Trustees, which is the State of California acting in its higher education capacity. Under applicable law, the CSU alone is responsible for governance of its property (see Cal. Ed. Code §§ 84030 and 84031). As such, while CSU strives to work with local governments and develop its campuses in a manner compatible with local planning objectives where feasible, CSU, as an entity of the State of California, is not subject to local permitting or planning requirements or regulations.

The Fort Ord Reuse Authority Act (the Act) was implemented to facilitate the transfer and reuse of the Fort Ord military base, and established FORA as the entity responsible for planning, financing, and carrying out the transfer and reuse of the base in a cooperative, coordinated, balanced, and decisive manner (Cal. Gov. Code § 67650 *et seq.)*. Pursuant to the Act, FORA has completed its work as of June 30, 2020 and has now been dissolved. The Act specifically states that it shall not be construed to limit the rights of the CSU to acquire, hold, and use its real property at the former Ford Ord, including locating or developing educationally related or research-oriented facilities on the property (see Cal. Gov. Code § 67678(e) and (f)).

Future developments under the proposed Master Plan would be reviewed and approved by the CSU Board of Trustees. Other potential approvals, including responsible agency[30] approvals, if legally applicable, for subsequent developments being implemented under the proposed Master Plan are listed in Table 3-7.

Table 3-7
Proposed Master Plan and Related Approvals

Applicable Jurisdiction or Agency	Compliance, Approval or Permit	Responsible Agency ✓
MASTER PLAN		
Board of Trustees of the California State University	Final EIR	
	CSUMB Proposed Master Plan	
INDIVIDUAL DEVELOPMENTS UNDER THE MASTER PLAN		
Board of Trustees of the California State University	Amendment to the Capital Outlay Program, as necessary	
	Schematic Plans and other related actions and approvals, as necessary.	
Division of the State Architect	Accessibility Compliance	
State Fire Marshal	Facility Fire and Life Safety Compliance	
U.S. Fish and Wildlife Service	Endangered Species Act Incidental Take Permit - Required if federally listed species would be taken	
California Department of Fish and Wildlife	California Endangered Species Act Incidental Take Permit – Required if state listed species would be taken	✓
	Fish and Game Code Section 1600 Streambed Alteration Agreement - Required if streambeds, waterways or riparian habitat would be affected	
U.S. Army Corps of Engineers	Clean Water Act Section 404 Fill permit – Required if jurisdictional wetlands would be filled	
Regional Water Quality Control Board	National Pollutant Discharge Elimination System Permit (NPDES) -Storm Water Pollution Prevention Plan (SWPPP) and Notice of Intent to Comply with NPDES Construction Permit	
	Clean Water Act Section 401 Water Quality Certification - Required if jurisdictional wetlands would be filled	✓

30 A responsible agency complies with CEQA by considering the EIR or negative declaration prepared by the lead agency and by reaching its own conclusions on whether and how to approve the subject permit or approval.

Table 3-7
Proposed Master Plan and Related Approvals

Applicable Jurisdiction or Agency	Compliance, Approval or Permit	Responsible Agency ✓
Monterey Bay Air Resources District	Authority to Construct and/or Permits to Operate for stationary sources (e.g., generators) Hazardous Materials Removal and Asbestos Demolition	✓
Cities of Marina and Seaside; County of Monterey	Encroachment permits for projects involving construction in City or County road rights-of-way	
Marina Coast Water District	New water and sewer connections/services/encroachment to serve new buildings	

3.9 REFERENCES

California Government Code and Education Code.

California State University. 2016-2017a. Total Headcount Enrollment by Term, 2016-2017 College Year.

California State University. 2016-2017b. Total Full-Time Equivalent Students (FTES) by Term, 2016-2017 College Year.

California State University Monterey Bay (CSUMB). 2013. *Climate Action Plan 2013*.

CSUMB. 2020. *Campus Sustainability Plan 2020*. (Includes Carbon Neutrality Roadmap as a technical appendix.)

CSUMB. 2022. California State University, Monterey Bay Housing Guidelines. February 2022.

Denise Duffy & Associates (DDA). 2021. Final Initial Study/Mitigated Negative Declaration for the Freeman Stadium Facilities Renovation Project (SCH# 2021070153). September.

Fort Ord Reuse Authority (FORA). 2016. Regional Urban Design Guidelines. Adopted by FORA June 10, 2016.

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Panetta Institute for Public Policy. 2016. Phase 1 – Site Analysis and Feasibility Study. November 2016.

Schaaf & Wheeler. 2006. California State University Monterey Bay Stormwater Master Plan. February 2006.

Whitson Engineers. 2019. Sanitary Sewer Capacity Analysis, California State University Monterey Bay Main Campus. May 2019.

Whitson Engineers. 2020. Addendum Sanitary Sewer Capacity Analysis, California State University Monterey Bay Main Campus. May 2020.

CHAPTER 4
ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

4.0 INTRODUCTION TO ANALYSIS

This section of the Draft Environmental Impact Report (Draft EIR) presents potential environmental impacts of the Project. The scope of the analysis and key attributes of the analytical approach are presented below to assist readers in understanding the manner in which the impact analyses have been conducted in this EIR.

4.0.1 Scope of the Environmental Impact Analysis

The proposed Master Plan would guide the physical development of the campus. Approval of the Project does not constitute a commitment to any specific project, construction schedule, or funding priority. As individual Master Plan projects are proposed for implementation, additional CEQA review, including additional project detail and site- and condition-specific analysis, may be needed depending on the circumstances of each project. Each development embarked on by California State University Monterey Bay (CSUMB) during the lifespan of the Project would be individually reviewed and, if warranted, approved by the California State University Board of Trustees (Board of Trustees). This Draft EIR provides a program-level environmental assessment, which evaluates the environmental effects of the Project and focuses on the full development of the campus, as contemplated by the Project. Additionally, the five near-term development components that are expected to be developed within the next ten years are evaluated at a project-specific level.

Based on the Notice of Preparation (NOP) and the Revision to Previously Issued NOP scoping processes, as described in Chapter 1, Introduction, this EIR addresses the following topics in detail:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Geology, Soils and Paleontology
- Greenhouse Gas Emissions
- Hazards, Hazardous Materials, and Wildfire
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities and Energy

As potential impacts related to Agricultural and Forestry Resources and Mineral Resources are not likely to be significant under the California Environmental Quality Act (CEQA) and CEQA Guidelines (Cal. Pub. Resources Code, § 21000 *et seq.*; Cal. Code Regs. tit. 14, § 15000 *et seq.*), they are not addressed in this EIR.

4.0.2 Definition of Baseline or Existing Conditions

An EIR must include a description of the existing physical environmental conditions in the vicinity of the Project to provide the "baseline physical conditions" against which project-related changes can be compared. Normally, the baseline condition is the physical condition that exists when the NOP is published (Cal. Code Regs. tit. 14, § 15125). The original NOP for the Project was published on May 12, 2017.

Academic year 2016-2017 is used in the EIR as the basis for evaluating the net increase in enrollment and development with the Project as it is the year that the original NOP was released and as enrollment growth has not substantially increased since that time. Specifically, enrollment in academic year 2018-2019, the most recent academic year pre-dating the COVID-19 Pandemic, was approximately 6,946 FTES, which is not substantially greater than academic year 2016-2017 enrollment of 6,634 FTE. Enrollment for subsequent academic years, beyond 2018-2019, has been affected by the COVID-19 Pandemic and is not representative or as conservative. Using the slightly lower enrollment for academic year 2016-2017 allows for a more conservative basis for the impact analysis in the Draft EIR, as it results in a somewhat greater net increase in enrollment with the Project than would exist with the use of academic 2018-2019 enrollment data.

While Academic year 2016-2017 forms the basis for the net increase in enrollment and development with the Project, this Draft EIR uses more recent documentation to reflect existing conditions where appropriate. For example, numerous reports documenting population forecasts (e.g., 2018 AMBAG regional growth forecasts), water supply (e.g., Marina Coast Water District 2020 Urban Water Management Plan), groundwater conditions (e.g., Monterey Subbasin Groundwater Sustainability Plan), and other reports documenting existing conditions have been released since academic year 2016-2017 and are used in the analysis where reflective of pre-Pandemic existing conditions.

4.0.3 Definition of the Study Area

The extent of the study area varies among the environmental resource areas analyzed in this EIR, depending on the extent of the area in which impacts could occur. For example, the evaluation of population and housing impacts considers the Association of Monterey Bay Area Governments (AMBAG) region, which includes Santa Cruz, Monterey and San Benito counties, as this region is the basis for growth forecasts and various regional plans that relate to population and housing impacts. In contrast, geological, soils and paleontological impacts are assessed only for the Project area, which is where such impacts could result with the Project. (See Chapter 3, Project Description, for further description of the Project area.) The study area for each environmental resource area is defined in the pertinent resource sections in this chapter.

4.0.4 Basis of Impact Analysis

The analyses of impacts in this EIR are based primarily upon varying factors, depending on the primary cause of the impact. Impacts related to biological resources; cultural resources; geology soils, and paleontology; hazards, hazardous materials and wildfire; and hydrology and water quality are analyzed primarily on the basis of the location and acreage of ground disturbance (the footprint of development) that would result from the Project. Impacts related to air quality, greenhouse gas emissions, noise and vibration, population and housing, public services and recreation, transportation and utilities and energy are analyzed on the basis of the net population increase as well as the location, type and/or size of development contemplated by the Project.

Thresholds of significance are identified and used to evaluate the impacts of the Project related to each technical topic and are based on Appendix G of the CEQA Guidelines. The impact analysis in each technical section compares identified impacts to the thresholds of significance and determines the impact's level of significance under CEQA. If the impact would be significant or potentially significant, the analysis identifies feasible mitigation measures to eliminate the impact or reduce it to less than significant, where possible. If the impact cannot be reduced to less than significant after implementation of all feasible mitigation measures, then the impact is identified as significant and unavoidable.

4.0.5 Year of Impact Analysis

Impacts are evaluated in terms of changes due to the Project as compared to existing conditions (see Section 4.0.2 above). For each resource area, the conditions that would result at the end of the planning horizon of the Project, i.e., in 2034-2035,[1] are compared to baseline conditions, to characterize the anticipated change in conditions.

4.0.6 Cumulative Impacts

4.0.6.1 Overview

CEQA requires that in addition to project impacts, an EIR must discuss cumulative impacts. Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is 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 (Cal. Code Regs. tit. 14, § 15355).

[1] For simplicity, this EIR uses "2035" throughout this EIR to refer to the 2034-2035 academic year.

The CEQA Guidelines clarify a number of issues with respect to cumulative impacts, as follows:

- An EIR should not discuss cumulative impacts to which the project would not contribute.
- If the combined cumulative impact (impacts from other projects combined with the impact from the proposed project) is not significant, then the EIR should briefly indicate why the impact is not significant, and no further evaluation is necessary.
- If the combined cumulative impact is significant, the EIR discussion must reflect the severity of the impact and the likelihood of its occurrence.
- If the combined cumulative impact is significant, the EIR also must indicate whether the project's contribution to that significant cumulative impact will or will not be cumulatively considerable.
- An EIR may determine that the project's contribution is rendered less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact (Cal. Code Regs. tit. 14, § 15130[a]).

The CEQA Guidelines provide additional guidance with respect to how an adequate cumulative impact analysis might be completed and note that this may be based on:

- A list of past, present, and probable future projects producing related or cumulative impacts, or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact (Cal. Code Regs. tit. 14, § 15130[b]).

To evaluate the cumulative impacts of the Project, the analysis in this EIR uses both of the above methods as appropriate for the cumulative topic being evaluated. For example, this EIR uses 2018 AMBAG regional growth forecasts for 2035 in Section 4.10, Population and Housing. In contrast, a list of reasonably foreseeable future projects in the vicinity of the campus is used in Section 4.1, Aesthetics. The cumulative analysis for each topic indicates the geographic area and analytical approach used in the analysis.

The list of reasonably foreseeable future projects in the vicinity of the campus was obtained from nearby jurisdictions. This list includes projects that have been approved, but not yet constructed, or projects for which an application is pending. 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 campus that have some relation to the environmental impacts associated with implementation of the Project. The cumulative projects list is presented in Table 4.0-1. The locations of these projects are shown in References.

4.0.6.2 Cumulative Analysis Background

The Fort Ord Base Reuse Plan identifies land uses and growth potential for redevelopment of the former Fort Ord Army Base. The EIR for the Fort Ord Reuse Plan indicated that the Plan would result in the development of approximately 22,232 dwelling units (including dormitory housing), 45,457 jobs, and a buildout population of approximately 51,773 with an additional 20,000 CSUMB residential students (FORA 1997). The ultimate buildout scenario envisioned in 1996 when the Plan developed was 40 to 60 years. However, the EIR on the Base Reuse Plan focused on the development capacity through the year 2015 that was estimated as 10,866 new dwelling units, 2,500 dorms at CSUMB and a total population of 38,859 residents, including 10,000 at CSUMB (FORA 1997). Subsequent to certification of the Base Reuse Plan EIR, the Base Reuse Plan Development and Resource Management Plan (DRMP) was prepared, which identifies a total population of 37,270 and a limit on new residential units to not exceed 6,160 new units based on the potable water supply limit of 6,600 acre-feet per year (AFY) (DDA 2007).

Since adoption of the Reuse Plan, 1,142 new residential units have been constructed (FORA 2018). About 1,686 units have been continuously inhabited or rehabilitated since the former Fort Ord was closed. Because the amount of development at the former Fort Ord has been less than envisioned and remaining developable lands exceeds 20-year projections, the analyses in this EIR focus on the list of reasonably foreseeable future projects (see Table 4.0-1), which reflect the likely cumulative development in each community through the CSUMB Master Plan horizon year of 2035. However, as indicated above, this Draft EIR does use 2018 AMBAG growth forecasts for 2035 in Section 4.10, Population and Housing. AMBAG growth forecasts were also used in Section 4.13, Transportation, as such forecasts are included in the AMBAG Regional Travel Model. The model was updated to reflect 2018 and future conditions, including the list of reasonably foreseeable future projects presented in Table 4.0-1.

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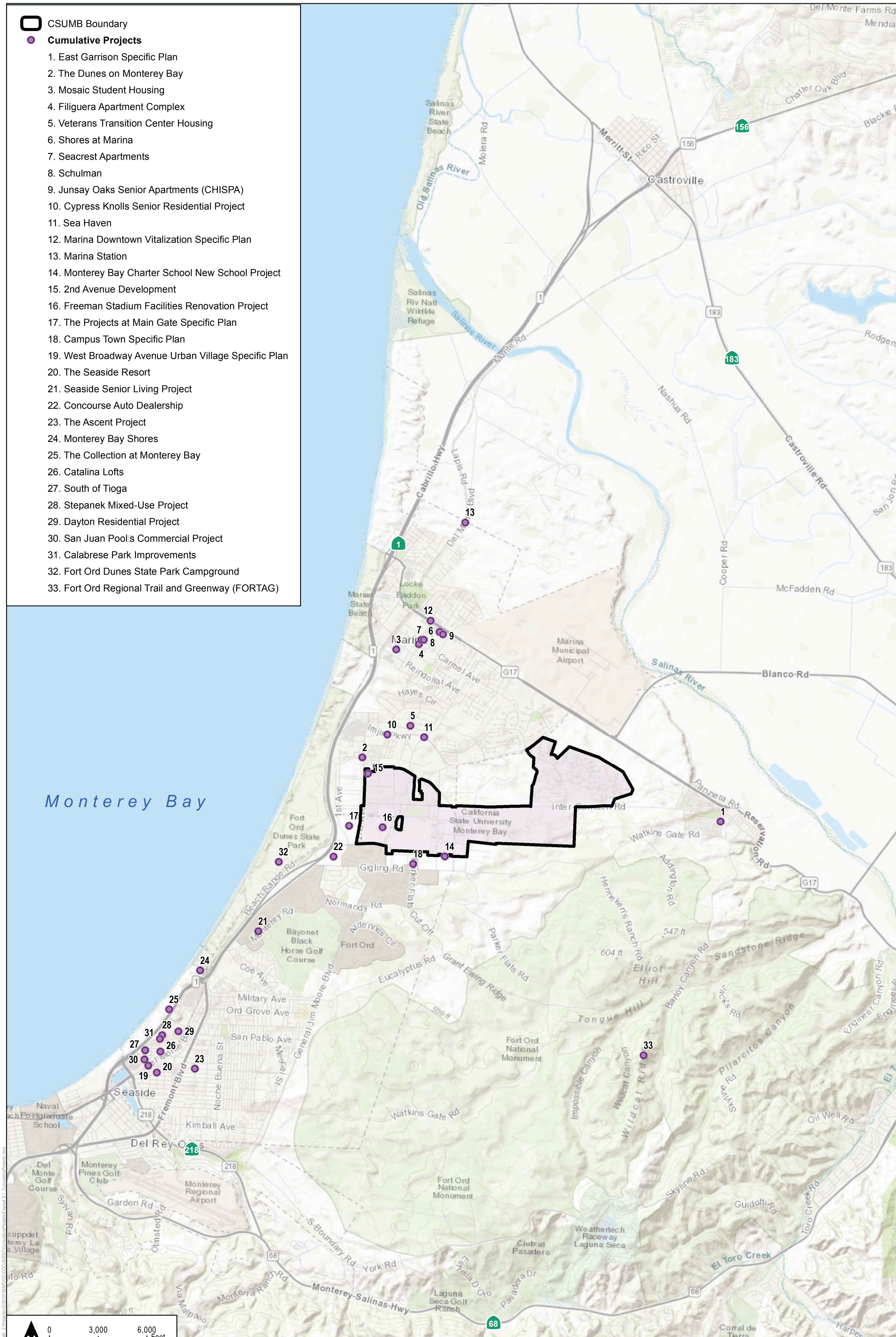

SOURCE: ESRI Basemaps 2018

FIGURE 4.0-1
Cumulative Projects

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CSU Monterey Bay Master Plan EIR

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Table 4.0-1
Pending or Approved Reasonably Foreseeable Projects

Map ID	Project Name	Project Location	Project Description	Status/Timing
Monterey County				
1	East Garrison Specific Plan	Former Fort Ord military base, East Garrison area	Mixed-use development project comprising residential, commercial, office, institutional, and recreational uses on approximately 244 acres. The project includes the construction of up to 1,470 dwelling units, 75,000 square feet of commercial uses, 11,000 square feet of public and institutional uses, 100,000 square feet of art/cultural/ educational uses, and approximately 50 acres of open space. Development under the Specific Plan will be implemented in three phases	Under construction
City of Marina				
2	The Dunes on Monterey Bay	East of Highway 1 and south of Imjin Parkway	Mixed-use development project comprising 1,237 residential units, 500 hotel rooms, and retail and office space on 297 acres. Phase 1 (378,000-square-foot retail center) built in 2007-2008. Phase 2 includes the following: (1) South County Housing to develop and build 108 low- and very low-income affordable apartments, many of which were completed by spring/summer 2014; (2) Cinemark multiple screen movie theater completed 2015; (3) Plans approved for two approximately 15,000 square foot retail buildings to be built near the movie theater; (4) Veterans Affairs Monterey Health Care Center located on a 14.31-acre project site within the Dunes on Monterey Bay Specific Plan area completed 2016; and (5) Springhill Suites, a 67,328-square-foot, 4-story hotel with 106 hotel rooms. The hotel	Under construction

Table 4.0-1
Pending or Approved Reasonably Foreseeable Projects

Map ID	Project Name	Project Location	Project Description	Status/Timing
			includes a 1,750-square-foot meeting room and guest parking and is scheduled to open in April 2017	
3	Mosaic Student Housing (not affiliated with CSUMB)	225 Cypress Avenue	Demolition of two existing dwellings and construction of multifamily apartment (12 units)	Approved
4	Filiguera Apartment Complex	264 Carmel Avenue	Demolition of an existing single-family dwelling and construction of multifamily apartment (10 units)	Approved
5	Veterans Transition Center Housing	Hayes Circle	Attached multifamily transitional housing (71 units)	Approved
6	Shores at Marina	3125 De Forest Road	Multifamily apartment (58 units)	Under construction
7	Seacrest Apartments	3108 Seacrest Avenue	Multifamily apartment (10 units)	Approved
8	Schulman	3110 Seacrest Avenue	Townhouse PUD (7 units)	Under construction
9	Junsay Oaks Senior Apartments (CHISPA)	3098 De Forest Road	Low-income senior apartment units (47 units)	Construction completed
10	Cypress Knolls Senior Residential Project	Former Fort Ord military base, Third Avenue / Imjin Parkway	Senior residential community with active-adult housing, care services, senior community center, and supportive amenities and services on 188 acres.	Approved
11	Sea Haven	Former Fort Ord military base, Imjin Parkway / California Avenue	Removal of 828 abandoned residential units and replacement with a combination of 1,050 new townhouse, cottage, estate homes, and single-family residential units. The project also includes 35 acres of parks, greenbelts, and open space. The first phase includes 299 housing units.	Under construction
12	Marina Downtown Vitalization Specific Plan	Reservation Road between Del Monte Boulevard and De Forest Avenue	Redevelopment plan for Marina's 225-acre downtown area comprising mixed-use commercial, residential, educational, and civic uses. At full buildout, the plan would result in a net increase of 2,440 residential dwelling units, 718,000 square feet of multiple use, 70,000 square feet of office space, and 50,000 square feet of civic facilities, and a net decrease of 161,000 square feet of	Environmental review in progress

Table 4.0-1
Pending or Approved Reasonably Foreseeable Projects

Map ID	Project Name	Project Location	Project Description	Status/Timing
			retail/service uses, 27,000 square feet of visitor-serving uses, and 270,000 square feet of industrial uses.	
13	Marina Station	Armstrong Ranch, along the northern limits of the City of Marina, on either side of Del Monte Avenue	Development project comprising 1,360 residential units, approximately 60,000 square feet of retail space, 144,000 square feet of office space, and 652,000 square feet of business park/industrial uses. The 1,360 residential units comprise approximately 887 single-family lots and 473 multi-family units.	Under construction
CSUMB Projects				
14	Monterey Bay Charter School New School Project	Colonel Durham Street between Sixth and Seventh Avenues	60,000-gross-square-foot school. Phase I includes the construction of 19 K-8 classrooms; work rooms for administrators, teachers and custodians; resource and remedial instruction rooms; and storage. Phase II includes additional support facilities. Phase I is projected to accommodate approximately 430 students; full enrollment of 508 students is expected to be reached by Phase II.	Approved
15	Second Avenue Development	Second Avenue near Eighth Street intersection	72-acre mixed-use development.	Early planning
16	Freeman Stadium Facilities Renovation Project	Second Avenue and Lightfigher Drive	Renovation of the existing Freeman Stadium for use by the Monterey Bay Football Club (MBFC) under a 14-year facilities agreement with the University. Improvements would be made to the existing Field House, athletic track and field, seating, parking, lighting, as well as installing a new scoreboard, ticket box, telecommunications, concession stands, utilities, and entry.	Approved

Table 4.0-1
Pending or Approved Reasonably Foreseeable Projects

Map ID	Project Name	Project Location	Project Description	Status/Timing
City of Seaside				
17	The Projects at Main Gate Specific Plan	Bounded by First Street to the north, Second Avenue to the east, Lightfighter Drive to the south, and Highway 1 to the west	Development of a commercial center with up to 187,000 square feet of retail space, 410 housing units (210 single-family and 200 multifamily), 250 student housing units, and a 450-room hotel with a spa and conference facilities and 60,000 square feet of standalone restaurants on approximately 57 acres of the former Fort Ord.	Approved
18	Campus Town Specific Plan	Bounded by Lightfighter Drive to the north, Gigling Road to the south, First Avenue to the west and Eighth Avenue to the east	The proposed project involves development of 1,485 housing units, 250-room hotel, a 75-bed youth hostel, 150,000 square feet of retail, dining, and entertainment space, 50,000 square feet of light industrial, flex, office, or "maker space" on 60 acres. Construction would take place from 2021 through 2034.	Approved
19	West Broadway Avenue Urban Village Specific Plan	West of Fremont Boulevard, along Broadway Avenue, Del Monte Boulevard, and Canyon Del Rey Boulevard	The Specific Plan development program would increase and modify allowable development in the project area to help encourage creation of a denser urban core or village within the city. Aspects of this new urban core or village include 494 residential units, 28,700 square feet of new office development, 296,800 square feet of commercial/retail development, a new hotel with approximately 250 rooms, a new 20,000-square-foot public library, 53,000 square feet of outdoor space, and 500 new off-street parking spaces.	Construction completed
20	The Seaside Resort	Bordered by Monterey Road, Coe Avenue, and General Jim Moore Boulevard	The first phase, completed in 2009, involved upgrades to the Bayonet and Black Horse Golf Courses. The next phase of development features a four-star hotel with approximately 275 hotel rooms, 175 timeshare units, and 125 residential units.	Under construction

Table 4.0-1
Pending or Approved Reasonably Foreseeable Projects

Map ID	Project Name	Project Location	Project Description	Status/Timing
21	Seaside Senior Living Project	550 Monterey Road	Removal of an existing vacant 5,000-square-foot structure and the development of a State of California licensed Residential Care Facility for the Elderly (RCFE) on a 5.47-acre site. The RCFE will include an assisted living facility (81,679 square feet; 88 residential units), a memory care facility (29,707 square feet; 43 residential units) and an assisted living co-housing facility (10,894 square feet; 13 residential units).	Approved
22	Concourse Auto Dealership	Southwest corner of Lightfighter Drive and First Avenue	110,000 square feet of auto dealership showrooms and service within six dealership sites on 26 acres.	Pending approval
23	The Ascent Project	Terrace Street and Broadway Avenue	The project will build rental housing consisting of 106 one-bedroom, two-bedroom, and three-bedroom units and townhouses, as well as 4,000 square feet of retail space, a shared vehicular court and green space areas for residents.	Under construction
Sand City				
24	Monterey Bay Shores	Oceanfront, west of Highway 1 near Fremont / Highway 1 interchange, bounded by Sand City limit to the north	Coastal resort project on 39.04-acre oceanfront site with 92 residential condominium units, 92 visitor-serving condominium units, and a 184-room hotel.	Approved; preliminary grading completed
25	The Collection at Monterey Bay	West of Highway 1, north of Tioga Avenue, and intersected by Playa Avenue	342-room coastal resort on the 26.46-acre site that may be constructed in two phases. Phase I is a 139-room hotel on a 7.9-acre site. Phase II is a coastal resort on a 16.25-acre site consisting of a 203 visitor rooms, a restaurant with banquet facilities, a health/wellness spa, parking, and other ancillary and related improvements, and public parking improvements on a 2.31-acre site.	Approved

Table 4.0-1
Pending or Approved Reasonably Foreseeable Projects

Map ID	Project Name	Project Location	Project Description	Status/Timing
26	Catalina Lofts	Bounded by Ortiz Avenue to the north, Elder Avenue to the south, and Catalina Street to the west	18,636-square-foot mixed-use project on a 15,000-square-foot vacant property with 8 residential units and 7 commercial units.	Approved
27	South of Tioga	Bounded by Tioga Avenue to the northeast, California Avenue to the southeast, East Avenue to the southwest, and the Merle Street right-of-way to the northwest	Mixed-use project on 10.64-acre site replacing industrial uses with 356 residential units and a 216-room hotel, and a restaurant.	Approved
28	Stepanek Mixed-Use Project	414 Orange Avenue	8,000-square-foot, 2-story mixed-use development on a 5,625-square-foot parcel replacing existing commercial building with 1 residential unit and 1 commercial unit.	Approved
29	Dayton Residential Project	Bounded by Ocean View Avenue to the southeast and Fell Street to the northeast	Two new single-family homes (one with an accessory unit) on a property previously used as a fenced commercial yard.	Approved
30	San Juan Pool's Commercial Project	756 California Avenue	7,000-square-foot, 1-story, 2-unit commercial warehouse	Under construction
31	Calabrese Park Improvements	Bounded by California Avenue to the south, Park Avenue to the west and north, and Pendergrass Way to the east	ADA and parking improvements and upgrades to playground equipment replacement and upgrades	Under construction

Table 4.0-1
Pending or Approved Reasonably Foreseeable Projects

Map ID	Project Name	Project Location	Project Description	Status/Timing
California State Parks				
32	Fort Ord Dunes State Park Campground	Fort Ord Dunes State Park (immediately west of the Transportation Agency for Monterey County rail corridor and Highway 1, west of the former Fort Ord military base)	Construction and operation of a campground facility and associated infrastructure within Fort Ord Dunes State Park, including 45 RV sites and two host sites with electrical and water hookups, 10 hike/bike sites, and 43 tent sites; parking for 40 vehicles; restrooms with showers; a multi-purpose building; an outdoor campfire center; interpretation/ viewing areas; renovated bunkers; an entrance station near the 1st Street underpass; modular structures; storage yard and maintenance shop; improved beach access/trails; one plumbed restroom with outdoor shower for beach use; a 200-foot wildlife/habitat corridor; internal campground trail network, trail improvements, and roadway improvements; and off-site utilities.	Approved
Transportation Agency of Monterey County				
33	Fort Ord Regional Trail and Greenway (FORTAG)	Fort Ord (Cities of Seaside and Marina, CSUMB, Monterey County)	30-mile regional network of paved recreational trails and greenways within the Fort Ord	Approved

4.0.7 References

Denise Duffy & Associates, Inc. 2007. California State University Monterey Bay 2007 Master Plan Draft Environmental Impact Report (SCH# 1997081036). December.

FORA (Fort Ord Reuse Authority). 1997. *Fort Ord Reuse Plan.* Volume 4: Final Environmental Impact Report. SCH NO. 96013022, June 13, 1997. Prepared by EDAW, Inc. and EMC Planning Group, Inc.

FORA (Fort Ord Reuse Authority). 2012. *Final Reassessment Report Fort Ord Reuse Plan Reassessment.* December 14, 2012.

FORA (Fort Ord Reuse Authority). 2018. Capital Improvement Program, Fiscal Year 2018-2019 through 2028-2029.

4.1 AESTHETICS

This section of the EIR presents an analysis of the potential aesthetic impacts of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate any identified significant or potentially significant impacts, if any such impacts are identified.

An agency comment related to aesthetics was received during the public scoping period in response to the original Notice of Preparation (NOP). This comment requested that California State University, Monterey Bay (CSUMB) develop higher density residential buildings on the south side of the campus at heights of four stories or more to match the Promontory residential buildings. No additional public or agency comments related to aesthetics were received during the public scoping period in response to the Revision to Previously Released NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.1.1 Environmental Setting

4.1.1.1 Study Area

The study area for the aesthetics analysis includes the 1,396-acre CSUMB campus and the surrounding areas from which the campus is visible. The campus is located along the central coast of California between Monterey Bay and the Salinas Valley (see Chapter 3, Project Description, Figure 3-1) and is located in the northwest portion of the former Fort Ord military base. The campus physically occupies portions of three governmental jurisdictions: the majority of the southern portion of the Main Campus is within the City of Seaside, the northern portion of the Main Campus is within the City of Marina, and the eastern edge of the Main Campus, the East Campus Open Space, and the East Campus Housing are within unincorporated Monterey County.

4.1.1.2 Surrounding Area

Visual Character

The former Fort Ord extends from Monterey Bay eastward across the northern tip of the Santa Lucia Range to the Salinas Valley. It encompasses a variety of landforms and land uses, including undeveloped coastal dunes and interior woodlands, redeveloped commercial and residential areas in the cities of Seaside and Marina and Monterey County, and extant former military facilities, including abandoned military barracks immediately west of the campus along Second Avenue. The visual character of the surrounding area is therefore characterized by a mix of developed and undeveloped open lands. The west side of Highway 1 is largely undeveloped and includes Fort Ord Dunes State Park. Undeveloped oak woodlands are located to the south and east of CSUMB, and further east, the landscape opens to agricultural fields of the Salinas Valley. The visual character of the areas surrounding CSUMB is further described below and the visual character of the CSUMB campus is described in Section 4.1.1.3, CSUMB Campus.

City of Marina

North of the campus, the visual quality of the City of Marina is characterized by a mix of undeveloped former military facilities, moderate-density residential neighborhoods, and commercial development interspersed with undeveloped oak woodlands and chaparral. Commercial development is concentrated primarily along Highway 1, at the intersection of Imjin Parkway and 2nd Avenue northwest of the campus, and toward the northern end of the city along Reservation Road. New major residential mixed-use developments (the Dunes and Sea Haven) are located north of the CSUMB Main Campus boundary, featuring one- and two-story single-family homes and townhomes in a variety of modern coastal and other architectural styles. Construction of these developments is underway.

City of Seaside

The City of Seaside lies south of the CSUMB Main Campus. The portion of Seaside within the former Fort Ord is characterized by a mix of existing single-family subdivisions, some institutional uses, two golf courses, and open space lands. Adjacent to the CSUMB Main Campus, the development pattern in Seaside becomes less dense and spread out along curvilinear roadways. Oak woodlands and other open areas are interspersed with existing development with open space predominant along General Jim Moore Boulevard.

Unincorporated Monterey County

Unincorporated Monterey County areas east of CSUMB are generally characterized by agricultural, rural and open space lands, except for new development in the East Garrison area. Immediately east of the CSUMB campus, undeveloped oak woodlands dominate the landscape. East of Reservation Road, large-scale agricultural operations of the Salinas Valley are predominant, characterized by irrigated row crops and pastures (County of Monterey 2008). The new residential development within East Garrison, located east of the CSUMB campus, represents an isolated cluster of development surrounded by woodlands and farmland.

Scenic Views and Vistas

Highway 1 west of the CSUMB campus is eligible for inclusion in the State Scenic Highway program. Views of existing dunes, open space and in some areas, ocean views, are predominant on the west side of Highway 1 with views of Monterey Bay and distant Santa Cruz Mountains considered a scenic view. Views of the former Fort Ord to the east of Highway 1 are mostly screened by Monterey cypress and other trees along Highway 1. There are no locally designated scenic roads in the Project area, although Monterey County identifies Reservation Road east of Marina city limits as a proposed scenic route.

Views from the northbound lanes of Highway 1 in the former Fort Ord range from expansive vistas of Monterey Bay to limited views restricted by dune lands on the west and cypress and other tall trees on the east. There are glimpses of remaining military buildings in Marina, and views to the east include redeveloped areas of the former Fort Ord, including, for example, a portion of a shopping center at Highway 1 and Imjin Parkway on the north in the City of Marina. Views of the former Fort Ord along southbound Highway 1 are similar to the northbound views, except for one location near Reservation Road that provides a more open view of the former Fort Ord area to the southeast with distant mountain views toward the Santa Lucia Range. A predominant visual feature from this location is the former Hayes Hospital in the distance, which is visible due to its height, but other developments at former Fort Ord are largely screened by vegetation.

While the CSU is not subject to local government planning or ordinances, the adopted General Plans for the surrounding areas provide some description of scenic views and/or scenic resources, although none of the adopted General Plans show mapped scenic views. The City of Seaside's adopted General Plan identifies views of significant natural features and unique public views visible from Highway 1 as visual resources to be protected or preserved, and indicates that the scenic and visual qualities of coastal areas are visual resources of public concern. The City is in the process of updating its General Plan; a public review draft called Seaside 2040 General Plan (Figure 39) identifies a scenic viewshed from the CSUMB campus, looking west, generally from the area at 6th Avenue and A Street (City of Seaside 2017). While a mapped location is provided it is expected that this identified viewshed is not associated with a specific point location, given that the view direction is described as looking west and likely focuses on views of Monterey Bay and coastline from the campus. See Section 4.1.1.3, CSUMB Campus, for additional information about views from the campus.

No specific scenic views are identified and mapped in the City of Marina General Plan. However, the Marina General Plan identifies scenic views as including ocean views and inland views of scenic hills as seen from Highway 1, and indicates that new development should be sited to retain scenic views of inland hills as seen from Highway 1, Reservation Road, and Blanco Road (City Marina 2000).

The Monterey County General Plan does not identify any scenic vistas near CSUMB (Monterey County 2010). However, the Monterey County Scenic Highway Corridors and Visual Sensitivity Map (General Plan Figure 14) depicts Reservation Road, northeast of East Campus Housing, as a proposed scenic corridor in addition to Highway 1. None of the campus lands or immediately adjacent areas are designated as having visual sensitivity in the County General Plan. The nearest locations listed as having visual sensitivity are an open space area approximately 0.4 miles northeast of East Campus Housing north of Reservation Road, and the Fort Ord Dunes State Park identified as highly sensitive approximately 0.4 miles west of the Main Campus (Monterey County 2010) (see Figure 4.1-1).

Scenic Resources

Scenic resources include, but are not limited to, trees, rock outcroppings, and historic buildings, within a scenic highway or other scenic road or corridor. As indicated above, Highway 1 is eligible for the State Scenic Highway Program, and Reservation Road northeast of the campus is a proposed scenic corridor in the Monterey County General Plan. Therefore, the trees along Highway 1 that serve to screen most of the former Fort Ord from view constitute scenic resources. Trees along Reservation Road northeast of East Campus Housing may also constitute scenic resources.

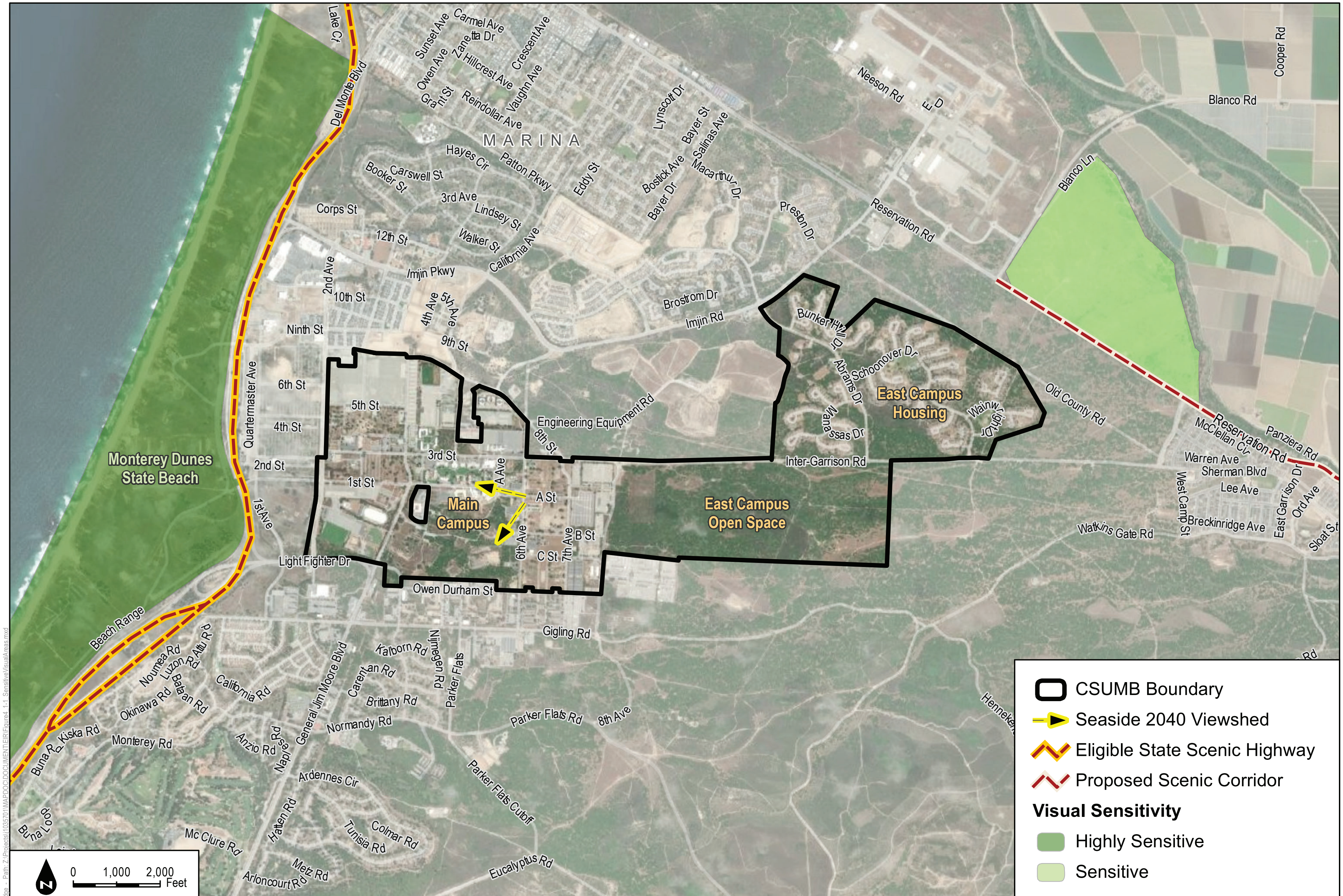
Light and Glare

Sources of light and glare surrounding the campus include interior and exterior lights of commercial areas and shopping centers, and institutional and residential buildings, as well as street and parking lot lighting. These sources of light are typical of those in a developed area. In addition, cars and trucks traveling to, from, and within the area, as well as parked cars, represent a source of glare.

4.1.1.3 CSUMB Campus

Visual Character

The CSUMB campus occupies the northwestern portion of the former Fort Ord, sloping gently downward and northwest toward Monterey Bay, and is interspersed with low, undulating coastal dune landforms. The legacy of the former Fort Ord has shaped the physical layout and spatial organization of the campus. Designed to accommodate a large military population and facilitate heavy vehicular movement, the military buildings were set within a rectilinear grid of roadways, with buildings dispersed over considerable distances across the site. The existing campus contains a diverse mix of different building styles, including former military buildings and newly constructed, more modern buildings. Three areas with distinct visual character comprise the campus: Main Campus, East Campus Housing, and East Campus Open Space as shown on Figure 3-2 (see Chapter 3, Project Description).



SOURCE: Bing Maps

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FIGURE 4.1-1

Sensitive Visual Areas

CSU Monterey Bay Master Plan EIR

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The Main Campus area is generally characterized by development with some remaining open space. CSUMB's academic facilities are concentrated in this part of the campus in the campus core. Buildings range from one to four stories and are a mix of renovated military buildings and new construction with areas of surface parking lots and open space areas including the Cypress Grove, the Northern Oak Woodland, the Southern Oak Woodland, and the Crescent (see Chapter 3, Project Description, Figure 3-8). Mature Monterey cypress and Monterey pines and planted street trees are interspersed throughout the Main Campus. The Main Campus includes some former military buildings and paved areas that are not actively being used by the campus (see Figure 4.1-2). Photographic images of the Main Campus are provided in Figures 4.1-2 through 4.1-5.

The East Campus Open Space area is a large, natural open space area bordered by Eighth Avenue to the west, Inter-Garrison Road to the north, and the campus boundary to the south and east. Undeveloped oak woodlands dominate the area, with an informal trail system, as shown in Figure 4.1-3. Two electrical transmission lines traverse the East Campus Open Space area, contrasting with its undeveloped character (see Chapter 3, Project Description).

The East Campus Housing area is located north of Inter-Garrison Road and consists of residential subdivisions arranged in a series of cul-de-sacs extending from curvilinear roadways. These housing areas were originally constructed by the Army and consist of two-story duplex to five-plex townhouse-style and multi-family apartment-style complexes. The developments are sited along the ridges of gently sloping topography and are intermixed with several small neighborhood parks and undeveloped oak woodlands, chaparral, and pockets of grassland. East Campus Housing has a sprawling, suburban character, which contrasts with the more modern, urban, three- to four-story housing buildings found on the Main Campus. Housing on the CSUMB campus, including the East Campus Housing, is depicted in Figure 4.1-4.

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Abandoned former military building near Colonel Durham Street and 7th Avenue

Deteriorated pavement area with views of Promontory Student Housing (far left) and North Quad Housing (far right)

SOURCE: Dudek 2017 and 2019

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FIGURE 4.1-2
Undeveloped Areas of the Main Campus

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Joel and Dena Gambord Business and Information Technology Building


Chapman Science and Academic Center


Tanimura & Antle Family Memorial Library

SOURCE: CSUMB 2017

FIGURE 4.1-3

Newer Main Campus Development

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Main Quad on Main Campus


Mature Trees on Main Campus


Trail through East Campus Open Space

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SOURCE: CSUMB 2017, Dudek 2019

FIGURE 4.1-4

Landscaping and Open Space Areas on Campus

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Promontory Student Housing (Main Campus)

North Quad Housing (Main Campus)

East Campus Housing

Housing in the Campus Core (Main Campus)

SOURCE: CSUMB 2017, DUDEK 2019

DUDEK

FIGURE 4.1-5

Housing on the CSUMB Campus

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Scenic Views and Vistas

Views from the Campus

Portions of the Main Campus at higher elevations have intermittent long-range views of Monterey Bay, the Monterey Peninsula, and surrounding areas. Higher elevation areas are located in the eastern portion of the Main Campus. Distant views of Monterey Bay towards the west from the eastern portion of the Main Campus are intermittent due to the presence of mature landscaping (i.e., Monterey cypress, Monterey pines, coast live oaks, and planted street trees) that is interspersed throughout the Main Campus and to the west of the campus along Highway 1, as well as due to the presence of existing intervening development on the campus. The scenic viewshed from the CSUMB campus identified in the Draft Seaside 2040 General Plan (Figure 39), looking west generally from the area at 6^{th} Avenue and A Street, appears to be representative of such intermittent distant views of Monterey Bay.

Distant ridgelines of the Gabilan and Santa Lucia mountain ranges provide significant views to the east and southeast, respectively, and provide scenic natural features as part of the distant background views from some campus locations.

Views from Off-Campus

The CSUMB campus is not visible from major public viewpoints or from Highway 1, except as part of a distant view from southbound Highway 1. As indicated previously, along southbound Highway 1, there is one location north of Marina near Reservation Road that provides a more open view to the southeast toward the former Fort Ord and distant mountains. The former Hayes Hospital (an eight-story building south of CSUMB) is the primary noticeable built feature from this vantage point and is framed by the Santa Lucia Mountains in the background; the building does not extend above the mountain ridgeline. The CSUMB buildings are situated at a slightly lower elevation and are screened by existing vegetation and undulating topography, and therefore the campus is not visible from southbound Highway 1. The campus is completely screened from view along northbound Highway 1 by existing topography and trees along the highway.

Due to distance, existing campus buildings are not visible from Reservation Road, a proposed scenic corridor, or from other nearby locations identified in the Monterey County General Plan as having visual sensitivity, including an open space area approximately 0.4 miles northeast of East Campus Housing, and the Fort Ord Dunes State Park approximately 0.4 miles west of the Main Campus (Monterey County 2010).

Portions of the campus are intermittently visible from segments of some major roadways surrounding the campus where mature landscaping and/or development does not block views, including Imjin Parkway, Second Avenue, Inter-Garrison Road, Lightfighter Drive, Colonel

Durham, Eighth Avenue, and Eighth Street. Campus buildings are most prominent from Inter-Garrison Road, which runs through the core of the Main Campus. None of the existing campus buildings meet or exceed the height of the former Hayes Hospital and are not seen from distant vantage points. Views of the campus are generally limited to areas immediately adjacent to the campus along the previously noted roadways. Views of the campus from adjacent roadways are not characterized as scenic but are typical of other developed areas surrounding the campus.

Scenic Resources

The CSUMB campus does not encompass an eligible or designated scenic highway or other scenic road or corridor and associated trees, rock outcroppings, and historic buildings. Therefore, no scenic resources exist on the campus.

Light and Glare

Sources of light and glare on the campus are generally limited to the interior and exterior lights of buildings, parking lot and path lighting, and lighting along campus streets. When in use, night lighting is also present in the Freeman Stadium and the other sports fields located in the southwestern portion of the Main Campus, as well as the sports field in the northern portion of the Main Campus area. These sources of light are typical of those in a developed area. In addition, cars and trucks traveling to, from, and within the campus, as well as parked cars, represent a source of glare.

4.1.1.4 Site Conditions for Near-Term Development Components

The existing aesthetics setting for the near-term development component sites is generally described above. Additional information is provided below related to specific development conditions on each site. Chapter 3, Project Description provides additional information about the location of each development site. Chapter 3, Project Description, Figures 3.14A-D show the near-term development component sites. Figure 4.1-6 provides photographs of these sites.

Student Housing Phase III

The Student Housing Phase III site is located adjacent to the existing North Quad Housing to the west in an existing paved surface parking lot with scattered landscaping. Limited distant views of Monterey Bay are available to the northwest beyond several mature cypress trees, and the top of the distant Santa Cruz Mountains across the bay are slightly visible. Views to the north, where the potential construction staging area is proposed, consist of deteriorated pavement. Views to the east consist of the four-story North Quad Housing complex. Views of other campus buildings and roadways are available to the south.

Student Housing Phase II

Academic IV

Student Recreation Center

Academic V

Student Housing Phase IIB

SOURCE: Bing 2014, Dudek 2019

DUDEK

FIGURE 4.1-6

Near-Term Development Component Sites

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Academic IV

The Academic IV site is located northwest of the intersection of 6th Avenue and A Street and contains the existing one-story Building 13, a paved surface parking lot, and scattered landscaping. The newer, three-story Chapman Science and Academic Center building is located adjacent to the site to the northwest. Other one- to two-story campus buildings surround the site. A distant view of the Santa Cruz Mountains is available to the north, partially obstructed by trees.

Student Recreation Center Phases I and II

The Student Recreation Center site is located southeast of the intersection of Divarty Street and Engineer Lane and contains two one-story buildings, an undeveloped area containing ice plant and other scattered vegetation, and a paved surface parking lot. Given the elevation and slope on the site, intermittent views of the Santa Cruz Mountains are available to the northwest above the existing trees. The site is surrounded by campus development to the north and east. The existing VA Center (not a part of the campus) borders the site on the west and the Southern Oak Woodland open space borders the site on the south.

Student Housing Phase IIB

The Student Housing Phase IIB site is located adjacent to the Promontory Student Housing to the south on a deteriorated, vacant pavement area. No distant views of the bay or mountain ranges are present. Off-campus lands in Marina containing a warehouse building are located adjacent to the site to the west. North and east of the site, undeveloped oak woodlands that are located off campus predominate. South of the site, a strip of vegetation separates the site from a large, paved on-campus surface parking lot.

Academic V

The Academic V site is located south of the Main Quad along Divarty Street and contains three existing one-story buildings (Buildings 1, 2, and 3), a paved surface parking lot, and scattered landscaping. The site is surrounded by campus development on all sides.

4.1.2 Regulatory Framework

This section describes the applicable regulatory plans, policies, and ordinances related to aesthetics for the Project.

4.1.2.1 State

State Scenic Highway Program

The California Department of Transportation (Caltrans) manages the State Scenic Highway Program detailed in Streets and Highways Code Section 260. A highway may be designated as scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view (California Department of Transportation 2008.) To become an officially designated scenic highway, a local jurisdiction must adopt a scenic corridor protection program for the eligible state scenic highway, apply to Caltrans for scenic highway approval, and receive notification from Caltrans that the highway has been designated as a Scenic Highway. The scenic corridor protection program is made up of adopted ordinances to preserve the scenic quality of the corridor or document such regulations that already exists in various portions of local codes. State and county roads can be designated as scenic highways (California Department of Transportation 2008). As indicated in Section 4.1.1.2, the portion of Highway 1 near and west of the CSUMB campus is eligible for inclusion in the State Scenic Highway Program.

California Energy Code and Green Building Regulations

The California Energy Code and Green Building Regulations (CALGreen) stipulates that all luminaries[1] must meet the mandated BUG (Backlight/Uplight/Glare) ratings per their designated lighting zone unless otherwise exempt; lighting for sports and athletic fields is exempt. All outdoor luminaires that emit 6,200 lumens or greater must comply with BUG requirements contained in Section 5.106.8 of the CalGreen Code (Title 24, Part 11).

The BUG ratings assume that the light emitted from the luminaire is providing useful illuminance on the task surfaces rather than scattering the light in areas where the light is not needed or intended, such as toward the sky. The BUG ratings also increase visibility because high amounts of light shining directly into observer's eyes are reduced, thus decreasing glare. Additionally, light pollution into neighbors' properties is reduced. The BUG requirements vary by outdoor lighting zones and outdoor lighting zones.

California State University Design Review Process

The California State University (CSU) System uses a design review process at all of its campuses as part of the schematic design preparation process (CSU 2004). This process involves the appointment of an outside master plan architect by the President of each campus. The architect reviews designs for new construction projects for appropriateness of design and quality based on

[1] A luminaire is a complete lighting unit, comprised of light source (lamp or lamps), together with the parts that distribute the light, position and protect the lamps, and connect the lamps to the power supply.

the design vocabulary of the particular campus, which is currently established in the design guidelines included in the 2007 Master Plan for CSUMB. The outside architectural review is then reviewed and interpreted by the building official on campus, who has the ultimate responsibility for determining how the review will affect the ultimate design of a new building project. The 2020 Master Plan Guidelines will update the design guidelines provided in the 2007 Master Plan.

CSU Outdoor Lighting Design Guide

Lighting of the Project would align with the guidelines in CSU Outdoor Lighting Design Guide (CSU 2018). This guide provides the CSU campuses with guidance for outdoor lighting design in order to provide a comfortable nighttime environment, maximize energy efficiency, and improve campus aesthetics. The guide contains CSU lighting design goals and strategies, lighting control strategies and methods throughout the campuses, and preferred lamp types identified for energy efficiency and ease of maintenance. The guide includes goals pertaining to compliance with local codes, assurance of good nighttime visibility, low maintenance of lighting, energy efficiency, reduced light pollution, and integration into the overall campus aesthetic. Sports field lighting is not specifically addressed in this document. Lighting design strategies are provided in the guide to aid in implementation of established lighting goals. Lighting design strategies are orientated toward creating vertical surface brightness, enhancing navigation, minimizing glare, maintaining lighting uniformity, and provide appropriate lighting levels.

Fort Ord Reuse Authority Act

The Fort Ord Reuse Authority Act was implemented by the State of California to facilitate the transfer and reuse of the Fort Ord military base, and established FORA as the entity responsible for planning, financing, and carrying out the transfer and reuse of the base in a cooperative, coordinated, balanced, and decisive manner (Cal. Gov. Code § 67650 *et seq.)*. Founded in 1994 after the official closure of Fort Ord, the Fort Ord Reuse Authority (FORA) was responsible for the oversight of Monterey Bay area economic recovery from the closure of and reuse planning of the former Fort Ord military base. Pursuant to the Act, FORA must dissolve when eighty percent of the base has been developed or reused in a manner consistent with the *Fort Ord Reuse Plan* (Reuse Plan), or on June 30, 2020, whichever comes first. Pursuant to the Fort Ord Reuse Authority Act, FORA's legislatively defined mission was complete as of June 30, 2020 and FORA has now been dissolved.

The FORA Resolution No. 18-11 approved a Transition Plan that was submitted to the Monterey County Local Agency Formation Commission and assigned assets and liabilities, designated responsible successor agencies, and provided a schedule of remaining obligations. The Transition Plan calls for the cities of Marina, Seaside, Monterey and Del Rey Oaks and the County of Monterey to follow the Reuse Plan policies and programs (see description below). The Resolution further stated that after FORA's dissolution on June 30, 2020, any changes to the policies and programs of the Reuse Plan or any part thereof will be made by the respective land use jurisdictions only after full compliance with all applicable laws, including but not limited to CEQA.

The Reuse Plan, adopted by FORA in 1997, provided a framework for the reuse of more than 45 square miles of the former Fort Ord army base. The reuse plan identified land uses, goals, and policies to transform the former U.S. Army base into an integrated community, which includes property located in the following jurisdictions: the cities of Seaside, Marina, Monterey, and Del Rey Oaks; the County of Monterey; the University of California; California State University (i.e., CSUMB); and the Presidio of Monterey Annex. The Reuse Plan, designated land uses and development intensities within the former Fort Ord. The land that comprises CSUMB is identified for university uses in the Reuse Plan.

The *FORA Regional Urban Design Guidelines* (RUDG) were developed for FORA as directed by the Reuse Plan. They are refinements of existing Reuse Plan policy and were completed as a separate implementation action to govern the visual quality of the former Fort Ord. The FORA Board unanimously adopted the RUDG on June 10, 2016. The RUDG establishes standards for road design, setbacks, building height, landscaping, signage, and other matters of visual importance. They provide jurisdictions, developers, and the public guidance of matters of visual importance to the former Fort Ord reuse. Although CSUMB is not subject to the guidelines, CSUMB played an active role in the development of the RUDG, realizing that high quality standards will help create a vibrant and livable community within and around the campus. See Section 4.1.3.2, Analytical Method, for information about one of the proposed PDFs included in the Project that addresses the RUDG.

The preservation of the visual integrity of the portion of Highway 1 adjacent to the former Fort Ord, which is an eligible, though not officially designated, State Scenic Highway, is a regional priority. In March 2005, FORA issued the Highway 1 Design Corridor Design Guidelines, which contain policies to maintain the visual integrity of the corridor. The CSUMB campus is located outside of the design corridor boundaries.

4.1.2.2 Local

As a state entity, CSUMB is not subject to local government permitting or regulations, policies, or ordinances, such as the general plans and zoning ordinances for the cities of Marina and Seaside and the County of Monterey. While that is the case, local plans are summarized below to provide context for the analysis of potential cumulative impacts related to aesthetics.

City of Marina General Plan

The Marina General Plan, adopted in 2000 and last amended in 2010, consists of four elements: Community Land Use, Community Infrastructure, Community Design and Development, and Program and Implementation (City of Marina 2010). Relevant goals and policies from the Marina General Plan Community Design and Development Element that specifically relate to the protection of visual quality are provided below.

- *Policy 4.8:* Figure 4.1 identifies those areas on the City's edge where sharp distinctions are to be maintained between open lands and adjacent development areas. Beyond the City's north edge, land use policies limiting land uses to agriculture, golf courses and related facilities including lodges, and habitat preserve will ensure the retention here of a distinction between "town and country." To the west, the presence of Highway One and coastal dunes should continue to define this edge of the City. Construction of limited visitor-serving uses to the west of Highway One shall adhere to the following design requirements:
    1. Buildings shall be sited and limited to low-profile structures so as to be visually subordinate to the natural setting when viewed from Highway One.
    2. Building materials, colors, and forms shall be used which blend in with the natural forms and colors of the dunes. Building space should be broken into clusters of small structures or contained in highly articulated singular structures to minimize the overall sense of building bulk.
    3. All surface parking shall be screened from view of Highway One.
    4. All landscaping shall be comprised of plant material native to the Marina dunes and other appropriate, non-invasive species compatible with dune vegetation.
    5. No commercial signs shall be permitted on buildings or properties which are visible to people using the beach, while signage which is oriented and sized to be easily visible to travelers on Highway One shall be permitted only for those properties contiguous to the Highway One right-of-way.
- *Policy 4.9:* Along the City's northern and eastern edges, the land designated for open space and natural habitat purposes provides a well-defined edge to the City. This condition is further reinforced southeast of Blanco Road by the Salinas River and the high bluff along its southern bank. The following design policies shall apply to these areas:
    1. Adjoining village housing in the Armstrong Ranch should form a strong, well-defined edge.
    2. Streets within the developed areas should be designed to provide vistas of outlying open spaces, thereby further reinforcing the sense of a relationship between the City and adjoining open spaces.

- *Policy 4.10:* Along the City's southern border the major areas reserved for habitat protection encircle the Frederick-Schoonover Park area and extend inward as far as Imjin Road to provide a well-defined edge to the City. Further to the west, however, city residential and commercial uses will eventually border CSUMB's main campus. Along this edge, 8th Street and 2nd Avenue should be designed to clearly identify the boundary between the campus and the City. However, to avoid isolating the campus from the City, this edge needs to be penetrated by streets and pathways which physically and visually link the campus and the surrounding community. A similar design approach should be applied along the campus' 2nd Avenue frontage.
- *Policy 4.17:* Protection of many of the important open space features cited above is provided for in the land use policies of Chapter 2. These open space protection measures shall be further complemented by the following policies:
    1. Existing windrows shall be retained where they are determined to have significant visual or aesthetic value and/or significant microclimatic value, and incremental programs of replanting shall be instituted to ensure their long-term survival.
    2. Future development should incorporate new windrows into site landscaping where appropriate so as to reinforce this distinctive landscape feature of citywide significance. Use of windrows, for example, can serve to define and buffer residential and commercial uses, help distinguish the boundaries of neighborhoods and districts identified below, or serve as a scenic backdrop for new development.
    3. Within built-up areas, existing topography shall be retained to make natural landforms more evident. This requirement of the General Plan may be fulfilled by minimizing grading and cutting and filling for roadways, by providing public space with outlooks at the higher elevations, and by locating taller structures on the upper slopes of hills.
- *Policy 4.19:* Figure 4.1 identifies those areas of the City where establishing a distinctive neighborhood or district appearance is desirable. Within the already built-up areas, existing distinctions should be retained and reinforced. Within new development or redevelopment areas, the following three design techniques should be applied:
    1. The boundaries of the neighborhood or district should be clearly defined by open space buffers or roadways.
    2. Major identifying features such as park, plaza, or school sites should be provided.
    3. Each area should have its own distinct street pattern, and a consistent and evident landscape scheme should be applied to its streets and associated fronting properties.
- *Policy 4.20:* To reduce glare and lighting visible from residential neighborhoods, the use of reflective surfaces and neon lighting on commercial buildings shall be limited.

City of Seaside General Plan

The Seaside General Plan, adopted in 2004, consists of eight elements: Land Use, Urban Design, Economic Development, Circulation, Conservation/Open Space, Safety, Noise, and Housing (City of Seaside 2003). The City of Seaside began the process of updating its General Plan in February 2016 to reflect changes in the City's economic and housing markets, demographics, land use, transportation system, community character, and infrastructure demands since the 2004 Seaside General Plan. The 2004 Seaside General Plan is still the current adopted plan, as the Seaside 2040 General Plan has not yet been adopted. Relevant goals and policies from the 2004 Seaside General Plan Urban Design Element that relate to the protection of visual quality are provided below.

- *Policy UD-1.1:* Enhance the City's image and identity within the region's natural setting.
    - *Implementation Plan UD-1.1.1 "Gateway to the Monterey Peninsula"*. Through the Specific Plan process and the implementation of Design Guidelines, create entrances to the City that announce arrival and help establish the City as the "Gateway to the Monterey Peninsula." Ensure project include landscaping, design themes, landmark features, and signing to provide visual harmony and united development at the major gateways.
    - *Implementation Plan UD-1.1.2 Architectural Design Standards.* Adopt architectural design standards for new construction, building additions and redevelopment activities to ensure quality development. The design guidelines will address site planning, architecture, landscaping, signing, and access to light that will encourage a well-designed, visually appealing and cohesive community.
    - *Implementation Plan UD-1.1.3 Sign Ordinance.* Create and adopt a new Sign Ordinance that addresses quality design for all signs and that addresses the appropriate size, scale, and color of the signs. Adopt an amortization program to assist businesses to remove and replace all non-conforming signs.
- *Policy UD-2.1:* Protect the character of single-family neighborhoods by restricting out-of-scale buildings, incompatible uses and designs, blocked views and/or access to sunlight, and excessive through traffic.
    - *Implementation Plan UD-2.1.1 Design Standards in Zoning Ordinance*. Adopt design standards in the Seaside Zoning Ordinance to establish the scale of buildings, guidelines for quality design in new construction, building additions, and redevelopment, procedures to protect existing private views and access to sunlight as much as possible while at the same time allowing others the opportunity to enjoy the magnificent views from Seaside.

- *Policy UD-2.2:* Minimize potential light and sound impacts of new development and redevelopment on surrounding areas.
    - *Implementation Plan UD-2.2.1 Restrict Light and Noise Impacts.* Continue to impose and enforce mitigation measures and operation requirements on new development to restrict construction and operation lighting and noise levels to regular work hours during the week and to acceptable times during the weekends.
- *Policy UD-3.1:* Protect private views of significant natural features, such as the Monterey Bay, Roberts Lake, the Pacific Ocean, the surrounding mountains, and other important viewsheds.
    - *Implementation Plan UD-3.1.1 View Protection and the BAR.* Continue to require all additions that increase building heights and new developments to stake and flag development at least ten days prior to consideration by the Board of Architectural Review (BAR) for design approval. When feasible, require project site redesign, modified landscaping, or reduced building heights to avoid obstruction of private views.
- *Policy UD-3.2:* Preserve the unique public views visible from the Highway 1 Corridor between Fremont Boulevard and the northern boundary of the City as identified in the Fort Ord Reuse Authority (FORA) Plan.
    - *Implementation Plan UD-3.2.1 Viewshed Protection Standards.* Establish and enforce design guidelines and standards to preserve and protect public and private viewsheds while still allowing development to occur.

Monterey County General Plan

The County of Monterey General Plan, adopted in 2010, consists of eight elements: Land Use, Circulation, Conservation and Open Space, Safety, Public Services, Agriculture, Economic Development, and Housing (County of Monterey 2010). Relevant goals and policies from the Monterey County General Plan Conservation and Open Space Element and the Fort Ord Master Plan that relate to the protection of visual quality are provided below.

Conservation and Open Space Element

- *OS-1.1:* Voluntary restrictions to the development potential of property located in designated visually sensitive areas shall be encouraged.
- *OS-1.2:* Development in designated visually sensitive areas shall be subordinate to the natural features of the area.
- *OS-1.8:* Programs to encourage clustering development in rural and agricultural areas to maximize access to infrastructure, protect prime agricultural land, and reduce impacts to designated visually sensitive and critical habitat areas shall be established.

- *OS-1.9:* Development that protects and enhances the County's scenic qualities shall be encouraged.
- *OS-1.11:* Maintain GIS mapping for all lands containing visually sensitive resources and corridors. Mapped information shall be reanalyzed and updated at least every five (5) years, as necessary.
- *OS-1.12:* The significant disruption of views from designated scenic routes shall be mitigated through use of appropriate materials, scale, lighting and siting of development.

County General Plan Fort Ord Master Plan

- *Residential Land Use Policy B-1:* The County of Monterey shall encourage land uses that are compatible with the character of the surrounding districts or neighborhoods and discourage new land use activities that are potential nuisances and/or hazards within close proximity to residential areas.
  - *Program B-1.1:* The County of Monterey shall revise Zoning Ordinance regulations on the types of uses allowed in the county's districts and neighborhoods, where appropriate, to ensure compatibility of uses in the Fort Ord planning area.
  - *Program B-1.2:* The County of Monterey shall adopt zoning standards for the former Fort Ord lands to achieve compatible land uses, including, but not limited to, buffer zones and vegetative screening.
  - *Program B-1.3:* The County shall prepare and implement design guidelines for development on the bluffs to avoid strong visual contrasts as seen from the Salinas Valley.
  - *Program B-1.4:* The County shall prepare and implement visual design guidelines for areas surrounding the former Fort Ord in the County jurisdiction that are consistent with those prepared for the former Fort Ord under the Reuse Plan.
- *Commercial Land Use Policy F-1:* The County of Monterey shall support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area, to govern the visual quality of areas of regional importance. (Institutional Land Use Policy C-1 is the same.)
- *Commercial Land Use Policy F-2:* The County of Monterey shall adhere to the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework for commercial development at the former Fort Ord. (Institutional Land Use Policy C-2 is the same.)
  - *Program F-1.1 and C-2.1:* The County of Monterey shall prepare design guidelines for implementing commercial and institutional development on former Fort Ord

lands consistent with the regional urban design guidelines (to be prepared by FORA) and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

  - *Program F-1.2 and C-2.2:* The County of Monterey shall review each commercial and institutional development proposal for consistency with the regional urban design guidelines and the General Development Character and Design Objectives of the Fort Ord Reuse Plan Framework.

- *Recreation Policy C-1:* Monterey County shall establish an oak tree protection program to ensure conservation of existing coastal live oak woodlands in large corridors within a comprehensive open space system. Locate local and regional trails within this system.

4.1.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to aesthetics. The section identifies the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.1.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to aesthetics are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to aesthetics would occur (except as provided in Cal. Pub. Resources Code § 21099[d][1]) if the Project would:

A. Have a substantial adverse effect on a scenic vista.

B. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

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

D. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

4.1.3.2 Analytical Method

Program- and Project-Level Review

The aesthetics impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs). The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the proposed Master Plan. Operation or long-term impacts of the Project are considered in the impact analysis; construction impacts are not considered as they are temporary in nature. The analysis of aesthetic impacts takes into consideration the scale of proposed development in the context of existing campus development and surrounding off-campus development. The impact analysis assumes that Project development, including 5 near-term development components, would be constructed in compliance with the most current provisions of the California Building Code and the CSU Design Review Requirements, as described in Section 4.1.2.2, Regulatory Framework, and proposed PDFs when specific projects under the proposed Master Plan are pursued in the future. In the event significant adverse environmental impacts would occur with the implementation of the Project even with incorporation of applicable regulations and proposed PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

There are a number of PDFs that are incorporated into the technical analysis of aesthetics, as summarized below (see Chapter 3, Project Description for specific text of each applicable PDF):

- *PDF-MO-5* provides for a compact campus core.
- *PMF-OS-1* provides for the management and designation of open space consistent with Figure 3-8 (see Chapter 3, Project Description), including natural open space and connecting landscape, which will connect and protect habitats and sensitive species and avoid fragmenting such areas.
- *PDF-OS-2* provides for the maintenance, enhancement and restoration of natural open spaces, native habitats and sensitive species, at a minimum in accordance with the Fort Ord Habitat Management Plan and Habitat Conservation Plan EIR requirements and/or other best management practices.
- *PDF-OS-4* provides for continuation and expansion of the CSUMB tree restoration and management program to maximize the health and stability of existing and replacement trees. This includes, but is not limited to, Campus Planning approving and directing major trimming (over 30 percent) and replacement of all removed trees over 4-inches in diameter at a minimum 2:1 ratio.

- *PDF-OS-5* establishes a habitat restoration fund to collect funds for the replacement of trees and/or habitat that may be removed or disturbed during construction of proposed development.
- *PDF-OS-6* provides for the stabilization of newly created bare land after construction with native plants and seed mixes to eliminate erosion, and indicates that permanent landscaping will use consistent, low maintenance, native and drought-tolerant landscaping using a campus wide landscape palette informed by the campus Landscape Maintenance Plan and FORA RUDG palettes.
- *PDF-OS-7* minimizes human caused impacts along trail corridors by: minimizing obtrusive lighting, separating users by type and connecting people to and protecting the natural environment.
- *PDF-OS-10* provides for the creation of academic open spaces such as plazas and courtyards adjacent to academic buildings.
- *PDF-D-1* requires that the design standards and concepts included in the Master Plan Guidelines be pursued for all building and landscape projects and that the FORA RUDG be voluntarily complied with in all future improvements along the campus edges.
- *PDF-D-2* provides for the establishment of a Design Review Committee (DRC) on campus to review project architectural and stylistic consistency and contribution to the campus.
- *PDF-D-3* provides that within the campus core, new buildings would not exceed the existing Library's elevation (approximately 310 feet above sea level). Outside of the campus core, new buildings would not exceed 5 stories.
- *PDF-D-7* indicates the CSUMB will aim to meet Neighborhood Development (LEED ND) light pollution reduction requirements in all new building and pathway development, adhere to Title 24 maximums for lighting power density, and shall use LED lights, reflectors, visors, shields and customized optics and technology at the replacement stadium to precisely aim and illuminate the field.

4.1.3.3 Issues Not Evaluated Further

The Project would have no impact with respect to the following threshold of significance and therefore this topic is not further evaluated:

- <u>Scenic Resources (Threshold B).</u> Scenic resources include, but are not limited to, trees, rock outcroppings, and historic buildings, within a scenic highway. In the vicinity of the campus, Highway 1 is eligible for the State Scenic Highway Program, and Reservation Road northeast of the campus is a proposed scenic corridor in the Monterey County General Plan, as indicated in Section 4.1.1.2. The trees along Highway 1 that serve to screen most of the former Fort Ord from view from Highway 1 are not located on the CSUMB campus and would not be removed or damaged with the proposed Master Plan; therefore, the Project would not damage scenic resources along Highway 1. Reservation Road is located near East Campus Housing where no new construction would occur under the proposed Master Plan; therefore, the Project would not damage a scenic resource along Reservation Road. Given the above, development under the proposed Master Plan, including the five near-term development components, would not affect scenic resources within a state scenic highway or other scenic road or corridor, resulting in no impact.

4.1.3.4 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of aesthetics impacts associated with the Project.

Impact AES-1:	**Scenic Vistas (Threshold A).** The Project would not have a substantial adverse impact on a scenic vista. *(Less than Significant)*

Master Plan

The Project would result in a net increase of approximately 2.6 million gross square feet (GSF) of new academic, administration, student life, athletic recreational, and institutional partnership facilities, and housing. Proposed development would be located only within the Main Campus and would consist of infill development on existing developed or paved sites within the campus core and elsewhere on the Main Campus. Limited development would occur near the edges of the Main Campus. Future development would be similar in scale, massing, height and character to existing development and would not exceed the height of the existing Library elevation (310 feet above mean sea level) within the campus core and no more than 5 stories outside the campus core, as provided for in PDF-D-3, which would limit the heights of new buildings. Additionally, Project development would be subject to the CSU design review process and PDF-D-2 calls for the establishment of a Design Review Committee (DRC) on campus to review project architectural and stylistic consistency and contribution to the campus.

The Project would not result in development of buildings that would have a substantial adverse impact on scenic vistas from Highway 1 or other identified scenic areas. Highway 1 west of the CSUMB campus is eligible for inclusion in the State Scenic Highway program. As discussed in Section 4.1.1.3, above, the campus is not visible from Highway 1 due to existing topography and trees. There is one location along southbound Highway 1 north of Marina that provides a view of the former Fort Ord and distant mountains, from which CSUMB is currently screened by existing tree cover. Future development would be similar to existing development and would not exceed the height of the existing Tanimura and Antle Family Memorial Library elevation (310 feet above mean sea level) within the campus core and no more than 5 stories outside the campus core, as indicated above. It is possible that some upper levels of new buildings on campus could be visible from Highway 1 in this location where a distant view toward the southeast of the former Fort Ord is available north of Marina, but the view would be of limited extent and duration given the distance from Highway 1. Currently, the upper portion of the former Fort Ord Hayes Hospital, an eight-story building, is the primary built feature that is visible from this vantage point north of Marina as part of the mid-range view with distant mountain views in the background. The former Hayes Hospital is about the same distance from Highway 1 as Sixth, Seventh, and Eighth Avenues on the CSUMB campus, although that building sits at a higher elevation and is taller than proposed CSUMB buildings. The campus is not visible from other portions of Highway 1 or major public areas due to intervening topography, existing development, and landscaping. The Project would not obstruct scenic ocean views or distant mountain views as seen from Highway 1.

The Project would also not result in development of buildings that would have a substantial adverse impact on distant, intermittent views of Monterey Bay towards the west from the eastern portion of the Main Campus. As indicated in Section 4.1.1.3, CSUMB Campus, these distant views are intermittent due to the presence of mature landscaping (i.e., Monterey cypress, Monterey pines, coast live oaks, and planted street trees) that is interspersed throughout the Main Campus and to the west of the campus along Highway 1, as well as due to the presence of existing intervening development on the campus. The scenic viewshed from the CSUMB campus identified in the Draft Seaside 2040 General Plan (Figure 39), looking west, generally from the area at 6th Avenue and A Street appears to be representative of such intermittent distant views of Monterey Bay. However, given that proposed Master Plan development consists of in-fill development on the Main Campus and would not exceed the height of existing buildings it would not substantially affect views of Monterey Bay from the eastern portion of the Main Campus.

The Monterey County Scenic Highway Corridors and Visual Sensitivity Map (General Plan Figure 14) identifies an area approximately 0.4 miles northeast of East Campus Housing north of Reservation Road as having visual sensitivity and the Fort Ord Dunes State Park as highly sensitive approximately 0.4 miles west of the Main Campus (Monterey County 2010) (see Figure 4.1-1). Additionally, Reservation Road northeast of the campus is a proposed scenic corridor in the Monterey County General Plan. New construction is not proposed in the East Campus Housing area, and proposed campus buildings on the Main Campus would not be visible or distinguishable from the visually sensitive areas identified above due to intervening topography and vegetation. Therefore, the Project would not substantially affect scenic views or visually sensitive areas identified in the plans of adjacent jurisdictions.

Given the foregoing discussion, the Project would not result in development that would block, obstruct or substantially adversely affect scenic ocean views or other scenic inland views, and the impact related to scenic vistas would be *less than significant*.

Near-Term Development Components

Student Housing Phase III

Student Housing Phase III would include construction of four-story student residential buildings on an existing parking lot in the North Quad, adjacent to existing housing and other campus buildings. The site is not visible from Highway 1. While some intermittent views of Monterey Bay are available looking to the west and north of the Student Housing Phase III site, no public scenic views would be affected by proposed development on the site, and the impact on scenic vistas would be *less than significant*.

Academic IV Building

Academic IV would include demolition of existing Building 13 and portions of parking lot areas 13 and 19, and construction of a four-story science building. The new building would consist of infill development located within the campus core. The site is not visible from Highway 1. No scenic views are available from the site given the presence of intervening building and landscaping, and the impact on scenic vistas would be *less than significant*.

Student Recreation Center Phases I and II

The Student Recreation Center would include demolition of existing Buildings 21 and 23 and portions of parking lots 23 and 508, and construction of a new, up to two-story recreation center building south of the Main Quad. The new building would consist of infill development located within the campus core. The site is not visible from Highway 1, and no scenic views are available from this site given the presence of intervening building and landscaping. Therefore, the impact on scenic vistas would be *less than significant*.

Student Housing Phase IIB

Student Housing Phase IIB would include construction of a new, four-story student residential building south of the existing Promontory on a vacant pavement lot. The site is not visible from Highway 1, and no scenic views are available from the site given the presence of intervening building and landscaping. Therefore, the impact on scenic vistas would be *less than significant*.

Academic V

Academic V would include demolition of existing Buildings 1, 2, and 3 and construction of a new, up to four-story academic building in the Main Quad. The new building would consist of infill development within the campus core. The site is not visible from Highway 1, and no scenic views are available from the site given the presence of intervening building and landscaping. Therefore, the impact on scenic vistas would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact on scenic vistas has not been identified.

Impact AES-2:	**Visual Character or Quality (Threshold C).** The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. *(Less than Significant)*

Master Plan

The proposed Master Plan would include the renovation of some older buildings on campus and construction of new campus buildings. Demolition of the remaining military era structures that are abandoned, dilapidated, or beyond their useful life and deteriorated pavement areas on campus would further enhance the visual quality and character of the campus. New development allowed by the proposed Master Plan would result in increased density and create a somewhat more urbanized character on the Main Campus; however, the existing pattern of development on campus would be maintained and design guidelines would be followed to contribute to a consistent and uniform visual character and enhanced visual quality.

New development would take place only on the Main Campus, consisting of infill in the campus core and within other developed portions of the Main Campus, such as near the North Quad and Promontory student housing complexes. Most future campus development would be of similar scale, massing, height, and character to other newer buildings recently constructed on the campus and would not exceed the elevation of the existing Tanimura and Antle Family Memorial Library in the campus core. Specifically, future development would not exceed the existing Library's elevation (310 feet above mean sea level) within the campus core and would be no more than 5 stories outside the campus core, as provided for in PDF-D-3. Future development would be subject to the CSU design review process and PDF-D-2 calls for the establishment of a Design Review Committee (DRC) on campus to review project architectural and stylistic consistency and contribution to the campus. As indicated in PDF-D-1, CSUMB would adhere to the Master Plan Guidelines design standards and guidelines, which include architectural and urban design standards as well as landscape and site design guidelines. PDF-D-1 also indicates that the campus would voluntarily comply with the FORA RUDG when planning and designing all future improvements along the campus edges to provide for continuity with adjacent off-campus development. Overall, implementation of Project development in conformance with PDF-D-1 through PDF-D-3 would create a more coherent, consistent, and distinctive visual character on campus.

While the Project would result in an overall increase in on-campus development, the amount of open space would generally be maintained, as indicated in PDF-OS-1. Overall, the proposed Master Plan aims to connect and enhance campus open space through preservation of existing natural open space areas and formal open space areas, as well as creation of new connecting landscape open space areas (see PDF-OS-2 and PDF-OS-10). Significant development is not anticipated for open space areas, although additional uses considered compatible with the natural open space character, such as trails, may be considered in the future. An area in the Southern Oak Woodland is identified for a potential athletics expansion, the Cypress Grove is designated as a development reserve, and a portion on the western edge of East Campus Open Space is designated as faculty and staff housing reserve (see Chapter 3, Project Description, Figure 3-6). Future development of these areas is not currently planned with the Project.

Through the planning horizon of the proposed Master Plan, PDF-OS-4, PDF-OS-5, PDF-OS-6 would maintain tree cover on the campus through replacement of trees removed and maximizing the health and stability of existing and replacement trees through the implementation of a tree management plan. Once construction of buildings is completed, permanent landscaping would be installed and would use consistent, low-maintenance, native and drought-tolerant landscaping strategies that visually unify the campus by using a campuswide landscape palette informed by the FORA RUDG palettes.

As the Project would maintain the existing campus development pattern, restrict building heights, maintain and enhance open space, maintain tree cover, and include other design standards and review requirements, the proposed Master Plan would not degrade existing visual character or quality and the impact would be *less than significant*.

Near-Term Development Components

All near-term development components would be required to adhere to the same design standards and PDFs as described for the proposed Master Plan. The above discussion for the Master Plan also applies to the near-term developments. Impacts related to degradation of visual character and quality from near-term development components would also be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to visual character or quality has not been identified.

Impact AES-3:	**Light and Glare (Threshold D).** The Project would not introduce a new source of substantial light and glare. *(Less than Significant)*

Master Plan

As indicated in Section 4.1.1.3, existing sources of light and glare on the campus include streetlights, illuminated signage, exterior safety and wayfinding lights, automobile headlights, and building windows. When in use, night and field lighting is also present in the Freeman Stadium and the other sports fields located in the southwestern portion of the Main Campus.

Development allowed by the proposed Master Plan would create additional sources of light and glare from new buildings and expanded pedestrian-scale lighting and wayfinding along pathways. New lighting would also be installed at the replacement stadium. However, proposed development would be sited on the Main Campus in proximity to other on- and off-campus development, which already contains numerous existing sources of lighting. Additionally, the Project would implement PDF-D-7 and the CSU Outdoor Lighting Design Guide, which contain requirements for light pollution reduction in all new building and pathway development, including power density and shielding. Proposed PDF-OS-7 would minimize intrusive lighting along trails. Additionally, the CALGreen-mandated BUG (Backlight/Uplight/Glare) ratings would also apply to Project development per their designated lighting zone unless otherwise exempt, which would reduce light pollution and glare.

Any new lighting at the replacement stadium would use LED lights, reflectors, visors, shields and customized optics and technology to precisely aim and illuminate the field. A lighting analysis for the Freeman Stadium Facilities Renovation Project, to be implemented in the interim, prior to the stadium replacement contemplated by the proposed Master Plan, determined that proposed new mast lighting would result in little to no spillover light at approximately 250 feet from the light pole locations, which would not impact the closest on-campus or off-campus residences, as such residences are located over 950 feet from the nearest light pole (DDA 2021). Any new mast lighting associated with a replacement stadium under the proposed Master Plan would be expected to have limited light spillover and would not impact on-campus and off-campus residences given the distance of these residences from the stadium.

Collectively, the requirements described herein would minimize light trespass from new Project development and would not permit excessive sources of lighting that could be directed upward or contribute to atmospheric light pollution or glare that could affect people on or near the campus.

Given the above discussion, growth and development under the proposed Master Plan would not introduce new sources of substantial light or glare and the impact would be *less than significant.*

Near-Term Development Components

All near-term development components would be required to adhere to the same lighting standards and requirements described above. The above discussion for the proposed Master Plan also applies to the near-term development components. Impacts related to light and glare from near-term development components would also be *less than significant.*

Mitigation Measures

Mitigation measures are not required because a significant impact related to light and glare has not been identified.

4.1.3.5 Cumulative Impacts

This section provides an evaluation of aesthetics impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis and as relevant to this topic. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact AES-4:	**Cumulative Aesthetic Impacts (Thresholds A, C and D).** The Project and other cumulative development would not have significant cumulative impacts related to scenic vistas, visual quality and light and glare. *(Less than Significant)*

The geographic context for the analysis of cumulative impacts related to aesthetics includes the CSUMB campus and the immediate vicinity, particularly the adjacent areas within Marina, Seaside, and unincorporated Monterey County. As discussed in Section 4.1.3.4, the Project includes PDFs to ensure that future campus development allowed by the proposed Master Plan would not result in significant impacts related to obstruction of scenic vistas, degradation of visual character and quality, and creation of substantial light and glare (see Impact AES-1, Impact AES-2, and Impact AES-3).

Cumulative development would not substantially affect scenic vistas as seen from Highway 1 west to Monterey Bay, as cumulative development is generally not proposed west of Highway 1 in the immediate vicinity of the campus (see Section 4.0, Figure 4.0-1). The effects of off-campus cumulative development on distant mountain views towards the east over the former Fort Ord from Highway 1 would generally be avoided through the application of General Plan policies and ordinances of surrounding jurisdictions that address siting and design of new development to protect scenic views and resources, and through the implementation of the FORA RUDG, the FORA Highway 1 Design Corridor Design Guidelines, and the standards and guidelines of applicable Specific Plans. Additionally, cumulative development would not impact the proposed scenic corridor along Reservation Road, or the other visually sensitive areas identified in Impact AES-1, as cumulative developments are not located in these areas. Therefore, cumulative impacts related to scenic vistas would be *less than significant*.

Redevelopment in the areas of the former Fort Ord surrounding the campus would result in additional infill development that would be of similar scale, building mass, and heights as other new residential and commercial developments in the area, including but not limited to, the Dunes on Monterey Bay, Sea Haven, Cypress Knolls Senior Residential Project, 2nd Avenue Development at CSUMB, The Projects at Main Gate Specific Plan, Concourse Auto Dealership, and the Campus Town Specific Plan. In many cases, future cumulative development, such as the Campus Town Specific Plan and the 2nd Avenue Development at CSUMB, would replace deteriorating, vacant, or underutilized structures or paved areas associated with the former military use of the area, similar to the Project. The adverse effects of off-campus cumulative development on visual character and quality would also generally be avoided through the application of General Plan policies and ordinances of surrounding jurisdictions that address siting and design of new development to protect visual character, and through the implementation of the FORA RUDG, the FORA Highway 1 Design Corridor Design Guidelines, and the standards and guidelines of applicable Specific Plans. Therefore, cumulative impacts related to visual character and quality would be *less than significant*.

Cumulative development would also have the potential to incrementally increase sources of light and glare in the area. As for the Project, cumulative development would be sited in proximity to other on- and off-campus development, which already contains numerous sources of lighting. Additionally, the effects of off-campus cumulative development related to light and glare would also generally be avoided through the application of General Plan policies and ordinances of surrounding jurisdictions that minimize light spill and glare, and through the implementation of the FORA RUDG, and the standards and guidelines of applicable Specific Plans. Therefore, cumulative impacts related to light and glare would be *less than significant*.

4.1.4 References

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4.2 AIR QUALITY

This section of the EIR presents an analysis of the potential air quality impacts associated with development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate any significant or potentially significant impacts. Information in this section is based on information derived from the Transportation Analysis (Appendix H) and Air Quality and Greenhouse Gas Emissions Calculations (Appendix D).

No public and agency comments related to air quality were received during the public scoping periods in response to the original Notice of Preparation (NOP) or the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods, refer to Appendix B.

4.2.1 Environmental Setting

4.2.1.1 Affected Environment

The Project is located in the North Central Coast Air Basin (NCCAB), which consists of Monterey, Santa Cruz, and San Benito counties and encompasses an area of 5,159 square miles. The northwest sector of the basin is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary and, together with the southern extent of the Santa Cruz Mountains, forms the Santa Clara Valley, which extends into the northeastern tip of the NCCAB. Farther south, the Santa Clara Valley merges into the San Benito Valley, which extends northwest–southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to King City at the southeast end. The western side of the Salinas Valley is formed by the Sierra de Salinas, which also forms the eastern side of the smaller Carmel Valley. The coastal Santa Lucia Range defines the western side of the valley (County of Monterey 2008).

The semi-permanent high-pressure cell in the eastern Pacific is the basic controlling factor in the climate of the NCCAB. In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement. The generally northwest–southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure that intensifies the onshore air flow during the afternoon and evening. In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay area or the Central Valley into the NCCAB. During the winter, the Pacific High migrates southward and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the NCCAB as a whole in winter and early spring (County of Monterey 2008).

4.2.1.2 Local Air Quality Conditions

North Central Coast Air Basin Attainment Designations

Pursuant to the 1990 federal Clean Air Act amendments, the U.S. Environmental Protection Agency (EPA) classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as attainment for that pollutant. If an area exceeds the standard, the area is classified as nonattainment for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, also requires the designation of areas as attainment or nonattainment but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS. Table 4.2-1 identifies the current attainment status of the NCCAB, which includes the Project site, with respect to the NAAQS and CAAQS.

Table 4.2-1
North Central Coast Air Basin Attainment Classification

Pollutant	Averaging Time	Designation/Classification
National Standards		
O_3	8 hours	Unclassifiable/Attainment
NO_2	1 hour, annual arithmetic mean	Unclassifiable/Attainment
CO	1 hour; 8 hours	Unclassifiable/Attainment
SO_2	24 hours; annual arithmetic mean	Unclassifiable/Attainment
PM_{10}	24 hours	Unclassifiable/Attainment
$PM_{2.5}$	24 hours; annual arithmetic mean	Unclassifiable/Attainment

Table 4.2-1
North Central Coast Air Basin Attainment Classification

Pollutant	Averaging Time	Designation/Classification
Lead	Quarter; 3-month average	Unclassifiable/Attainment
California Standards		
O_3	1 hour; 8 hours	**Nonattainment**
NO_2	1 hour; annual arithmetic mean	Attainment
CO	1 hour; 8 hours	Attainment
SO_2	1 hour; 24 hours	Attainment
PM_{10}	24 hours; annual arithmetic mean	**Nonattainment**
$PM_{2.5}$	Annual arithmetic mean	Attainment
Lead	30-day average	Attainment
SO_4	24 hours	Attainment
H_2S	1 hour	Unclassified
Vinyl chloride	24 hours	No designation
Visibility-reducing particles	8 hours (10:00 a.m.–6:00 p.m.)	Unclassified

Sources: CARB 2020 (California); EPA 2020 (national).
Notes: O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SO_4 = sulfates; H_2S = hydrogen sulfide.

In summary, the NCCAB is designated as a nonattainment area for the state O_3 and PM_{10} standards. The NCCAB is designated as unclassified or attainment for all other state and federal standards (EPA 2020; CARB 2020). See Section 4.2.2, Regulatory Framework, for additional information about applicable regulations.

Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across California. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Table 4.2-2 presents the most recent background ambient air quality data from 2017 to 2020. The Salinas monitoring station, located at 855 E Laurel Drive, Salinas, California, is the nearest air quality monitoring station to the Project site, located approximately 10 miles northeast of the Project site. This station monitors O_3, NO_2, CO, and $PM_{2.5}$. The nearest station that monitors PM_{10} is located at 415 Pearl Street, King City, California, approximately 57 miles southeast of the Project site. The data collected at these stations is considered representative of the air quality experienced in the Project vicinity and is provided in Table 4.2-2. The number of days exceeding the ambient air quality standards are also shown in Table 4.2-2.

Table 4.2-2
Local Ambient Air Quality Data

Averaging Time	Ambient Air Quality Standard	Measured Concentration and Exceedances by Year			
		2017	2018	2019	2020
Ozone (O_3) – Salinas Monitoring Station					
Maximum 1-hour concentration (ppm)	0.09 ppm (state)	0.082	0.089	0.072	0.073
Number of days exceeding California standard (days)		*0*	*0*	*0*	*0*
Maximum 8-hour concentration (ppm)	0.070 ppm (state)	0.070	0.052	0.064	0.057
	0.070 ppm (federal)	0.070	0.052	0.063	0.057
Number of days exceeding California standard (days)		*0*	*0*	*0*	*0*
Number of days exceeding national standard (days)		*0*	*0*	*0*	*0*
Nitrogen Dioxide (NO_2) – Salinas Monitoring Station					
Maximum 1-hour concentration (ppm)	0.18 ppm (state)	0.034	0.047	0.030	0.032
	0.100 ppm (federal)	0.034	0.047	0.030	0.032
Number of days exceeding California standard (days)		*0*	*0*	*0*	*0*
Number of days exceeding national standard (days)		*0*	*0*	*0*	*0*
Annual concentration (ppm)	0.030 ppm (state)	0.004	0.005	0.004	0.004
	0.053 ppm (federal)	0.004	0.005	0.004	0.004
Carbon Monoxide (CO) – Salinas Monitoring Station					
Maximum 1-hour concentration (ppm)	20 ppm (state)	4.5	3.5	2.7	1.6
	35 ppm (federal)	4.5	3.5	2.7	1.6
Number of days exceeding California standard (days)		*0*	*0*	*0*	*0*
Number of days exceeding national standard (days)		*0*	*0*	*0*	*0*
Maximum 8-hour concentration (ppm)	9.0 ppm (state)	0.8	0.9	0.8	1.2
	9 ppm (federal)	0.8	0.9	0.8	1.2
Number of days exceeding California standard (days)		*0*	*0*	*0*	*0*
Number of days exceeding national standard (days)		*0*	*0*	*0*	*0*
Fine Particulate Matter ($PM_{2.5}$) – Salinas Monitoring Station					
Maximum 24-hour concentration ($\mu g/m^3$)	35 $\mu g/m^3$ (federal)	42.2	64.0	53.0	87.0
Number of days exceeding national standard (days)[a]		*1.0 (1)*	*5.0 (5)*	*1.0 (1)*	*9.09*
Annual concentration ($\mu g/m^3$)	12 $\mu g/m^3$ (state)	5.5	8.5	5.6	6.8
	12.0 $\mu g/m^3$ (federal)	5.6	6.1	4.1	6.8
Coarse Particulate Matter (PM_{10}) – King City Monitoring Station					
Maximum 24-hour concentration ($\mu g/m^3$)	50 $\mu g/m^3$ (state)	ND	ND	ND	ND
	150 $\mu g/m^3$ (federal)	95.3	78.9	89.7	238.6
Number of days exceeding California standard (days)[a]		*ND*	*ND*	*ND*	*ND*
Number of days exceeding national standard (days)[a]		*0.0 (0)*	*0.0 (0)*	*0.0 (0)*	*2.12*
Annual concentration (state method) ($\mu g/m^3$)	20 $\mu g/m^3$ (state)	ND	ND	ND	ND

Sources: CARB 2021a; EPA 2021.
Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; ND = insufficient data available to determine the value.

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.
Exceedances of national and California standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed national or California standards during the years shown. There is no national standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.
Salinas Monitoring Station is located at 855 E Laurel Drive, Salinas, 93901. King City Monitoring Station is located at 415 Pearl Street, King City, 93930.
a Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

4.2.1.3 Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The national and California 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 persons from illness or discomfort. Pollutants of concern include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs. [1]

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and reactive organic gases (ROGs, also termed volatile organic compounds or VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at the Earth's surface in the troposphere (ground-level O_3). [2] The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e.,

1 The descriptions of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's (EPA's) Criteria Air Pollutants (EPA 2018) and the California Air Resources Board's (CARB's) Glossary of Air Pollutant Terms (CARB 2019a).
2 The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in and cause shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. While there are relatively few studies of O_3's effects on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents, and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2019b).

Nitrogen Dioxide and Oxides of Nitrogen. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x, which includes NO_2 and nitric oxide, plays a major role, together with ROG, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emission sources of NO_x are transportation and stationary fuel combustion sources (such as electric utility and industrial boilers).

A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards (AAQS) for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher levels of exposure compared to children with lower exposure levels. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2019c).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2019d).

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to respond adversely to SO_2 exposure, compared with the non-asthmatic population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 part per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. The elderly and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2019e).

SO_2 is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in particulate matter (NRC 2005). Exposure to SO_2 for people with asthma is of particular concern, both because people with asthma have increased baseline airflow resistance and because their SO_2-induced increase in airflow resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and residential fuel combustion; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides, NO_x, and ROG.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. PM_{10} tends to collect in the upper portion of the respiratory system, whereas $PM_{2.5}$ is small enough to penetrate deeper into the lungs and damage lung tissue. Suspended particulates also produce haze and reduce regional visibility and damage and discolor surfaces on which they settle.

A number of adverse health effects have been associated with exposure to both $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2017).

Long-term exposure (months to years) to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2017).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood, because children are highly susceptible to the effects of lead. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$ described above.

Reactive Organic Gases. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as ROGs (also referred to as VOCs). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of ROGs result from the formation of O_3 and its related health effects. High levels of ROGs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for ROGs as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence.

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles;

and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90 percent of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2019). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known carcinogenic organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2019). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) (Cal. Code Regs. tit.17, § 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars; and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70 percent of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2019). Those most vulnerable to non-cancer health effects are children, whose lungs are still developing, and the elderly, who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to 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. 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., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. The term "sensitive receptors" is used to refer to facilities and structures where people who are sensitive to air pollution live or spend considerable amounts of time. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005).

In the immediate vicinity of the campus, the closest off-site sensitive receptors include residences located in Marina on Eighth Street approximately 0.25 miles to the north, the Dual Language Academy of the Monterey Peninsula approximately 0.63 miles to the south, the Major General William H. Gourley VA-Department of Defense Outpatient Clinic (VA Monterey Outpatient Clinic) approximately 0.66 miles to the west, and George C. Marshall Elementary School approximately 0.73 miles to the south. Furthermore, on-site sensitive receptors include the CSUMB Childcare Center, located on Third Avenue.

4.2.2 Regulatory Framework

4.2.2.1 Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting NAAQS for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames. The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of sensitive receptors. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. HAPs include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

4.2.2.2 State

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established CAAQS, which are generally more restrictive than the NAAQS. As stated previously, an ambient air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public's health. For each pollutant, concentrations must be below the relevant CAAQS before an air basin can attain the corresponding CAAQS. Air quality is considered in attainment if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

California air districts have based their thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the NAAQS or CAAQS. Since an ambient air quality standard is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the ambient air quality standard, this means that the thresholds established by air districts are also protective of human health. Table 4.2-3 presents the NAAQS and CAAQS.

Table 4.2-3
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
O_3	1 hour	0.09 ppm (180 μg/m^3)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m^3)	0.070 ppm (137 μg/m^3)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m^3)	0.100 ppm (188 μg/m^3)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	
CO	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m^3)	0.075 ppm (196 μg/m^3)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m^3)
	24 hours	0.04 ppm (105 μg/m^3)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m^3	150 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 μg/m^3	—	
$PM_{2.5}$[i]	24 hours	—	35 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3
Lead[j,k]	30-day Average	1.5 μg/m^3	—	—
	Calendar Quarter	—	1.5 μg/m^3 (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 μg/m^3	
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m^3)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 μg/m^3)	—	—
Sulfates	24 hours	25 μg/m^3	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent	—	—

Source: CARB 2016a.

Notes: ppm = parts per million by volume; μg/m^3 = micrograms per cubic meter; mg/m^3= milligrams per cubic meter.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Cal. Code Regs., tit. 17, chapter 1, § 70200.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 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. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25° 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.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the primary and secondary NAAQS for O_3 were lowered from 0.075 ppm to 0.070 ppm.

[g] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standard of 15 μg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level 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.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

CARB's Mobile Source Strategy

On May 16, 2016, CARB released the 2016 Mobile Source Strategy that demonstrates how the state can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The actions contained in the 2016 Mobile Source Strategy will deliver broad environmental and public health benefits, as well as support much needed efforts to modernize and upgrade transportation infrastructure, enhance system-wide efficiency and mobility options, and promote clean economic growth in the mobile sector.

The estimated benefits of the strategy in reducing emissions from mobile sources includes an 80 percent reduction of smog-forming emissions and a 45 percent reduction in DPM. Statewide, and if fully implemented, the 2016 Mobile Source Strategy would also result in a 45 percent reduction in GHG emissions, and a 50 percent reduction in the consumption of petroleum-based fuels (CARB 2016b).

In September 2019, Governor Newsom signed Senate Bill (SB) 44 which acknowledges the ongoing need to evaluate opportunities for mobile source emissions reductions and requires CARB to update the 2016 Strategy by 2021 and every five years thereafter. Specifically, SB 44 requires CARB to update the 2016 Strategy to include a comprehensive strategy for the deployment of medium- and heavy-duty vehicles for the purpose of meeting air quality standards and reducing GHG emissions. It also directs CARB to set reasonable and achievable goals for reducing emissions by 2030 and 2050 from medium- and heavy-duty vehicles that are consistent with the State's overall goals and maximizes the reduction of criteria air pollutants.

In response, CARB developed the 2020 Mobile Source Strategy that, similar to the 2016 Mobile Source Strategy, is a framework to identify the technology trajectories and programmatic concepts to meet our criteria pollutant, GHG, and TAC emission reduction goals from mobile sources. The 2020 Mobile Source Strategy was heard by CARB in October 2021 and will be incorporated in other planning efforts such as the State Implementation Plan and 2022 Climate Change Scoping Plan Update.

The estimated benefits of the 2020 Mobile Source Strategy in reducing emissions from mobile sources includes an 82 percent reduction of smog-forming emissions by 2037 and a 66 percent reduction in DPM by 2031. The 2020 Mobile Source Strategy, if fully implemented, would also result in a 76 percent reduction in GHG emissions by 2045, and 85 percent and 77 percent of passenger cars and heavy-duty trucks would be zero-emission vehicles (ZEV) or plug-in hybrid electric vehicles (PHEV) in 2045 (CARB 2021c).

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs.

In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80-percent decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several airborne toxic control measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (Cal. Code Regs., tit. 13, § 2449 *et seq.*) and In-Use On-Road Diesel-Fueled Vehicles (Cal. Code Regs., tit. 13, § 2025). On June 25, 2020, CARB adopted the final rule for new standards that require the sale of zero-emission heavy-duty trucks (HDTs), starting with the 2024 model year. The Advanced Clean Trucks (ACT) rulemaking finalizes standards that were initially proposed on October 22, 2019 and strengthened in a revised proposal on April 28, 2020 (CARB 2021b). The ACT would require manufacturers to sell increasing percentages of zero-emission trucks, is expected to reduce the lifecycle emission of GHGs, eliminate tailpipe emissions of air pollutants, and foster a market for zero-emission HDTs.

Airborne Toxic Control Measures

In July 2004, CARB adopted an airborne toxic control measure (ATCM) to limit motor vehicle idling within California. The control measure was adopted as part of a program to reduce public exposure to DPM. The measure applies to all diesel-fueled vehicles over 10,000 pounds, regardless of the state in which they are registered. Effective 2008, all heavy-duty trucks are prohibited from idling to maintain comfortable sleeper berth conditions. Idling is not permitted in school areas or 100 feet from a restricted area for more than 5 minutes unless the vehicle is engaged in working activities.

California Health and Safety Code § 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property (Cal. Health and Safety Code § 41700). This section also applies to sources of objectionable odors.

California State University

In May 2014, the 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 which may be applicable to air quality: Promote use of alternative fuels and transportation programs, procure 33 percent of energy supply from renewable sources by 2020, and increase on-site energy generation from 44 to 80 megawatts by 2020. This policy is in the process of being updated.

4.2.2.3 Regional

Monterey Bay Air Resources District

The Monterey Bay Air Resources District (MBARD) is the regional agency responsible for the regulation and enforcement of national, state, and local air pollution control regulations in the NCCAB, where the Project is located. The MBARD operates monitoring stations in the NCCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The MBARD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain CAAQS and NAAQS in the NCCAB. The MBARD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

Air Quality Management Plan (AQMP)

The 1991 AQMP for the Monterey Bay Area was the first plan prepared in response to the California Clean Air Act of 1988, which established specific planning requirements to meet the O_3 standard. The California Clean Air Act requires that the AQMP be updated every 3 years. The most recent update is the *2012–2015 Air Quality Management Plan* (2012–2015 AQMP), which was adopted in March 2017, and is an update to the elements included in the 2012 AQMP. The primary elements updated from the 2012 AQMP are the air quality trends analysis, emission inventory, and mobile source programs.

The NCCAB is a nonattainment area for the CAAQS for both O_3 and PM_{10}. The AQMP addresses only attainment of the O_3 CAAQS. Attainment of the PM_{10} CAAQS is addressed in the MBARD's *2005 Report on Attainment of the California Particulate Matter Standards in the Monterey Bay Region* (Particulate Matter Plan), which was adopted in December 2005 and is summarized further below. Maintenance of the 8-hour NAAQS for O_3 is addressed in MBARD's *2007 Federal Maintenance Plan for Maintaining the National Ozone Standard in the Monterey Bay Region* (Federal Maintenance Plan), which was adopted in March 2007 and is also summarized below. The 2007 Federal Maintenance Plan is an update to the 1994 Federal Maintenance Plan that was prepared for the 1-hour NAAQS for ozone. However, that standard has been revoked and superseded by the current 8-hour ozone standard. MBARD's Federal Maintenance Plan documents maintenance of the 1997 federal ozone standard. Notably, because the NCCAB is unclassifiable/attainment for all criteria air pollutants in regard to the NAAQS, additional planning documentation has not been required since approval of the Federal Maintenance Plan. Furthermore, the Particulate Matter Plan includes review of the basin's air monitoring emissions data with characterization of sources that likely to cause or contribute to monitored violations of the standard in the NCAAB. The major cause of exceedances in the NCCAB is naturally occurring sea salt, without which, three quarters of all exceedances in the NCCAB would not have occurred. Therefore, there are no planning requirements associated with sea salt, and the remaining exceedances are relatively infrequent and not substantially above the standard.

A review of the air monitoring data for 2013 through 2015 indicates that there were fewer exceedance days compared to previous periods (i.e., ambient air quality did not exceed the AAQS as frequently as in times past) (MBARD 2017). The long-term trend shows that progress has been made toward achieving O_3 standards. The number of exceedance days has continued to decline during the past 10 years despite population increases. The MBARD's 2012–2015 AQMP identifies a continued trend of declining O_3 emissions in the NCCAB primarily related to lower vehicle miles traveled (VMT). Therefore, the MBARD determined progress was continuing to be made toward attaining the 8-hour O_3 standard during the three-year period reviewed (MBARD 2017).

Federal Maintenance Plan

The Federal Maintenance Plan (May 2007) presents the strategy for maintaining the NAAQS for O_3 in the NCCAB. It is an update to an earlier maintenance plan (1994) that was prepared for maintaining the 1-hour NAAQS for O_3, a national standard that has since been revoked and superseded by the current 8-hour O_3 standard. Effective June 15, 2004, the EPA designated the NCCAB as an attainment area for the 8-hour NAAQS for O_3. The plan includes an emission inventory for the years 1990 to 2030 for ROG and NO_x, the two primary O_3 precursor gases. A contingency plan is included to ensure that any future violation of the standard is promptly corrected (MBARD 2007).

Particulate Matter Plan

The purpose of the Particulate Matter Plan (December 2005) is to fulfill the requirements of Senate Bill 655, which was approved by the California Legislature in 2003 with the objective of reducing public exposure to particulate matter. The legislation requires CARB, in conjunction with local air pollution control districts, to adopt a list of the most readily available, feasible, and cost-effective control measures that could be implemented by air pollution control districts to reduce ambient levels of particulate matter in their air basins (MBARD 2005). The Particulate Matter Plan's activities include control measures for fugitive dust, public education, administrative functions, and continued enhancements to the MBARD's smoke management and emission-reduction incentive programs.

Rules and Regulations

The MBARD establishes and administers a program of rules and regulations to attain and maintain state and national air quality standards and regulations related to TACs. Rules and regulations that may apply to the Project during construction and/or operations include the following:

- Regulation IV (Prohibitions), Rule 400 (Visible Emissions). This rule provides limits for visible emissions for sources within the MBARD jurisdiction. *(For purposes of the Project, this rule is anticipated to primarily be of relevance during the construction phase for purposes of controlling the amount of fugitive dust generated by construction equipment.)*
- Regulation IV (Prohibitions), Rule 402 (Nuisances). This rule prohibits sources creating public nuisances while operating within the MBARD jurisdiction. *(For purposes of the Project, this rule is anticipated to primarily be of relevance for all sources of criteria air pollutant emissions during both construction and operation of the Project.)*
- Regulation IV (Prohibitions), Rule 403 (Particulate Matter). This rule provides particulate matter emissions limits for sources operating within the MBARD jurisdiction. *(For purposes of the Project, this rule is anticipated to primarily be of relevance during the construction phase for purposes of controlling the amount of fugitive dust generated during grading activities.)*
- Regulation IV (Prohibitions), Rule 424 (National Emission Standards for Hazardous Air Pollutions). This rule provides clarity on the MBARD's enforcement authority for the National Emission Standards for Hazardous Air Pollution including asbestos from demolition. *(For purposes of the Project, this rule is anticipated to primarily be of relevance during operations for purposes of controlling the amount of criteria air pollutants and TACs from new stationary sources such as emergency generators.)*
- Regulation IV (Prohibitions), Rule 425 (Use of Cutback Asphalt). This rule establishes VOC emissions limits associated with the use of cutback and emulsified asphalts. *(For purposes of the Project, this rule is anticipated to primarily be of relevance during the construction phase for purposes of limiting the amount of VOCs during paving activities.)*
- Regulation IV (Prohibitions), Rule 426 (Architectural Coatings). This rule establishes VOC emissions limits associated with the use of architectural coatings. *(For purposes of the Project, this rule is anticipated to primarily be of relevance during the construction phase for purposes of limiting the amount of VOCs from architectural coatings.)*
- Regulation II (Permits), Rule 207 (Review of New or Modified Sources). The MBARD regulates criteria air pollutant emissions from new and modified stationary sources through this rule. *(For purposes of the Project, this rule is anticipated to primarily be of relevance during operations for purposes of controlling the amount of criteria air pollutants from new stationary sources such as emergency generators.)*
- Regulation X (Toxic Air Contaminants), Rule 1000 (Permit Guidelines and Requirements for Sources Emitting Toxic Air Contaminants). The MBARD also regulates TACs from new or modified sources under Rule 1000, a Board-approved protocol that applies to any source that requires a permit to construct or operate pursuant to MBARD regulations and has the potential to emit carcinogenic or noncarcinogenic TACs. The MBARD's Rule 1000 also requires sources of carcinogenic TACs to install best control technology and

reduce cancer risk to less than one incident per 100,000 population. Sources of noncarcinogenic TACs must apply reasonable control technology. *(For purposes of the Project, this rule is anticipated to primarily be of relevance during operations for purposes of controlling the amount of TACs from new stationary sources such as emergency generators.)*

4.2.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to air quality. The section identifies the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.2.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to air quality are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to air quality would occur if the Project would:

A. Conflict with or obstruct implementation of the applicable air quality plan.
B. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
C. Expose sensitive receptors to substantial pollutant concentrations.
D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the CEQA Guidelines also provides that "[w]here available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make" the determinations described above. Therefore, the following discussion provides information on the MBARD's CEQA guidance.

The MBARD has adopted two sets of CEQA Guidelines, which contain different thresholds of significance depending on the CEQA lead agency. The *Guidelines for Implementing the California Environmental Quality Act* (2016 Guidelines) (MBARD 2016) were written for use by the MBARD in its capacity as lead or responsible agency, whereas the *CEQA Air Quality Guidelines* (2008 Guidelines) (MBARD 2008) were written for all other lead agencies. Notably, the 2016 Guidelines include air pollutant thresholds for construction that were not included in the 2008 Guidelines. Since the MBARD is a responsible agency for this Project, given that it would issue air pollution permits for generators that may be required for the Project, the thresholds included in the 2016 Guidelines (see page 4) were applied to the Project (MBARD 2016). The 2008 Guidelines also only included thresholds for PM_{10}, indicating that ROG and NO_x emissions would not have a significant impact on attainment and maintenance of ozone AAQS since these criteria air pollutants are accommodated in the emission inventories of state- and federally-required air plans. Therefore, using the 2016 Guidelines would allow for a more complete evaluation of air quality impacts from ROG, NO_x, PM_{10}, $PM_{2.5}$, and CO emissions.

Specifically, under the MBARD's 2016 Guidelines, a project would result in a significant impact to air quality during construction and/or operations if it results in the generation of emissions of or in excess of any of the following:

- 137 pounds per day of ROG or NO_x
- 82 pounds per day of PM_{10}
- 55 pounds per day of $PM_{2.5}$
- 550 pounds per day of CO

MBARD also regulates TACs from new or modified sources under Rule 1000 and a Board-approved protocol. They apply to any source that requires a permit to construct or operate pursuant to District Regulation II (Permits) and has the potential to emit carcinogenic or noncarcinogenic TACs. TACs are listed in Title I or are established by the Office of Environmental Health Hazard Assessment (OEHHA), CAPCOA Risk Assessment Guidelines, U.S. Environmental Protection Agency, or Rule 1000. Rule 1000 also requires sources of carcinogenic TACs to install best control technology and reduce cancer risk to less than one incident per 100,000 population. Relatedly, MBARD's 2016 Guidelines indicate that the thresholds used to evaluate human health impacts are in accordance with Air District Rules 1000 and 1003. Accordingly, a project would have a significant impact if: the hazard index is greater than 1 for acute or chronic impacts and/or if the cancer risk is greater than 10 in 1 million, which is equivalent to the 1 in 100,000 cancer risk cited in Rule 1000.

4.2.3.2 Analytical Method

Program- and Project-Level Review

The air quality impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3, Project Description. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the proposed Master Plan, as described in Chapter 3, Project Description. Both construction and operation of the Project are considered in the impact analysis, where relevant. In the event significant adverse environmental impacts would occur with the implementation of the Project even with incorporation of applicable regulations and proposed PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

Project elements that would affect the transportation system, and therefore mobile sources of air emissions, include the proposed increase in student enrollment and associated increase in faculty and staff, the added on-campus housing for students, faculty, and staff, and a Main Campus street and parking system that facilitates and prioritizes walking, bicycling, and transit use over vehicle travel. The related PDFs are summarized below. See Chapter 3, Project Description for the details each PDF.

There are a number of PDFs that are incorporated quantitatively into the trip generation rates contained in the Transportation Analysis (Appendix H), including PDF-MO-1, PDF-MO-2, PDF-MO-6(c), and PDF-MO-8, and therefore are quantitatively incorporated into the air quality analysis:

- *PDF-MO-1 and PDF-MO-2* provide that CSUMB will accommodate at least 60 percent of enrolled students and 65 percent of faculty and staff in on-campus housing. CSUMB will implement these PDFs to ensure that these campus housing goals are met, which will minimize vehicle commute travel to and from the campus. Appendix C, Student Housing and Parking Management Guidelines, and the CSUMB Housing Guidelines (CSUMB 2022) provide additional information about meeting the identified housing goals.
- *PDF-MO-6(c)* provides that CSUMB will implement strategies and measures to reduce parking demand, including that parking will be consolidated and relocated to select areas on the periphery of the campus core. While this PDF includes other measures (e.g., maintaining existing parking supply, prohibiting residential Freshmen and Sophomores from purchasing a parking permit, a "park once" policy), such measures are not assumed in the quantitative analysis.
- *PDF-MO-8* establishes restrictions to general vehicle travel through the campus core and locates vehicle circulation and parking on the campus periphery (see Chapter 3, Project Description, Figure 3-9). Specifically, vehicle access will be limited to CSUMB students, faculty, and staff vehicles on General Jim Moore Boulevard between Eighth Street and Fifth Street. Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles at: Inter-Garrison Road between General Jim Moore Boulevard and Sixth Avenue, Divarty Street between General Jim Moore Boulevard and Seventh Avenue, Fourth Avenue between Divarty Street and Inter-Garrison Road, Fifth Avenue between Divarty Street and Inter-Garrison, A Street between Divarty Street and Seventh Avenue, Sixth Avenue between B Street and north of Divarty Street, and Butler Street between Sixth Avenue and Seventh Avenue. Additionally, Seventh Avenue between Colonel Durham Street and Butler Street will be converted to one-way for vehicles traveling north from Colonel Durham Street to Inter-Garrison Road.

As indicated in Section 4.13, Transportation, to provide for a conservative analysis, other mobility PDFs are considered qualitatively, including PDF-MO-3 through PDF-MO-7, and PDF-MO-9 through PDF-MO-19. While these PDFs would serve to reduce vehicle travel and promote transit, bicycle and pedestrian mobility, their ability to reduce vehicle travel is not quantified in the Transportation Analysis (Appendix H) and therefore the air quality analysis conservatively does not include these PDFs in the operational emissions estimates identified below. These PDFs are described in detail in Chapter 3, Project Description.

Technical Methods

The Project identifies anticipated development by land use type and square footage. While specific details about construction and operation of the Project are currently not available, Project-generated emissions were estimated based on a reasonably conservative assessment to disclose the magnitude of potential criteria air pollutant emissions generated during construction and operation of the Project.

Construction Emissions

Emissions from the construction phase of the Project, including the near-term development components, were estimated using California Emissions Estimator Model (CalEEMod) Version 2020.4.0. CalEEMod utilizes widely accepted methodologies for estimating emissions combined with default data that can be used when site-specific information is not available. Sources of these methodologies and default data include but are not limited to the EPA AP-42 emission factors, CARB vehicle emission models, and studies commissioned by California agencies such as the California Energy Commission and CalRecycle. In addition, some local air districts (e.g., MBARD) provide customized values for their default data and existing regulation methodologies for use in evaluating projects located in their jurisdictions. Construction modeling parameters, including phasing, equipment mix, and vehicle trips, were based on CalEEMod default values and specific construction equipment mix information for typical campus projects as provided by CSUMB.

For purposes of estimating construction emissions for the Project, including the near-term development components, it was estimated that up to approximately 300,000 gross square feet (GSF) of building space would be under construction concurrently. This estimate was developed based on review of the proposed Master Plan, and the following near-term development components, along with other development: 1) Student Housing Phase III (600 student housing beds); 2) Academic IV (95,000 GSF of classroom/instructional space); 3) Student Recreation Center (70,000 GSF of recreation space); 4) Student Housing Phase IIB (400 student housing beds); and 5) Academic V (76,700 GSF of classroom/instructional space) (CSU 2019). Therefore, based on consideration of the maximum amount of construction that could be underway concurrently, the construction analysis is based on a maximum scenario of 300,000 GSF of building space under construction concurrently.

CalEEMod default parameters were used to estimate construction emissions. Notably, because California's construction-related emission sources are regulated, Project construction emissions are reasonably expected to continue to decline as Tier 4[3] construction equipment becomes more widely available. Thus, by utilizing the earliest possible start date, the Project's estimated emissions likely overstate actual emission levels. Therefore, the analysis and modeling included herein provides an accurate and conservative assessment of the Project's construction-related air pollutant emissions.

While construction specifics and phasing for buildout of the Project, including the near-term development components, are not currently available, the emissions generated from concurrent construction associated with a maximum scenario of 300,000 GSF of buildings were determined to provide a conservative basis for the evaluation of construction activities potentially occurring simultaneously on the campus under the Project over 15 years (2035). The analysis contained herein is based on the following modeling parameters for the representative construction scenario (duration of phases is approximate):

- Demolition: 20 days
- Site Preparation: 10 days
- Grading: 20 days
- Building Construction: 230 days
- Paving: 20 days
- Application of Architectural Coatings: 20 days

In order to capture haul trips from demolition, it was assumed that the construction scenario would involve the demolition of Building 13 and Parking Lots 13, 19, and 300, based on information provided by CSUMB and considering the types of features present on some of the near-term development component sites. Grading quantities are currently not identified, and grading is anticipated to be minimal because the site is already developed; therefore, construction sites would be balanced and not require substantial import or export of soil. To capture emissions associated with asphalt paving and other impervious surfaces, it was estimated that 1.8 acres would be developed at each construction site, which was estimated by using Google Earth.

3 Tier 4 refers to the emission standards established by the EPA and CARB which are applicable to new engines found in off-road equipment including construction, mining and agricultural equipment, marine vessels and workboats, locomotives and stationary engines found in industrial and power generation applications. As of January 1, 2014, these emissions standards apply to new engines that power equipment commonly found in most construction and agricultural applications. Tier 4 compliant engines significantly reduce PM and NO_x emissions. Compared to previous emissions standards, Tier 4 compliant engines reduce emissions by over 95 percent for most construction equipment.

Construction worker and vendor truck trips by construction phase were based on CalEEMod default values. CalEEMod default trip length values were used for the distances for all construction-related trips.

The construction equipment mix and vehicle trips used for estimating the Project-generated construction emissions are shown in Table 4.2-4. For the analysis, it was estimated that heavy construction equipment would be operating at the site 5 days per week (22 days per month) during Project construction. Specific CalEEMod parameters for each model scenario, including quantity of equipment, are provided in Appendix D.

As indicated by the analysis for Impact AIR-2, the construction emissions associated with the Project fall well under the MBARD significance thresholds, based on the evaluated construction scenario of 300,000 GSF of building space under construction concurrently. Given that each of the near-term development components would be well under this square footage, separate construction emissions estimates were not conducted for each of the near-term development components, as such estimates were not required to determine the significance of the near-term development components' impacts.

Table 4.2-4
Construction-Related Modeling Inputs

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours per Day
Demolition	15	0	200	Concrete/industrial saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site preparation	18	0	0	Rubber Tired Dozers	3	8
				Tractors/loaders/backhoes	4	8
Grading	15	0	0	Graders	1	8
				Rubber tired dozers	1	8
				Tractors/loaders/backhoes	3	8
				Excavator	1	8
Building construction	159	62	0	Cranes	1	7
				Forklifts	3	8
				Generator sets	1	8
				Tractors/loaders/backhoes	3	7
				Welders	1	8
Paving	15	0	0	Pavers	2	8
				Paving equipment	2	8
				Rollers	2	8
				Tractors/loaders/backhoes	1	8
Architectural coating	32	0	0	Air compressors	1	6

Notes: See Appendix D for details.

Operational Emissions

Emissions from the operational phase of the Project, including all proposed development described in Chapter 3, Project Description, which includes the near-term development components, and all existing campus development that will remain with the Project, were estimated using CalEEMod Version 2020.4.0, based on an operational year 2035, the estimated planning horizon for the Project. Operational air quality emissions were estimated for area sources (consumer product use, architectural coatings, and landscape maintenance equipment), energy sources (natural gas), and mobile sources, as further described below. Additionally, PDF-MO-1, PDF-MO-2, PDF-MO-6(c), and PDF-MO-8 were accounted for in the Project emissions, as they were incorporated into the trip generation rates, as described in Section 4.2.3.2, Analytical Methods.

Emissions associated with the existing campus were also estimated using CalEEMod to present the net change in criteria air pollutant emissions. Operational year 2017 was used for existing conditions, which is based on the most recent available mobile, energy use, and water consumption data available. The total existing land uses within the CSUMB campus that are currently occupied and, therefore, evaluated comprise approximately 3,190,556 square feet (see Chapter 3, Project Description, Table 3-3).

To calculate the net increase in operational emissions with the Project, the emissions from the existing campus were subtracted from the emissions from the operational phase of the Project, as the operational phase estimate includes all proposed development and all existing campus development that will remain with the Project. Existing and Project land use modeling parameters in CalEEMod were based on the Transportation Analysis (Appendix H).

As indicated in the analysis for Impact AIR-2, the net increase in operational emissions associated with the Project, which includes the near-term development components, falls well under the MBARD significance thresholds. Therefore, separate operational emissions estimates were not conducted for each of the near-term development components, as such estimates were not required to determine the significance of the near-term development components' impacts.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and stoves are calculated in the building energy use module of CalEEMod, as described in the following text. The existing and Project conditions would not include woodstoves or fireplaces (wood or natural gas). As such, area source emissions associated with hearths were not included.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2021). Consumer product VOC (i.e., ROG) emissions are estimated in CalEEMod based on the floor area of nonresidential (main campus facilities) and residential (student and faculty housing) buildings and on the default factor of pounds of VOC per building square foot per day. For the asphalt surface land use considered in the Project scenario, CalEEMod estimates VOC emissions associated with use of parking surface degreasers based on a square footage of parking surface area and pounds of VOC per square foot per day.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers used during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of residential and nonresidential surface coatings based on the VOC emission factor, the building square footage, the estimated fraction of surface area, and the reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings, and MBARD Rule 426, which restricts the VOC content for interior and exterior coatings. The model default reapplication rate of 10 percent of area per year is used. Consistent with CalEEMod defaults, the nonresidential surface area for painting equals 2.0 times the floor square footage, with 75 percent coverage for interior coating and 25 percent coverage for exterior surface coating and the residential surface area for painting equals 2.7 times the floor square footage, with 75 percent assumed for interior coating and 25 percent assumed for exterior surface coating. For the other asphalt surfaces considered in the Project scenario, the architectural coating area is 6 percent of the total square footage, consistent with the supporting CalEEMod studies provided as an appendix to the CalEEMod User's Guide (CAPCOA 2021).

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per residential dwelling unit per day and grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gas emissions in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site.

Mobile Sources

Mobile sources for the Project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the campus. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. The default vehicle mix provided in CalEEMod 2020.4.0, which is based on CARB's Mobile Source Emissions Inventory model, EMFAC, version 2017, was applied for both existing and Project conditions.

Trip generation rates for existing and Project conditions were based on the Transportation Analysis prepared for the Project (see Appendix H). Default vehicle trip generation rates included in CalEEMod for each of the analyzed land uses were adjusted to match the existing campus and the Project's trip generation estimates from the Transportation Analysis. In addition, Saturday and Sunday trip rates for both the existing campus and the Project were adjusted in proportion to the CalEEMod weekday trip rates because weekend trip-generation rates were not provided in the Transportation Analysis. CalEEMod default trip distances were adjusted to match the annual VMT for the existing campus (178,500 miles) and the Project (295,500 miles). Other CalEEMod default data, including temperature, trip characteristics, variable start information, and emissions factors were conservatively used for the model inputs. Project-related traffic includes a mix of vehicles in accordance with the model defaults. Emission factors representing the vehicle mix and emissions for 2035 (the first full year of operation) were used to estimate emissions associated with the Project.

Trip rate inputs for existing and Project conditions are shown in Table 4.2-5.

Table 4.2-5
Existing and Project Trip Rates

Land Use	CalEEMod Land Use Surrogate	Revised Trip Rate[c]		
		Weekday[a]	Saturday[b]	Sunday[b]
Existing				
Non-Residential Campus Facilities	University/College (4Yr)	1.51	1.15	0.00
Student and Faculty, Staff & Community Partners Housing	Apartments Mid Rise	1.69	1.62	1.53
Project				
Non-Residential Campus Facilities	University/College (4Yr)	1.89	1.43	0.00
Student and Faculty, Staff & Community Partners Housing	Apartments Mid Rise	0.71	0.69	0.65

Source: Appendix H.
Notes:
a Weekday trip rates are calculated from the existing campus and the Project's trip generation from the Transportation Analysis (Appendix H).
b Saturday and Sunday trip rates were adjusted in proportion to the Transportation Analysis weekday trip rates.
c Non-residential campus facilities trip rate is per student and faculty and student housing trip rates are based on number of units and/or beds.

Stationary Sources and Other Sources of Emissions

Based on the type of land uses that would be developed under the Project, there are additional emission sources that are either not captured in CalEEMod or cannot be accurately accounted for in CalEEMod due to the absence of necessary data. Potential additional sources of criteria air pollutant and TAC emissions include: emergency generators and various VOC sources such as from art and science laboratories/rooms. Because specifics are not available to accurately estimate emissions from these anticipated sources under the Project and existing conditions, associated emissions are not included in the estimated emissions presented herein. However, all stationary sources developed under the Project would be required to comply with applicable MBARD rules and regulations and would be required to obtain a permit to operate from the MBARD. As previously discussed, MBARD regulates TACs from new or modified sources under Rule 1000 and a Board-approved protocol. Rule 1000 also requires sources of carcinogenic TACs to install best control technology and reduce cancer risk to less than one incident per 100,000 population. This cancer risk level would not exceed MBARD's threshold of significance for cancer risk of greater than 10 in 1 million. Furthermore, the Project would also comply with the California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, which identifies requirements for all installed appliances and fixtures.

4.2.3.3 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of air quality impacts associated with the Project.

Impact AIR-1:	**Conflict with an Applicable Air Quality Plan (Threshold A).** The Project would not conflict with or obstruct implementation of the applicable air quality plan. *(Less than Significant)*

Master Plan

The most recent air quality plan is the 2012–2015 AQMP, which was adopted in March 2017 and addresses the NCCAB's progress toward achieving the CAAQS for O_3 (MBARD 2017). Projects that could conflict with the attainment of the CAAQS for O_3 would be considered to conflict with the AQMP. The general criteria, as provided in MBARD's 2016 Guidelines (Figure 5-1), for determining if a project would conflict with or obstruct implementation of the AQMP are: (1) whether the project would exceed the 2016 Guidelines' CEQA thresholds of significance for O_3 precursors (ROG and NO_x) and could delay the timely attainment of the ambient air quality standards or interim emission reductions of the AQMP; and/or (2) whether the project would result in demographic growth that would exceed the forecasts included in the AQMP.

Regarding demographic growth, the 2012-2015 AQMP's future emissions forecasts are primarily based on demographic and economic growth projections provided by the Association of

Monterey Bay Area Governments (AMBAG) in the 2014 Regional Growth Forecast (MBARD 2017). The 2012-2015 AQMP includes growth projections for Monterey County of 495,086 people in 2035, which is based on the 2014 Regional Growth Forecast (AMBAG 2014). Given that the Project growth is accommodated by the 2014 Regional Growth Forecast that was used to formulate the 2012-2015 AQMP's future emissions forecasts, the Project would not exceed the growth projections incorporated into the AQMP.

To address the criterion of whether the Project would exceed the 2016 Guidelines' significance thresholds for O_3 precursors and potentially delay the timely attainment of the ambient air quality standards or interim emission reductions of the AQMP, an air quality modeling analysis that identified the Project's impact on air quality was performed. This is presented below in Impact AIR-2. In summary, the Project would not result in construction emissions or long-term operational emissions that would exceed the respective MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$. Therefore, the Project would not conflict with or obstruct implementation of the 2012–2015 AQMP and this impact would be *less than significant*.

Near-Term Development Components

Academic IV, Academic V, and the Student Recreation Center Phases I and II would provide for FTE building capacity such that CSUMB could incrementally increase student enrollment on the campus. This enrollment growth and associated growth in faculty, staff, and their families would be a component of the growth identified above for the Project. As previously discussed, the Project would include an enrollment cap increase to 12,700 FTES. This growth is accounted for in AMBAG's 2014 Regional Growth Forecast. Therefore, the near-term development components would not result in substantial population growth and would not exceed AMBAG growth projections.

As shown in Tables 4.2-6 and 4.2-7 (see the Impact AIR-2 discussion below), an air quality modeling analysis was performed in order to identify the Project's (including the near-term development components) impact on air quality. As shown in Impact AIR-2 below, the Project's construction and operational emissions would not exceed the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$. As the near-term development components are a component of the Project, these components also would not exceed the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$.

Therefore, the Project's near-term development components would also not conflict with or obstruct implementation of the 2012–2015 AQMP and this impact would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact AIR-2:	**Criteria Pollutant Emissions (Threshold B).** The Project would result in emissions of criteria pollutants, but would not exceed adopted thresholds of significance, violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, the Project would not result in a cumulatively considerable net increase of a criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard. *(Less than Significant)*

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Construction Emissions

Construction of the Project is anticipated to occur through 2035 and would result in the addition of pollutants to the local airshed caused by on-site mobile and stationary sources (i.e., off-road construction equipment, soil disturbance, and building material and coating off-gassing) and off-site mobile sources (i.e., on-road haul trucks and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather condition. Therefore, such emission levels can only be approximately estimated.

As discussed under Construction Emissions in Section 4.2.3.2, Analytical Method, the daily construction emissions for the Project were determined based on the conservative estimate that up to approximately 300,000 GSF of buildings could be constructed concurrently. For purposes of estimating Project emissions, default phasing parameters were used which were derived from CalEEMod because the Project details for construction of future development under the Project are not yet available. Notably, the models do not need to use the exact commencement and completion dates to accurately represent the Project construction emissions. Assuming an earlier start date to estimate construction emissions would be conservative, because state and local regulations, restrictions, and increased market penetration of cleaner construction equipment (Tier 4) are anticipated to continue to reduce emissions in the future. In other words, because California's construction-related emission sources are regulated, Project construction emissions are reasonably expected to continue to decline as Tier 4 construction equipment becomes more widely available. Thus, emissions impacts are likely to be overstated and emissions would likely decrease compared to the parameters used in the analysis over buildout of the Project. Therefore, the analysis and modeling included herein provide a conservative assessment of the Project's construction-related air pollutant emissions.

Fugitive dust would result to PM_{10} and $PM_{2.5}$ emissions. Internal combustion engines used by construction equipment, haul trucks, and worker vehicles would result in emissions of ROG,

NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce ROG emissions. As mentioned in the regulations discussed under Section 4.2.2.3, MBARD Rules 425 and 426 would limit ROG emissions from use of asphalt and architectural coatings, respectively.

Table 4.2-6 presents the estimated maximum daily construction emissions generated during construction. Details of the emission calculations are provided in Appendix D. As shown in Table 4.2-6, maximum daily construction emissions associated with the Project would not exceed the MBARD significance thresholds for ROG, NO_x, CO, PM_{10} or $PM_{2.5}$. As such, Project impacts associated with construction emissions would be *less than significant*.

Table 4.2-6
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Construction Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2022	3.24	33.14	22.61	0.05	10.61	6.07
2023	88.30	18.04	21.90	0.05	2.45	1.15
Maximum daily emissions	**88.30**	**33.14**	**22.61**	**0.05**	**10.61**	**6.07**
MBARD threshold	*137*	*137*	*550*	*N/A*	*82*	*55*
Threshold exceeded?	**No**	**No**	**No**	**N/A**	**No**	**No**

Source: Appendix D.
Notes: ROG = reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MBARD = Monterey Bay Air Resources District; N/A = Not applicable.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.

Operational Emissions

As described in Operational Emissions in Section 4.2.3.2, Analytical Method, Project-related operational sources of air pollutant emissions would include natural gas combustion, on-road vehicles, and area sources (i.e., use of consumer products, architectural coatings for repainting, and landscaping equipment). Table 4.2-7 presents the estimated maximum daily operational emissions generated during the first full year of Project operations after buildout (year 2035). The estimated existing campus emissions in 2017 were subtracted from the emissions attributable to Project-related campus development (both new development and redevelopment) and existing campus development that would remain with Project implementation, and the net change in emissions is compared with the MBARD significance thresholds. As indicated in Section 4.2.3.2, Project emissions include all proposed development described in Chapter 3, Project Description, and all existing campus development that will remain with the Project. Details of the emission calculations are provided in Appendix D.

Table 4.2-7
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Project Buildout						
Area sources	157.21	8.57	742.84	0.04	4.13	4.13
Energy	3.27	29.73	24.97	0.18	2.26	2.26
Motor vehicles	32.10	18.37	167.53	0.04	0.96	0.31
Total Project emissions	192.58	56.67	935.34	0.26	7.35	6.70
Existing Conditions						
Area sources	91.19	5.02	432.73	0.02	2.36	2.36
Energy	1.64	14.93	12.54	0.09	1.13	1.13
Motor vehicles	46.87	22.45	163.80	0.04	0.53	0.22
Total Existing emissions	139.70	42.40	609.07	0.15	4.02	3.71
Net increase (Project minus Existing emissions)	**52.88**	**14.27**	**326.27**	**0.11**	**3.33**	**2.99**
MBARD threshold	*137*	*137*	*550*	*N/A*	*82*	*55*
Threshold exceeded?	**No**	**No**	**No**	**N/A**	**No**	**No**

Source: Appendix D.
Notes: ROG = reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MBARD = Monterey Bay Air Resources District; N/A = Not applicable.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 4.2-7, the net increase in daily operational emissions for the Project would not exceed the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, or $PM_{2.5}$. As such, Project operational impacts would be *less than significant.*

Near-Term Development Components

Construction Emissions

Emissions from construction activities associated with the Project's near-term development components were estimated using CalEEMod. Specific construction schedule sequencing and subphases for the near-term development components have not yet been determined; therefore, a conceptual construction scenario was developed for the purpose of estimating the maximum daily emissions as shown in Construction Emissions in Section 4.2.3.2, Analytical Method. Specifically, Project construction emissions were based on a construction scenario where no more than approximately 300,000 GSF would be developed concurrently, which is greater than the GSF for any of the individual near-term development components, as follows: Academic IV (95,000 GSF), Academic IV (76,704 GSF), Recreation Center Phases I and II (70,000 GSF), Student Housing Phase IIB (160,000 GSF), and Student Housing Phase III (200,000 GSF).

Predicted construction emissions for the worst-case day are presented in Table 4.2-6 and are compared to the MBARD significance thresholds. As shown in Table 4.2-6 above, maximum daily construction emissions associated with short-term construction activities associated with approximately 300,000 GSF of building space under construction concurrently would not exceed the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, or $PM_{2.5}$. Given that each of the near-term development components would be well under 300,000 GSF, as demonstrated above, estimated construction emissions of criteria air pollutants associated with each near-term development component would be less than the emissions presented in Table 4.2-6 and therefore also would not exceed the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, or $PM_{2.5}$. As such, construction emissions impacts associated with the Project's near-term development components would be *less than significant*.

Operational Emissions

As described in Operational Emissions in Section 4.2.3.2, Analytical Method, Project-related operational sources of air pollutant emissions would include natural gas combustion, on-road vehicles, and area sources (i.e., use of consumer products, architectural coatings for repainting, and landscaping equipment). As shown in Table 4.2-7 the Project's (including the near-term development components) daily operational emissions would not exceed the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, or $PM_{2.5}$. Given that each near-term development component would be a subset of the larger Project, operational emissions of criteria air pollutants for each near-term development component would be less than the emissions presented in Table 4.2-7 and therefore also would not exceed the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, or $PM_{2.5}$. As such, operational impacts of the Project's near-term development components would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified. However, as discussed in Section 4.6, Greenhouse Gas Emissions, the implementation of MM-GHG-1 would decarbonize existing buildings and/or new buildings to reduce the Project's natural gas consumption as demonstrated in Section 4.6, GHG Emissions (Table 4.6-7 and Table 4.6-8), providing an additional reduction compared with the criteria air pollutant emissions presented herein, from natural gas consumption.

Impact AIR-3:	**Exposure of Sensitive Receptors (Threshold C).** The Project would not expose sensitive receptors to substantial pollutant concentrations. *(Less than Significant)*

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Health Effects of Toxic Air Contaminants

As previously discussed, TACs are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal HAPs, and has adopted and/or is adopting appropriate control measures for sources of these TACs, as described in Section 4.2.2, Regulatory Framework.

During Project construction, DPM would be the primary TAC emitted from diesel-fueled equipment and trucks. The following is required by state law to reduce DPM emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-Road Diesel Vehicles (Cal. Code Regs., tit. 13, chapter 9, § 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to requirements limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to 5 minutes; electric auxiliary power units should be used whenever possible (Cal. Code Regs., tit. 13, chapter 10, § 2485).

The closest existing off-site sensitive receptors to the Project site include residences located in Marina on Eighth Street approximately 0.25 miles to the north, the Dual Language Academy of the Monterey Peninsula approximately 0.63 miles to the south, the VA Monterey Outpatient Clinic approximately 0.66 miles to the west, George C. Marshall Elementary School approximately 0.73 miles to the south and future residents associated with the Campus Town Specific Plan adjacent to the campus's southern boundary. Furthermore, on-site sensitive receptors would include the future Monterey Bay Charter School and existing CSUMB Childcare Center.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. MBARD's Rule 1000 requires sources of TACs to install best control technology and reduce cancer risk to less than one incident per 100,000 population, which is equivalent to MBARD's incremental cancer risk threshold of significance of 10 in 1 million. "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard OEHHA risk-assessment methodology. In addition, some TACs have noncarcinogenic effects. The MBARD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) effects.[4]

DPM emissions would be emitted from off-road equipment operations and heavy-duty trucks. Off-road construction equipment and commercial trucks are subject to ATCMs to reduce diesel particulate emissions. Applicable ATCMs to the Project would include limiting heavy-duty diesel motor vehicle and off-road construction equipment idling in order to reduce public exposure to DPM and other TACs. In general, it prohibits idling for more than 5 minutes. As described in Table 4.2-6 above, PM_{10} (representative of DPM) emissions would be minimal. According to OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the project. Total Project construction is anticipated to occur through 2035. However, since the Project involves construction of multiple phases in multiple areas within the CSUMB campus, the Project would not require the extensive use of heavy-duty construction equipment or diesel trucks concentrated in any one location over the entire duration of development, which would limit the exposure of any proximate individual sensitive receptor to TACs. Due to the relatively short period of exposure at any individual sensitive receptor and minimal particulate emissions generated, TACs emitted during construction would not be expected to result in concentrations causing significant health risks; therefore, impacts would be *less than significant*.

With regard to long-term operations, the Project could result in TAC emissions from on-site generators; however, the specifics from such sources are unknown at the time of this analysis. In addition, potential delivery trucks would generate minimal DPM emissions based on the infrequent usage. On-site generators would result in TAC emissions; however, stationary sources, such as these generators, would be required to comply with the MBARD permitting process, which would ensure that potential health risks would be less than significant before issuing a permit to operate. Therefore, the Project would not result in exposure of sensitive receptors to substantial TAC concentrations during long-term operations and impacts would be *less than significant*.

4 Non-cancer adverse health risks are measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentrations of the various noncarcinogens from the Project to published reference exposure levels that can cause adverse health effects.

Health Impacts of Carbon Monoxide

Mobile source impacts occur on two scales of motion. Regionally, Project-related travel would add to regional trip generation and increase the VMT within the local airshed and the NCCAB. Locally, Project-generated traffic would be added to the county roadway system near the campus. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of substantially elevated and localized CO emissions, such as around congested intersections.

During construction, the Project would result in CO emissions from construction worker vehicles, haul trucks, and off-road equipment. Title 40, section 93.123(c)(5) of the California Code of Regulations, Procedures for Determining Localized CO, PM_{10}, and $PM_{2.5}$ Concentrations (hot-spot analysis), states that "CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site" (Cal. Code Regs., tit. 40, § 93.123). Since construction activities would be temporary and spread out across multiple work sites throughout the construction buildout duration (which would disperse localized CO emissions), a Project-level construction hotspot analysis would not be required.

Additionally, because the Project would result in long-term CO emissions that would be less than the MBARD threshold, an operational CO hotspot evaluation is also not required. In addition, as determined by the Transportation Analysis (Appendix H), the Project would not cause intersections to decrease to LOS E or worse with improvements.

Due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the NCCAB is steadily decreasing as presented in Table 4.2-2. Maximum background CO levels in Monterey County as shown in Table 4.2-2 are approximately 13 percent of the 1-hour and 8-hour NAAQS and CAAQS and would be expected to improve further due to reductions in motor vehicle emissions. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant and the impacts would be *less than significant*.

Health Effects of Criteria Air Pollutants

As demonstrated above, construction and operation of the Project would not result in emissions that exceed the MBARD significance thresholds for any criteria air pollutants, including ROG, NO_x, CO, PM_{10}, or $PM_{2.5}$.

ROG emissions would be associated with motor vehicles, construction equipment, and architectural coatings. As shown in Tables 4.2-6 and 4.2-7, Project-generated ROG emissions would not result in exceedances of the MBARD significance thresholds, Furthermore, the Project would be required to adhere to MBARD Rules 425 and 426, which restricts the VOC content of coatings.

ROG and NO_x are precursors to O_3, for which the NCCAB is designated as nonattainment with respect to the CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of ROG and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the NCCAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the precursor emissions would occur because exceedances of the O_3 AAQS tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, because ROG and NO_x emissions associated with Project construction and/or operation would not exceed the MBARD significance thresholds, it is not anticipated the Project would contribute substantially to regional O_3 concentrations and the associated health effects.

Construction and operation of the Project also would not contribute to exceedances of the NAAQS and CAAQS for NO_2. Health effects that result from NO_2 (a constituent of NO_x) include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, off-road construction equipment would be operating at multiple locations of the CSUMB campus and would not be concentrated in one portion of the campus at any one time. In addition, existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards and construction and operation of the Project would not create substantial NO_x emissions. Therefore, the Project is not anticipated to result in potential health effects associated with NO_2.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots were discussed previously and are determined to be a less-than-significant impact. Furthermore, the existing CO concentrations in the area are well below the NAAQS and CAAQS standards. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant.

Construction and operation of the Project would also not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or obstruct the NCCAB from coming into attainment for these pollutants. Due to the minimal contribution of PM_{10} and $PM_{2.5}$ during construction and operation, it is not anticipated that the Project would result in potential health effects related to particulate matter.

In summary, because construction and operation of the Project would not result in exceedances of the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$, and because the MBARD thresholds are based on levels that the NCCAB can accommodate without affecting the attainment date for the CAAQS and the CAAQS are established to protect public health and welfare, it is anticipated that the Project would not result in health effects associated with criteria air pollutants and the impact would be *less than significant*.

The California Supreme Court's *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502 decision (referred to herein as the Friant Ranch decision) (issued on December 24, 2018), addresses the need to correlate mass emission values for criteria air pollutants to specific health consequences, and contains the following direction from the California Supreme Court: "The Environmental Impact Report (EIR) must provide an adequate analysis to inform the public how its bare numbers translate to create potential adverse impacts or it must explain what the agency *does* know and why, given existing scientific constraints, it cannot translate potential health impacts further." (Italics original.) (Sierra Club v. County of Fresno 2018.) Currently, the MBARD, CARB, and EPA have not approved a quantitative method to reliably, meaningfully, and consistently translate the mass emission estimates for the criteria air pollutants resulting from the Project to specific health effects. In addition, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days.

In connection with the judicial proceedings culminating in issuance of the Friant Ranch decision, the South Coast Air Quality Management District (SCAQMD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) filed amicus briefs attesting to the extreme difficulty of correlating an individual project's criteria air pollutant emissions to specific health impacts. Both SJVAPCD and SCAQMD have among the most sophisticated air quality modeling and health impact evaluation capabilities of the air districts in California. The key, relevant points from SCAQMD and SJVAPCD briefs is summarized herein.

In requiring a health impact type of analysis for criteria air pollutants, it is important to understand how O_3 and PM is formed, dispersed and regulated. The formation of O_3 and PM in the atmosphere, as secondary pollutants,[5] involves complex chemical and physical interactions of multiple pollutants from natural and anthropogenic sources. The O_3 reaction is self-perpetuating (or catalytic) in the presence of sunlight because NO_2 is photochemically reformed from nitric oxide (NO). In this way, O_3 is controlled by both NO_x and VOC emissions (NRC 2005). The complexity of these interacting cycles of pollutants means that incremental decreases in one emission may not result in proportional decreases in O_3 (NRC 2005). Although these reactions and interactions are well understood, variability in emission source operations and meteorology creates uncertainty in the

[5] Air pollutants formed through chemical reactions in the atmosphere are referred to as secondary pollutants.

modeled O_3 concentrations to which downwind populations may be exposed (NRC 2005). Once formed, O_3 can be transported long distances by wind and due to atmospheric transport, contributions of precursors from the surrounding region can also be important (EPA 2008). Because of the complexity of O_3 formation, a specific tonnage amount of VOCs or NO_X emitted in a particular area does not equate to a particular concentration of O_3 in that area (SJVAPCD 2015). PM can be divided into two categories: directly emitted PM and secondary PM. Secondary PM, like O_3, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as SO_x and NO_x (SJVAPCD 2015). Because of the complexity of secondary PM formation, including the potential to be transported long distances by wind, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area (SJVAPCD 2015). This is especially true for individual projects, like the Project, where project-generated criteria air pollutant emissions are not derived from a single "point source," but from construction equipment and mobile sources (passenger cars and trucks) driving to, from and around each construction site.

Another important technical nuance is that health effects from air pollutants are related to the concentration of the air pollutant that an individual is exposed to, not necessarily the individual mass quantity of emissions associated with an individual project. For example, health effects from O_3 are correlated with increases in the ambient level of O_3 in the air a person breathes (SCAQMD 2015). However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient O_3 levels over an entire region (SCAQMD 2015). The lack of link between the tonnage of precursor pollutants and the concentration of O_3 and $PM_{2.5}$ formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects; rather, it is the concentration of resulting O_3 that causes these effects (SJVAPCD 2015). Indeed, the ambient air quality standards, which are statutorily required to be set by EPA at levels that are requisite to protect the public health, are established as concentrations of O_3 and $PM_{2.5}$ and not as tonnages of their precursor pollutants (EPA 2018d). Because the ambient air quality standards are focused on achieving a particular concentration region-wide, the tools and plans for attaining the ambient air quality standards are regional in nature. For CEQA analyses, project-generated emissions are typically estimated in pounds per day or tons per year and compared to mass daily or annual emission thresholds. While CEQA thresholds are established at levels that the air basin can accommodate without affecting the attainment date for the AAQS, even if a project exceeds established CEQA significance thresholds, this does not mean that one can easily determine the concentration of O_3 or PM that will be created at or near the project site on a particular day or month of the year, or what specific health impacts will occur (SJVAPCD 2015).

In regard to regional concentrations and air basin attainment, the SJVAPCD emphasized that attempting to identify a change in background pollutant concentrations that can be attributed to a single project, even one as large as the entire Friant Ranch Specific Plan, is a theoretical exercise. The SJVAPCD brief noted that it "would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have" (SJVAPCD 2015). The situation is further complicated by the fact that background concentrations of regional pollutants are not uniform either temporally or geographically throughout an air basin but are constantly fluctuating based upon meteorology and other environmental factors. SJVAPCD noted that the currently available modeling tools are equipped to model the impact of all emission sources in the San Joaquin Valley Air Basin on attainment (SJVAPCD 2015). The SJVAPCD brief then indicated that, "Running the photochemical grid model used for predicting O_3 attainment with the emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NO_x and VOC in the Valley) is not likely to yield valid information given the relative scale involved" (SJVAPCD 2015).

SCAQMD and SJVAPCD have indicated that it is not feasible to quantify project-level health impacts based on existing modeling (SCAQMD 2015; SJVAPCD 2015). Even if a metric could be calculated, it would not be reliable because the models are equipped to model the impact of all emission sources in an air basin on attainment and would likely not yield valid information or a measurable increase in O_3 concentrations sufficient to accurately quantify O_3-related health impacts for an individual project.

Nonetheless, following the Supreme Court's Friant Ranch decision, some EIRs where estimated criteria air pollutant emissions exceeded applicable air district thresholds have included a quantitative analysis of potential project-generated health effects using a combination of a regional photochemical grid model (PGM)[6] and the EPA Benefits Mapping and Analysis Program (BenMAP or BenMAP–Community Edition [CE]).[7] The publicly available health impact assessments (HIAs) typically present results in terms of an increase in health incidences and/or the increase in background health incidence for various health outcomes resulting from the project's estimated increase in concentrations of O_3 and $PM_{2.5}$.[8] To date, the five publicly available HIAs reviewed

6 The first step in the publicly available HIAs includes running a regional PGM, such as the Community Multiscale Air Quality (CMAQ) model or the Comprehensive Air Quality Model with extensions (CAMx) to estimate the increase in concentrations of O_3 and $PM_{2.5}$ as a result of project-generated emissions of criteria and precursor pollutants. Air districts, such as the SCAQMD, use photochemical air quality models for regional air quality planning. These photochemical models are large-scale air quality models that simulate the changes of pollutant concentrations in the atmosphere using a set of mathematical equations characterizing the chemical and physical processes in the atmosphere (EPA 2017).

7 After estimating the increase in concentrations of O_3 and $PM_{2.5}$, the second step in the five examples includes use of BenMAP or BenMAP-CE to estimate the resulting associated health effects. BenMAP estimates the number of health incidences resulting from changes in air pollution concentrations (EPA 2018e). The health impact function in BenMAP-CE incorporates four key sources of data: (i) modeled or monitored air quality changes, (ii) population, (iii) baseline incidence rates, and (iv) an effect estimate. All of the five example HIAs focused on O_3 and $PM_{2.5}$.

8 The following CEQA documents included a quantitative HIA to address Friant Ranch: (1) California State University Dominguez Hills 2018 Campus Master Plan EIR (CSU Dominguez Hills 2019), (2) March Joint Powers Association K4 Warehouse and Cactus Channel Improvements EIR (March JPA 2019), (3) Mineta San Jose Airport Amendment to the Airport Master Plan EIR (City of San Jose 2019), (4) City of Inglewood Basketball and Entertainment Center Project EIR (City of Inglewood 2019), and (5) San Diego State University Mission Valley Campus Master Plan EIR (SDSU 2019).

herein have concluded that the evaluated project's health effects associated with the estimated project-generated increase in concentrations of O_3 and $PM_{2.5}$ represent a small increase in incidences and a very small percent of the number of background incidences, indicating that these health impacts are negligible and potentially within the models' margin of error. It is also important to note that while the results of the five available HIAs conclude that the project emissions do not result in a substantial increase in health incidences, the estimated emissions and assumed toxicity is also conservatively inputted into the HIA and thus, overestimate health incidences, particularly for $PM_{2.5}$.

As explained in the SJVAPCD brief and noted previously, running the PGM used for predicting O_3 attainment with the emissions solely from an individual project like the Friant Ranch project or the Project is not likely to yield valid information given the relative scale involved. The five examples reviewed support the SJVAPCD's brief contention that consistent, reliable, and meaningful results may not be provided by methods applied at this time. Accordingly, additional work in the industry and more importantly, air district participation, is needed to develop a more meaningful analysis to correlate project-level mass criteria air pollutant emissions and health effects for decision makers and the public. Furthermore, at the time of writing, no HIA has concluded that health effects estimated using the PGM and BenMAP approach are substantial provided that the estimated project-generated incidences represent a very small percent of the number of background incidences, potentially within the models' margin of error.

Near-Term Development Components

Health Effects of Toxic Air Contaminants

The greatest potential for TAC emissions would be DPM emissions from heavy equipment operations and heavy-duty trucks during construction activities for the Project's near-term development components and the associated potential health impacts to sensitive receptors. According to OEHHA, health risk assessments (which determine the exposure of sensitive receptors to toxic emissions) should be based on a 30-year exposure period for the maximally exposed individual receptor; however, such assessments should also be limited to the period/duration of activities associated with the Project's near-term development components. Construction of the Project's near-term development components would represent a short duration of exposure of the 30-year exposure period, while cancer and chronic risk from DPM are typically associated with long-term exposure. Thus, the near-term development components would not result in a long-term source of TAC emissions.

Furthermore, the Project's near-term development components construction would not require the extensive operation of heavy-duty diesel construction equipment, which is subject to CARB's Airborne Toxics Control Measure for in-use diesel construction equipment to reduce DPM emissions, and would not involve extensive use of diesel trucks, which are also subject to a CARB Airborne Toxics Control Measure. Due to this relatively short period of exposure and minimal DPM emissions on site, TACs generated during the Project's near-term development components construction would not result in concentrations causing significant health risks; therefore, impacts would be *less than significant*.

Regarding long-term operations, the near-term development components could result in TAC emissions from on-site generators. In addition, potential delivery trucks would generate minimal DPM emissions based on the infrequent usage. The on-site generators, which are classified as stationary sources, would be required to comply with MBARD's permitting process, such as Rule 1000's requirement that new sources of TACs install best control technology prior to issuance of permits to operate. Compliance with this regulatory framework would ensure that potential health risks would be less than significant. Therefore, the near-term development components would not result in exposure of sensitive receptors to substantial TAC concentrations during long-term operations and impacts would be *less than significant*.

Health Impacts of Carbon Monoxide

During construction, the Project's near-term development components would result in CO emissions from construction worker vehicles, haul trucks, and off-road equipment. Title 40, section 93.123(c)(5) of the California Code of Regulations, Procedures for Determining Localized CO, PM_{10}, and $PM_{2.5}$ Concentrations (hot-spot analysis), states that "CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site" (Cal. Code Regs., tit. 40, § 93.123). Since construction activities would be temporary and spread out across multiple work sites throughout, a Project-level construction hotspot analysis would not be required. Additionally, the near-term development components are included in the Project's buildout emissions presented in Table 4.2-7, which identified long-term CO emissions that would be less than the MBARD threshold. Therefore, an operational CO hotspot evaluation is also not required.

Due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the NCCAB is steadily decreasing as presented in Table 4.2-2. Maximum background CO levels in Monterey County as shown in Table 4.2-2 are approximately 13 percent of the 1-hour and 8-hour NAAQS and CAAQS and would be expected to improve further due to reductions in motor vehicle emissions. Thus, the near-term development component's CO emissions would not contribute to significant health effects associated with this pollutant and the impacts would be *less than significant*.

Health Effects of Criteria Air Pollutants

The Project's near-term development components would not exceed significance thresholds for ROG, NO_x, CO, SO_x, $PM_{10,}$ or $PM_{2.5}$. ROG and NO_x are precursors to O_3, for which the NCCAB is designated as nonattainment with respect to the CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of ROGs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the NCCAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the ROG emissions would occur because exceedances of the O_3 CAAQS tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Operation of the near-term development components would not exceed the significance threshold for NO_x; therefore, implementation of the near-term development components would contribute minimally to regional O_3 concentrations and the associated health effects.

Operation of the near-term development components also would not contribute to exceedances of the NAAQS and CAAQS for NO_2. Health effects that result from NO_2 and NO_x include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. The near-term development components construction would be relatively short term, and off-road construction equipment would be operating at various portions of the campus and would not be concentrated in one location of the site at any one time. In addition, existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Because the near-term development components generated NO_x emissions would not exceed the significance threshold, the near-term components would not result in potential health effects associated with NO_2 and NO_x.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots was discussed previously and determined to be a less-than-significant impact. Furthermore, the existing CO concentrations in the area are well below the NAAQS and CAAQS standards. Thus, the near-term development components' CO emissions would not contribute to significant health effects associated with this pollutant.

Construction and operation of the near-term development components would also not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. Due to the minimal contribution of particulate matter during construction and operation, the near-term development components are not anticipated to result in health effects associated with PM_{10} or $PM_{2.5}$.

In summary, because the near-term development components would not result in exceedances of the significance thresholds for emissions of ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$ during construction and operations, the potential health effects associated with criteria air pollutants are considered less than significant. Furthermore, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and there are currently no modeling tools that could provide reliable and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects. Therefore, the near-term development components would not result in health effects associated with criteria air pollutants and the impact would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact AIR-4:	**Other Emissions Adversely Affecting a Substantial Number of People (Threshold D).** The Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. *(Less than Significant)*

Master Plan

The occurrence and severity of potential odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receiving location. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during Project construction. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the Project sites and generally occur at magnitudes that would not affect a substantial number of people. Therefore, impacts associated with odors during construction would be *less than significant*.

Typical sources of substantial operational odors include landfills, rendering plants, chemical plants, agricultural uses, wastewater treatment plants, and refineries. Regarding operations, the Project involves development of additional CSUMB campus facilities (non-residential) and housing (residential) uses. Typical odors generated from operation of the Project would include vehicle exhaust generated by students, employees, or visitors traveling to and from the Project site, through the periodic use of landscaping or maintenance equipment, from the temporary storage of typical solid waste (refuse), and from the dining facilities. Any odors produced would be minimal, would be similar to the existing uses, and would be confined to the immediate campus vicinity. Overall, operation of the Project would not result in odors that would affect a substantial number of people and this impact would be *less than significant*.

Near-Term Development Components

Construction odors related to vehicles and equipment exhaust emissions would disperse rapidly from the near-term development component sites and generally occur at magnitudes that would not affect a substantial number of people. The Project's near-term development components would not result in substantial objectionable odors when operated in compliance with regulations (e.g., proper trash disposal and storage). The near-term development components also do not contain any uses or activities that would cause the generation of substantial unpleasant odors. Thus, construction and operation of the Project's near-term development components would not result in the creation of objectionable odors affecting a substantial number of people. Impacts related to odors would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

4.2.3.4 Cumulative Impacts

This section provides an evaluation of air quality impacts associated with the Project, including near-term development components, and other planned growth in the study area, based both on the 2018 AMBAG Regional Growth Forecast and based on other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and as relevant to the particular air quality issue evaluated. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact AIR-5: **Cumulative Air Quality Impacts (Thresholds A, B, C and D).** The Project would not result in a considerable contribution to a significant cumulative impact related to air quality. *(Less than Significant)*

Air Quality Management Plan

Consistency with the AQMP is determined, in part, by comparing cumulative population growth to the population forecasts contained in the AQMP for Monterey County, which is the geographic context for the analysis of potential conflicts with the AQMP due to cumulative development. As indicated in Impact AIR-1, demographic growth forecasts developed by AMBAG were used to estimate future emissions in the 2012–2015 AQMP. The estimated growth anticipated by the 2012-2015 AQMP and AMBAG was 495,086 people by 2035. While there could be future projects proposed within Monterey County that were not anticipated by the AMBAG growth forecasts that could cause exceedance of the forecasts contained in the AQMP, the evaluation of such impacts would be speculative at this time. Further, subsequent Regional Growth Forecasts in 2018 and 2022 reveal that population projections are going down in Monterey over time and, therefore, the higher 2014 population estimates for Monterey County used in the AQMP are likely to account for cumulative development. Therefore, significant conflicts with the AQMP are not likely to result with cumulative development in Monterey County. Furthermore, the Project would be consistent with the AQMP, as discussed in Impact AIR-1. Therefore, the cumulative impact related to conflicts with the AQMP would be *less than significant*.

Criteria Air Pollutants

Air pollution by nature is largely a cumulative impact. The entire NCCAB is the geographic context for the evaluation of cumulative air quality impacts related to criteria air pollutants. The nonattainment status of regional pollutants is a result of past and present development, and the MBARD develops and implements plans for future attainment of ambient air quality standards within the NCCAB. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. The potential for the Project to result in a cumulatively considerable impact, specifically a cumulatively considerable new increase of any criteria air pollutant for which the Project region is nonattainment under an applicable NAAQS and/or CAAQS, is addressed in Impact AIR-2 above. As previously discussed, daily construction and the net operational emissions of the Project would not exceed the MBARD significance thresholds for any criteria air pollutant including ROG, NO_x, CO, PM_{10}, or $PM_{2.5}$. Therefore, construction and operational cumulative air quality impacts would be *less than significant*.

Substantial Pollutant Concentrations

The entire NCCAB is the geographic context for the evaluation of cumulative air quality impacts related to substantial pollutant concentrations and related health effects. As addressed in Impact AIR-3, because construction and operation of the Project would not result in the exceedances of the MBARD significance thresholds for ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$, and because the MBARD thresholds are based on levels that the NCCAB can accommodate without affecting the attainment date for the AAQS and the AAQS are established to protect public health and welfare, it is anticipated that the Project would not result in cumulative health effects associated with criteria air pollutants and the impact would be *less than significant*.

Notably, health effects from air pollutants are related to the concentration of the air pollutant that an individual is exposed to, not necessarily the individual mass quantity of emissions associated with an individual project. For example, health effects from O_3 are correlated with increases in the ambient level of O_3 in the air a person breathes. However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient O_3 levels over an entire region (SCAQMD 2015). Even if a project exceeds established CEQA significance thresholds, this does not mean that one can easily determine the concentration of O_3 or PM that will be created at or near the campus on a particular day or month of the year, or what specific health impacts will occur. Furthermore, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and there are currently no modeling tools that could provide reliable and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects.

Odors

As indicated in Impact AIR-4, the Project impact related to odor would also be *less than significant*. As odors are a localized impact, the geographic scope considered in the cumulative analysis related to odors consists of the cumulative projects identified in Table 4.0-1 in Section 4.0, Introduction to Analysis. None of the cumulative projects listed in Table 4.0-1 are odor-producing land uses, such as those listed under Impact AIR-4. The MBARD does not have a specific regulation or rule that addresses objectionable odors. Any actions related to odors would be based on public complaints made to the MBARD. Additionally, all future projects would be subject to MBARD Rule 402 (Nuisances), which prohibits the discharge of air contaminants or other materials 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. Therefore, cumulative impacts related to odor would be *less than significant*.

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4.3 BIOLOGICAL RESOURCES

This section of the Draft EIR presents an analysis of the potential biological resources impacts associated with the development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate significant or potentially significant impacts. The information in this section is based, in part, on a Biological Resources Report prepared for the Project (see Appendix E).

Agency comments related to biological resources were received during the public scoping period in response to the original Notice of Preparation (NOP) and address the protection of native oak woodland habitat on the CSUMB campus as part of contiguous areas of native oak woodland habitat on the former Fort Ord.

No additional public and agency comments related to biological resources were received during the public scoping period in response to the Revision to Previously Released NOP. For a complete list of public comments received during the public scoping periods, refer to Appendix B.

4.3.1 Environmental Setting

4.3.1.1 Study Area

The study area for the evaluation of impacts on biological resources encompasses the 1,396-acre CSUMB campus, located in the northwestern portion of the former Fort Ord military base. The botanical and wildlife survey areas for the Biological Resources Report (Appendix E) are shown in Figure 4.3-1. Section 4.3.3.2, Analytical Methods provides additional information about how biological resources in the study area were identified and evaluated in this section of the EIR.

4.3.1.2 Campus Setting

Habitat Types

The CSUMB campus contains five natural vegetation community/habitat types: coast live oak woodland, central maritime chaparral, central coastal scrub, non-native grassland, and ruderal/disturbed. Several areas of the campus contain a mixture of the five vegetation types. Additionally, some areas of the campus are developed with campus facilities. The vegetation communities and their approximate acreages found on the campus are shown on Figure 4.3-2 and listed in Table 4.3-1 and are described below. A summary description of each habitat type on campus is provided below. Appendix E contains additional details about these habitat types.

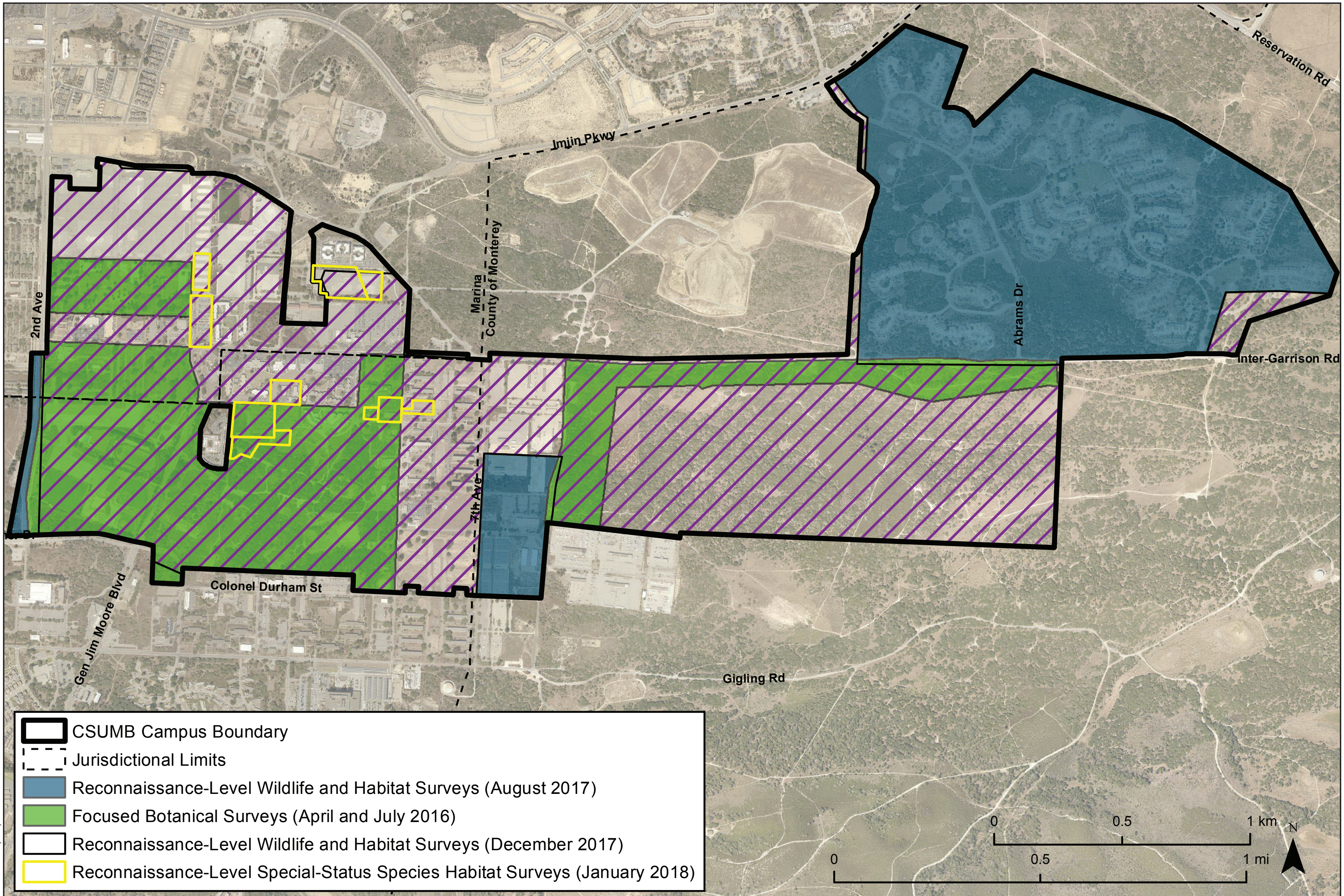
Table 4.3-1
Vegetation Types within the CSUMB Campus

Vegetation Type	Total Area (acres)
Developed	526.5
Coast Live Oak Woodland	336.4
Ruderal/Disturbed	327.6
Central Maritime Chaparral	74.9
Central Maritime Chaparral/Coast Live Oak Woodland Mix	46.3
Coast Live Oak Woodland/Non-Native Grassland Mix	23.5
Non-Native Grassland	33.9
Coast Live Oak Woodland/Central Coastal Scrub Mix	10.4
Central Coastal Scrub	8.6
Central Coastal Scrub/Non-Native Grassland Mix	4.6
Central Maritime Chaparral/Central Coastal Scrub Mix	3.1
Total	**1,395.8**

Bold indicates sensitive habitat addressed in the Fort Ord HMP.

Coast live oak woodland is the dominant habitat type within the undeveloped portion of the campus. Coast live oak woodland is an open-canopied to nearly-closed-canopied community with a grass or sparsely scattered shrub understory. Three distinct coast live oak communities are located on the former Fort Ord: coastal coast live oak woodland, inland coast live oak woodland, and coast live oak savannah. The campus contains coastal coast live oak woodland, based on its proximity to the coast. In coastal coast live oak woodland, coast live oaks grow on unprotected sites and are exposed to the combined stresses of strong winds, salt spray, and sterile, sandy soils, which are often referred to as "sand hills." These environmental factors create an oak woodland characterized by short, wind-pruned trees that intergrade with the surrounding coastal scrub and maritime chaparral communities. On campus, the coast live oak (*Quercus agrifolia*) canopy is quite dense in many areas with an understory dominated by poison oak or, in some areas, non-native ice plant. Other plant species observed within the coast live oak woodland include hedge-nettle (*Stachys* sp.), slender wild oat (*Avena barbata*), sheep sorrel (*Rumex acetosella*), fiesta flower (*Pholistoma auritum*), and scattered shrubs such as fuchsia-flowered gooseberry (*Ribes speciosum*), California coffeeberry (*Frangula californica*), and sticky monkey flower (*Mimulus aurantiacus*).

Coast live oak woodland is important habitat to many wildlife species. Oaks provide nesting sites for many avian species and cover for a variety of mammals, including mourning dove (*Zenaida macroura*), American kestrel (*Falco sparverius*), California ground squirrel (*Spermophilus beecheyi*), and California pocket mouse (*Chaetodipus californicus*). Acorns provide an important food source for acorn woodpecker (*Melanerpes formicivorus*), western scrub jay (*Aphelocoma californica*), and black-tailed deer (*Odocoileus hemionus columbianus*). Other common wildlife species found in the coast live oak woodland are raccoon (*Procyon lotor*), Nuttall's woodpecker (*Picoides nuttallii*), northern flicker (*Colaptes auratus*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*). Generally, red-tailed hawks (*Buteo jamaicensis*) and great-horned owls (*Bubo virginianus*) nest and roost in the coast live oaks.



SOURCE: Denise Duffy and Associates, Inc. 2018

DUDEK

FIGURE 4.3-1

Survey Areas

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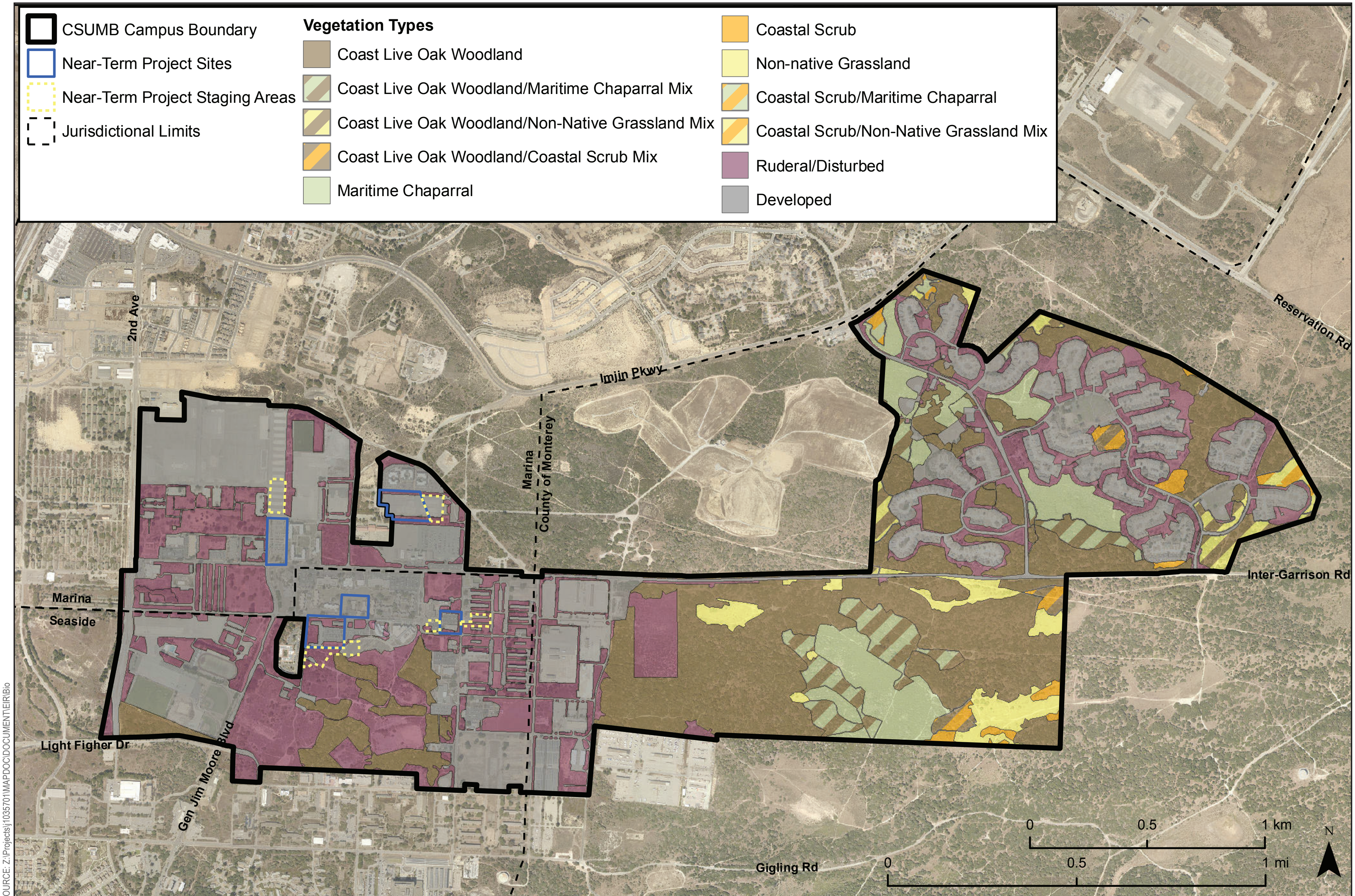

SOURCE: Denise Duffy and Associates, Inc. 2018

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FIGURE 4.3-2

Vegetation Types

CSU Monterey Bay Master Plan EIR

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Central maritime chaparral on the campus is dominated by shaggy-barked manzanita, sandmat manzanita, dwarf ceanothus, coyote brush (*Baccharis pilularis*), chamise, and sticky monkey flower. Additional species within this habitat type include California coffeeberry, fuchsia-flowered gooseberry, chaparral currant (*Ribes malvaceum*), poison oak, black sage (*Salvia mellifera*), sticky cinquefoil (*Drymocallis glandulosa*), and creeping snowberry (*Symphoricarpos mollis*).

Common wildlife species that occur within central maritime chaparral habitat include California quail (*Callipepla californica*), California towhee (*Melozone crissalis*), California thrasher (*Toxostoma redivivum*), common poorwill (*Phalaenoptilus nuttallii*), Anna's hummingbird (*Calypte anna*), wrentit (*Chamaea fasciata*), western scrub jay, northern pacific rattlesnake (*Crotalus oreganus* ssp. *oreganus*), coast range fence lizard (*Sceloporus occidentalis bocourti*), gopher snake (*Pituophis catenifer catenifer*), coast gartersnake (*Thamnophis elegans terrestris*), and brush rabbit (*Sylvilagus bachmani*).

Central coastal scrub contains dense shrubs, lacks grassy openings, and is often integrated with other habitat types. Dominant shrub species in the central coastal scrub habitat within the campus include black sage, coyote brush, poison oak, sticky monkey flower, and coast sagebrush (*Artemisia californica*).

Central coastal scrub habitats provide cover and food for a number of wildlife species, including songbirds, snakes, lizards, rodents, and other small mammals. Common species that may occur within the central coastal scrub habitat include California quail, blue-gray gnatcatcher (*Polioptila caerulea*), Anna's hummingbird, coast range fence lizard, northern pacific rattlesnake, gopher snake, brush rabbit, and California ground squirrel.

Non-native grassland is often dominated by non-native annual grasses and forbs along with scattered native grasses and wildflowers. The dominant species in this habitat within the campus include slender oat, ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), rat-tail fescue (*Festuca myuros*), slender wild oat (*Avena barbata*), and long-beaked filaree (*Erodium botrys*). Additional species found within this habitat include needlegrass (*Stipa* sp.), sky lupine (*Lupinus nanus*), California poppy (*Eschscholzia californica*), wedge-leaved horkelia (*Horkelia cuneata*), sheep sorrel, and telegraphweed (*Heterotheca grandiflora*).

Non-native grasslands provide habitat to a number of common wildlife species. Botta's pocket gopher (*Thomomys bottae*), California ground squirrel, American badger, and several rodent species use non-native grasslands for foraging and cover. Raptors are also known to forage in this habitat, including red-tailed hawk. Reptiles, such as northern pacific rattlesnake, gopher snake, and coast range fence lizard, are also common non-native grassland species. Avian species that may be found within the non-native grassland habitat include grasshopper sparrow (*Ammodramus savannarum*), savannah sparrow (*Passerculus sandwichensis*), western kingbird (*Tyrannus verticalis*), and red-tailed hawk.

Ruderal/disturbed areas are those areas which have been disturbed by human activities and are dominated by non-native annual grasses and other "weedy" species. Ruderal areas within the campus include areas around the developed areas that are regularly disturbed and other areas of historic disturbance. The ruderal areas include vegetation dominated by hottentot fig, ripgut grass, slender oat, cut-leaved plantain (*Plantago coronopus*), English plantain (*P. lanceolata*), sand mat (*Cardionema ramosissimum*), long-beaked filaree, and telegraph weed.

Common wildlife species which do well in urbanized and disturbed areas can utilize this habitat, such as the American crow (*Corvus brachyrhynchos*), California ground squirrel, raccoon, striped skunk (*Mephitis mephitis*), western scrub jay, European starling (*Sturnus vulgaris*), coast range fence lizard, and rock pigeon (*Columba livia*). This habitat type is considered to have low biological value, as it generally dominated by non-native plant species and consists of relatively low-quality habitat from a wildlife perspective.

Developed areas comprise the majority of the Main Campus. These areas are characterized by buildings and other structures, paved roads and parking lots, and ornamental landscaping. Very little natural vegetation is present within these areas and they are considered to have low habitat value. However, some common wildlife species that thrive in urbanized areas may be found foraging within the developed areas, including American crow, California ground squirrel, raccoon, striped skunk, western scrub jay, European starling, and rock pigeon.

Sensitive Habitats

One sensitive habitat type was identified within the campus: central maritime chaparral, which includes central maritime chaparral mix habitats. Central maritime chaparral habitat, including the central maritime chaparral/central coastal scrub and central maritime chaparral/coast live oak woodland mix habitats, is identified as a sensitive habitat on the CDFW's *Natural Communities List* (CDFW, 2010). Central maritime chaparral is also identified as a sensitive habitat in the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord* (HMP) (ACOE 1997) (See Section 4.3.2.4, for information about the HMP). Approximately 124.3 acres of central maritime chaparral habitat, including mixed habitats, occurs within the campus, as shown in Table 4.3-1 above.

Special-Status Species

Special-status species include those plants and animals that have been formally listed or proposed for listing as endangered or threatened under either the state or federal Endangered Species Acts; candidates for either state or federal listing; species that meet the definition of rare or endangered under CEQA Guidelines Section 15380; animals on the CDFW's list of "species of special concern" and "special animals" list; plants listed as rare under the California Native Plant Protection Act (CNPPA) or included in the CNPS California Rare Plant Ranks (CRPR) 1A, 1B, 2A, and 2B; plant species listed as having special status by CDFW; and raptors (e.g., eagles, hawks, and owls) and their nests protected under both the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC) Section 3513, as described in Section 4.3.2, Regulatory Framework. Section 4.3.3.2, Analytical Methods describes the literature and data sources reviewed and the surveys conducted to identify the known and potential for occurrence of the identified special-status wildlife and plant species.

The following species are considered in the Biological Resources Report and this section of the EIR due to their moderate or high potential to occur or known presence within the CSUMB campus and potential to be impacted by the Project. Other wildlife and plant species that are unlikely to occur based on a lack of suitable habitat, or have a low potential to occur but are unlikely to be impacted, are identified in Appendix E.

Special-Status Wildlife Species

The campus was evaluated for the presence or potential presence of a variety of special-status wildlife species. Table 4.3-2 summarizes the potential for these species to occur within the campus. Appendix E contains additional details about these species. See also Appendix E for a discussion of California red-legged frog, a federally listed species, which is unlikely to occur within the campus.

Table 4.3-2
Potential for Special-Status Wildlife Species Presence within the Campus

Species	Potential Occurrence within Campus	Potential Occurrence within Near-Term Development Component Sites				
		Student Housing Phase III	Academic IV Building	Student Recreation Center	Student Housing Phase IIB	Academic V Building
Townsend's big-eared bat	Moderate	Unlikely	Moderate	Moderate	Moderate	Unlikely
Hoary bat	Moderate	Unlikely	Unlikely	Moderate	Moderate	Unlikely
Monterey dusky-footed woodrat	Present	Unlikely	Unlikely	Moderate	Unlikely	Unlikely
Monterey ornate shrew	High	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
American badger	High	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
California tiger salamander	Present	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
Northern California legless lizard	High	Moderate	Moderate	Moderate	Moderate	Unlikely
Coast horned lizard	High	Low	Low	Low	Low	Unlikely
Smith's blue butterfly	Moderate	Not Present	Moderate	Not Present	Not Present	Not Present
Obscure bumble bee	Moderate	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely

Table 4.3-2
Potential for Special-Status Wildlife Species Presence within the Campus

Species	Potential Occurrence within Campus	Potential Occurrence within Near-Term Development Component Sites				
		Student Housing Phase III	Academic IV Building	Student Recreation Center	Student Housing Phase IIB	Academic V Building
Western bumble bee	Moderate	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
Burrowing owl	Moderate	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
Nesting Raptors, Migratory Birds, & Other Protected Avian Species	Moderate-High	Moderate	Moderate	Moderate	Moderate	Moderate

Bold indicates Fort Ord HMP Species.

Special-Status Bat Species

Special-status bat species with the potential to occur in the vicinity that use oak woodland, central coastal scrub, and central maritime chaparral habitats as either maternity, migratory, or foraging roosts include the Townsends's big-eared bat and hoary bat. These species may utilize some of the coast live oak trees within the campus for night roosts and may forage over all undeveloped areas of the campus. Any future vacant buildings within the campus may also provide day roost or maternity roost habitat for Townsends's big-eared bat. Special-status bat species have a moderate potential to occur within these areas at the campus.

Monterey Dusky-Footed Woodrat

The Monterey dusky-footed woodrat is a CDFW species of special concern, which is common to oak woodlands and other forest types throughout California. Dusky-footed woodrats are frequently found in forest habitats with moderate canopy cover and a moderate to dense understory, including riparian forests; however, they may also be found in chaparral communities. Relatively large nests are constructed of grass, leaves, sticks, and feathers, where such materials are available, and are built in protected spots, such as rocky outcrops or dense brambles of blackberry and/or poison oak. Within suitable habitat, nests are often found in close proximity to each other. This species is known to occur throughout the former Fort Ord and woodrat nests were observed within the campus during field surveys. Therefore, the Monterey dusky-footed woodrat is assumed present within suitable habitat areas.

Monterey Ornate Shrew

The Monterey ornate shrew, also known as the Salinas ornate shrew, is a CDFW species of special concern and HMP species. In general, this shrew is common in the southern two-thirds of California west of the Sierra Nevada, from Mendocino to Butte counties, south to the Mexican border. It occupies a variety of mostly moist or riparian woodland habitats and also occurs within chaparral, grassland, and emergent wetland habitats where there is thick duff or downed logs.

Figure B-18 in the HMP identifies the campus as containing potential habitat for this species (ACOE, 1997). Additionally, field surveys on the UC Fort Ord Natural Reserve found that habitats within the campus (e.g., non-native grassland, coast live oak woodland, central coastal scrub, central maritime chaparral, riparian, and mixes of these habitats) are likely considered suitable habitat for the shrew. Therefore, there is a high potential for the Monterey ornate shrew to occur within these habitats in the campus.

American Badger

The American badger is a CDFW species of special concern. Badgers occupy a diversity of habitats within California; grasslands, savannas, and mountain meadows near timberline are preferred. The CNDDB reports eight occurrences of American badger within the Project region, the nearest of which located within the eastern portion of the campus, near Inter-Garrison Road. Additionally, this species is known to occur throughout the former Fort Ord. Suitable habitat is present within the non-native grassland, central maritime chaparral/non-native grassland mix, and central coastal scrub/non-native grassland mix, and within ruderal habitat in close proximity to the aforementioned more commonly used habitats within the campus. As such, the American badger has a high potential to occur within suitable habitat areas.

California Tiger Salamander

The California tiger salamander was listed as a federally threatened species on August 4, 2004 (69 FR 47211-47248). Critical habitat was designated for this species on August 23, 2005 (70 FR 49379-49458) and went into effect on September 22, 2005. Additionally, this species was listed as a state threatened species on March 3, 2010.

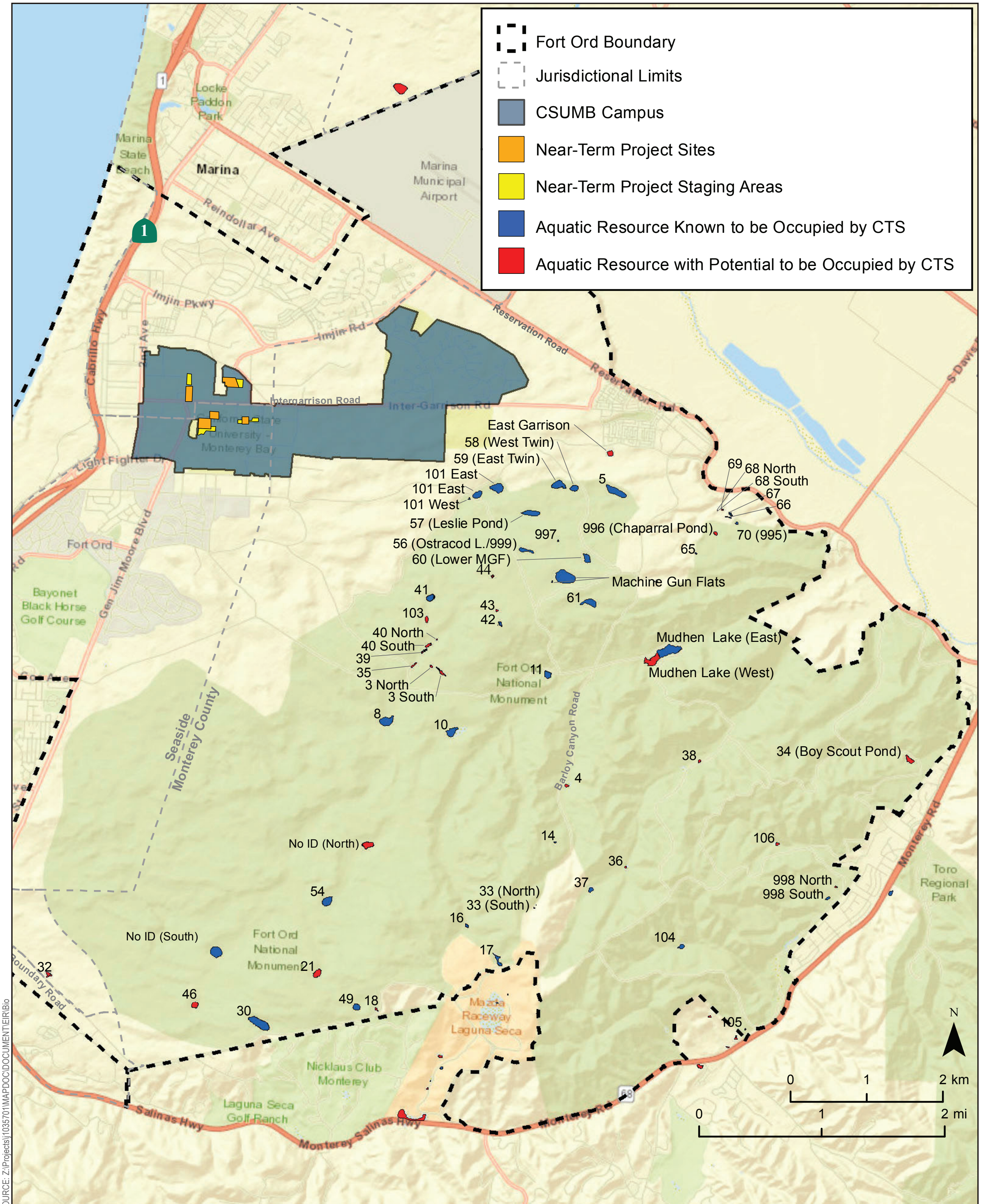
This species is most commonly found in annual grassland habitat, but also occurring in the grassy understory of valley-foothill hardwood and chaparral habitats, and uncommonly along stream courses in valley-foothill riparian habitats (U.S. Fish and Wildlife Service [USFWS] 2004). This species persists in disjunct remnant vernal pool complexes in Sonoma County and Santa Barbara County, in vernal pool complexes and isolated stockponds scattered along a narrow strip of rangeland on the fringes of the Central Valley from southern Colusa County south to northern Kern County, and in sag ponds and human-maintained stockponds in the coast ranges from the San Francisco Bay Area south to the Temblor Range.

The campus is not located within designated critical habitat for CTS. The CNDDB reports 49 occurrences of California tiger salamander within the seven quadrangles evaluated, 25 of which occur within the former Fort Ord. Extensive surveys have been conducted within the former

Fort Ord to determine the aquatic resources that are known or have the potential to be occupied by this species (see Figure 4.3-3). No potential or known breeding (aquatic) habitat for this species is present within the campus. The nearest known California tiger salamander-occupied pond is 0.4 mile (0.6 km) from the campus (Pond 101 East).

The USFWS considers suitable upland aestivation habitat within two kilometers (1.2 miles) of known or potential breeding locations for this species as occupied habitat unless protocol-level surveys are conducted with negative results (USFWS and CDFW, 2003). Portions of the campus are within two kilometers of several aquatic resources known or with the potential to be occupied by this species. Figure 4.3-4 presents the area of habitats within the campus assumed by the USFWS as occupied by this species in the absence of protocol-level surveys. Areas designated as "developed" are not included in these calculations as it is assumed these areas do not provide California tiger salamander upland habitat.

The CDFW uses a four-zone methodology to determine the relative impact of a project to California tiger salamander (see Appendix E for the definition of each zone). Portions of the campus fall within Zone 2, Zone 3, and Zone 4 distances from aquatic resources known or with the potential to be occupied by this species. Figure 4.3-5 present the area of habitats within the campus that fall within these zones. Areas designated as "developed" are not included in these calculations as it is assumed these areas do not provide CTS upland habitat. In the absence of protocol-level surveys, it is assumed that California tiger salamander are present within suitable upland habitat within the campus.



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Denise Duffy and Associates, Inc. 2017

FIGURE 4.3-3

Former Fort Ord CTS Aquatic Resources

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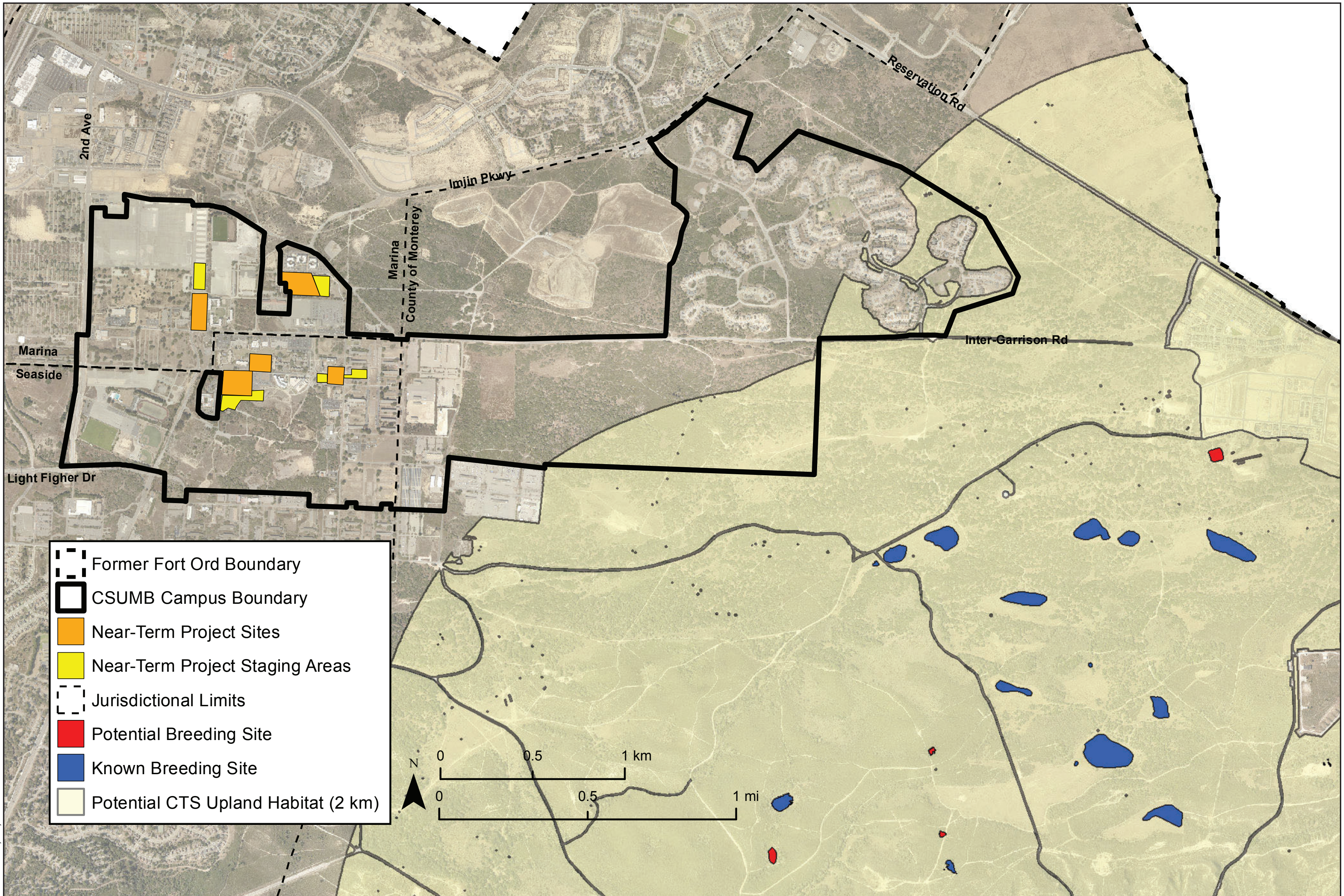

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SOURCE: Denise Duffy and Associates, Inc. 2018

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FIGURE 4.3-4

CTS Service Analysis

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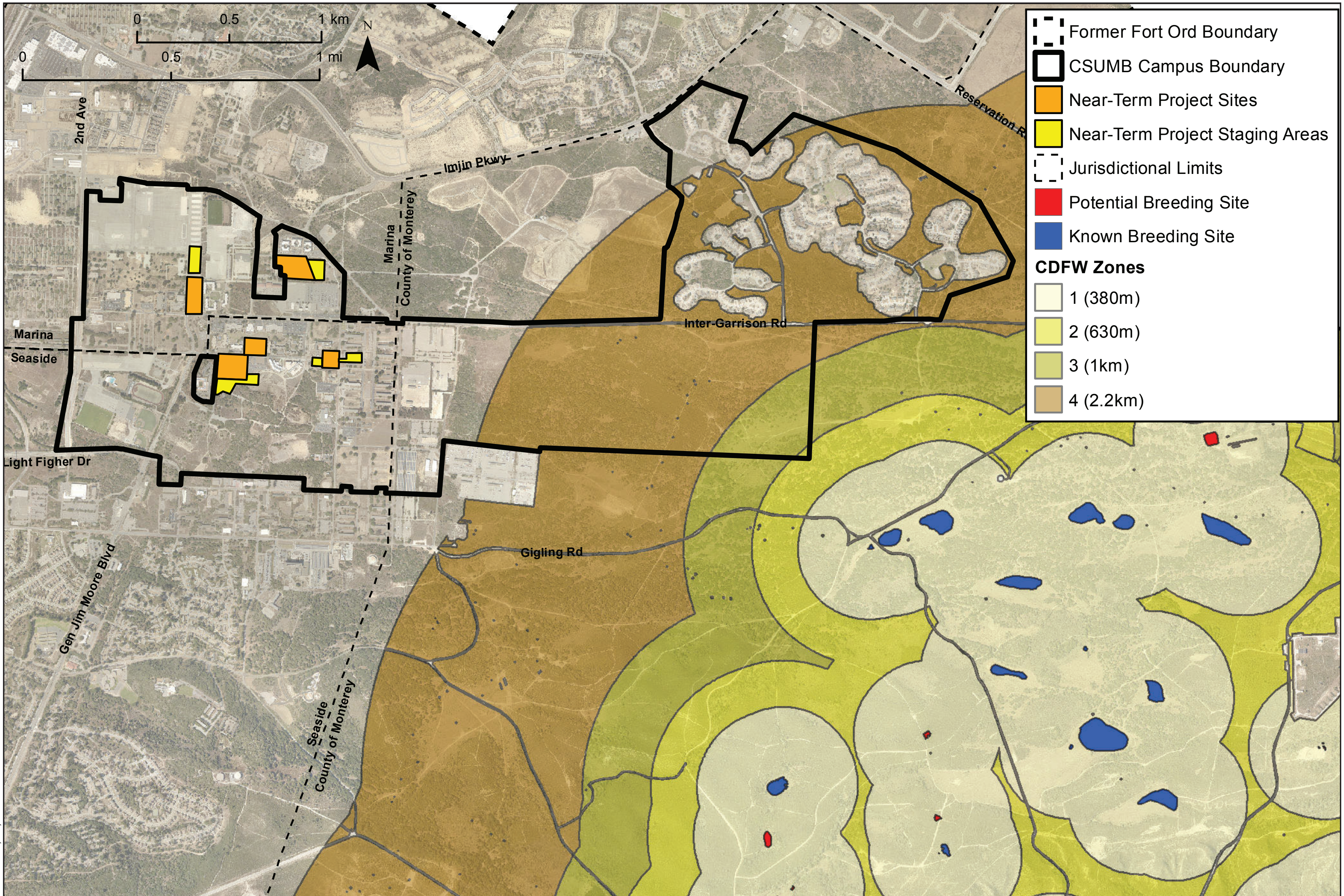

SOURCE: Denise Duffy and Associates, Inc. 2018

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FIGURE 4.3-5

CTS CDFW Analysis

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Northern California Legless Lizard

The Northern California legless lizard is a CDFW species of special concern, as well as a HMP species. This fossorial (burrowing) species typically inhabits sandy or loose (friable) soils. Habitats known to support Northern California legless lizard include, but are not limited to, coastal dunes, valley and foothill grasslands, chaparral, and coastal scrub at elevations from near sea level to approximately 1,800 meters (6,000 feet). The CNDDB reports 38 occurrences of Northern California legless lizard within the Project region, including one occurrence that includes the northeastern portion of the campus. An additional CNDDB occurrence is located immediately north of the western portion of the campus. Suitable habitat for Northern California legless lizard is present throughout all undeveloped areas of the campus where appropriate cover conditions occur. Therefore, the Northern California legless lizard has a high potential to occur within the campus.

Coast Horned Lizard

The coast horned lizard is a CDFW species of special concern. Horned lizards occur in valley-foothill hardwood, conifer, and riparian habitats, as well as in pine-cypress, juniper, chaparral, and annual grass habitats. This species generally inhabits open country, especially sandy areas, washes, flood plains, and wind-blown deposits in a wide variety of habitats. The CNDDB reports five occurrences of the coast horned lizard within the Project region, one occurrence within the northeastern portion of the campus. Additionally, this species has been observed throughout Fort Ord. Suitable habitat for this species is present within the campus within the central maritime chaparral and central coastal scrub habitats, including the mixed habitats, and may utilize open sandy areas of the non-native grassland and ruderal habitats. Therefore, there is a high potential for the coast horned lizard to occur within these habitats within the campus.

Smith's Blue Butterfly

The Smith's blue butterfly was listed as a federally endangered species on June 1, 1976 (41 FR 22041-22044). This species historically ranged along the California coast from Monterey Bay south through Big Sur to near Point Gorda, in association with coastal dune, coastal scrub, chaparral, and grassland vegetation types. The primary limiting factor for populations of this species is the occurrence of their host plants, dune buckwheat (*Eriogonum parvifolium*) and coast buckwheat (*E. latifolium*), in which they are associated with for their entire life span.

The CNDDB reports 17 occurrences of this species within the Project region, the nearest of which is located approximately 0.7 mile from the campus, within the Monterey Dunes State Park. Small areas of dune buckwheat were identified within the survey area near the intersection of 6th Avenue and Butler Street (0.1 acre and 6 individuals) and the intersection of 6th Avenue and A Street (23 individuals). Additionally, a small area of dune buckwheat (0.02 acre and 1 individual) is known from previous surveys conducted for the Fort Ord Habitat Conservation Plan (HCP),[1] along Inter-Garrison Road near the Main Campus quad. Four dune buckwheat individuals were identified within the Academic IV site. These areas may provide habitat for this species (Figure 4.3-6). Host plant species for this butterfly may also occur within the unsurveyed areas of the campus. Therefore, this species has a moderate potential to occur within the campus. No buckwheat plant species suitable for Smith's blue butterfly habitat were observed within the other Near-Term Development sites.

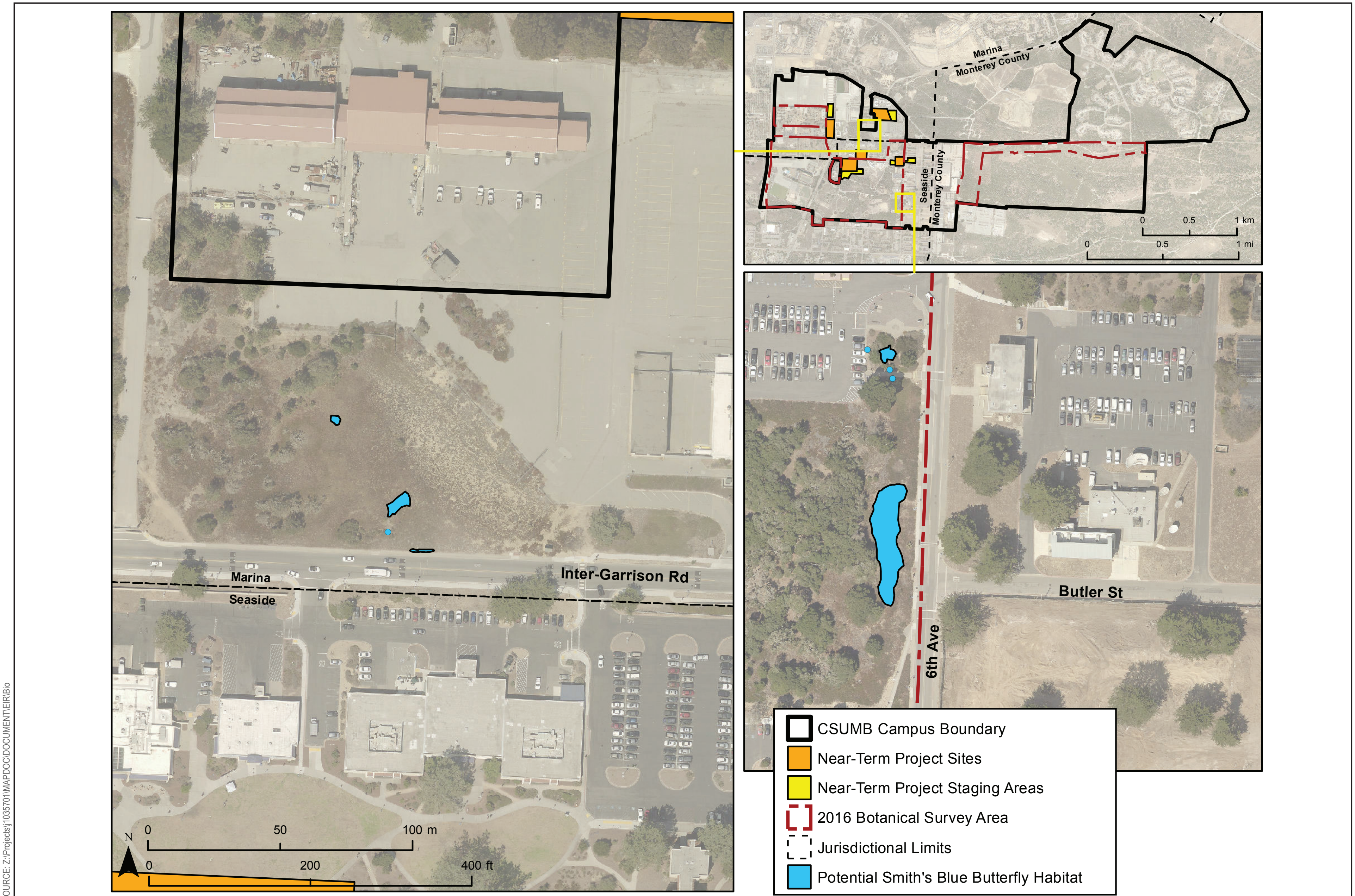
Obscure Bumble Bee

The obscure bumble bee occurs in Mediterranean California and along the Pacific Coast from southern California to southern British Columbia in Canada (Williams et. al., 2014). This species occurs primarily along the coast in grassy prairies and meadows. The CNDDB reports four occurrences of the obscure bumble bee within the Project region. The nearest CNDDB occurrence of obscure bumble bee is approximately 5.8 miles from the campus. Suitable habitat for this species may be present within the non-native grassland, non-native grassland mix habitats, and portions of the ruderal habitat within the campus. This species has a moderate potential to occur within suitable habitat at the campus.

Western Bumble Bee

The western bumble bee was formerly common from the Pacific coast to the Colorado Rocky Mountains; however, populations from central California to southern British Columbia, Canada and west of the Sierra-Cascade Ranges have declined sharply since the late 1990s (Pollinator Partnership and USFS, 2012; Williams et. al., 2014). The CNDDB reports six occurrences of the western bumble bee within the Project region. The nearest CNDDB occurrence of this species is approximately 4.6 miles from the campus. Suitable habitat for this species may be present within the non-native grassland, non-native grassland/coast live oak woodland mix, non-native grassland/central coastal scrub, and portions of the ruderal areas within the campus. This species has a moderate potential to occur within suitable habitat at the campus.

1 The Fort Ord HCP was prepared but not adopted by the Fort Ord Reuse Authority prior to its dissolution. Therefore, there are no adopted HCPs that apply to the CSUMB campus.



SOURCE: Denise Duffy and Associates, Inc. 2018

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FIGURE 4.3-6

Smith's Blue Butterfly Habitat

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Nesting Raptors, Migratory Birds, and Other Protected Avian Species

Raptors and their nests and migratory birds are protected under FGC and the MBTA (see Section 4.3.2, Regulatory Framework). Most raptors are breeding residents throughout most of the wooded portions of the state. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting. Breeding occurs February through August. Many raptor species hunt in open woodland and habitat edges. Various species of raptors (such as red-tailed hawk, red-shouldered hawk [*Buteo lineatus*], great horned owl, American kestrel, and turkey vulture [*Cathartes aura*]) have a potential to nest within any of the large coast live oak, Monterey pine, or Monterey cypress trees present within the campus. Additionally, migratory bird species that may be present within the campus include, but is not limited to, common poorwill, blue-gray gnatcatcher, Townsend's warbler (*Setophaga townsendii*), western tanager (*Piranga ludoviciana*), savannah sparrow, ash-throated fly catcher (*Myiarchus cinerascens*), and violet-green swallow (*Tachycineta thalassina*).

Avian species identified as CDFW species of special concern or Fully Protected Species (such as the white-tailed kite, western burrowing owl, and California horned lark) have the potential to occur within the campus. Suitable nesting habitat for the white-tailed kite is present within the coast live oak woodland habitat. This species may also forage over any of the undeveloped areas within the campus. In addition, marginally suitable nesting and foraging habitat for the western burrowing owl and California horned lark is present within the non-native grassland habitat. Therefore, nesting raptors, migratory birds, and other protected avian species have a moderate to high potential to occur within the campus.

Special-Status Plant Species

The campus and adjacent areas were evaluated for the presence or potential presence of a variety of special-status plant species. Focused surveys were conducted within a portion of the campus; this area is identified as the "survey area" on Figure 4.3-1. The following special-status plant species are discussed due to their known presence within the campus, as observed during the focused botanical surveys (Figure 4.3-7), or for their moderate to high potential to occur in the un-surveyed areas of the campus, based on known occurrences in the vicinity and presence of suitable habitat. Table 4.3-3 summarizes the potential for these species to occur within the campus. Figure 4.3-7 and Table 4.3-4 identifies the area of each of species observed within the survey area. Appendix E provides additional details about these species. All other species are assumed "unlikely to occur" based on the lack of suitable habitat within un-surveyed portions of the campus and/or the results of the focused surveys within the survey area, or have a low potential to occur but are unlikely to be impacted, as identified in Appendix E.

Table 4.3-3
Potential for Special-Status Plant Species Presence within the Campus

Species	Potential Occurrence within Campus	Potential Occurrence within Near-Term Development Component Sites				
		Student Housing Phase III	Academic IV Building[1]	Student Recreation Center	Student Housing Phase IIB	Academic V Building
Hooker's manzanita	Moderate	Not Present	Not Present	Not Present	Not Present	Not Present
Toro manzanita	Present[2]	Not Present	Not Present	Not Present	Not Present	Not Present
Pajaro manzanita	Moderate	Not Present	Not Present	Not Present	Not Present	Not Present
Sandmat manzanita	Present	Not Present	Not Present	Not Present	Not Present	Not Present
Monterey ceanothus	Present	Not Present	Not Present	Not Present	Not Present	Not Present
Fort Ord spineflower	Moderate	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Monterey spineflower	Present	Low	Low	Present	Low	Unlikely
Seaside bird's-beak	High	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Eastwood's goldenbush	High	Not Present	Not Present	Not Present	Not Present	Not Present
Sand-loving wallflower	High	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Sand gilia	High	Low	Low	Not Present	Low	Unlikely
Kellogg's horkelia	Present[2]	Not Present	Not Present	Not Present	Not Present	Not Present
Point Reyes horkelia	Moderate	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Marsh microseris	Moderate	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Northern curly-leaved monardella	Moderate	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Woodland woolythreads	Moderate	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Yadon's piperia	High	Unlikely	Unlikely	Not Present	Low	Unlikely
Santa Cruz microseris	Moderate	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Santa Cruz clover	Moderate	Unlikely	Unlikely	Not Present	Unlikely	Unlikely
Pacific Grove clover	Moderate	Unlikely	Unlikely	Not Present	Unlikely	Unlikely

Bold indicates Fort Ord HMP Species.

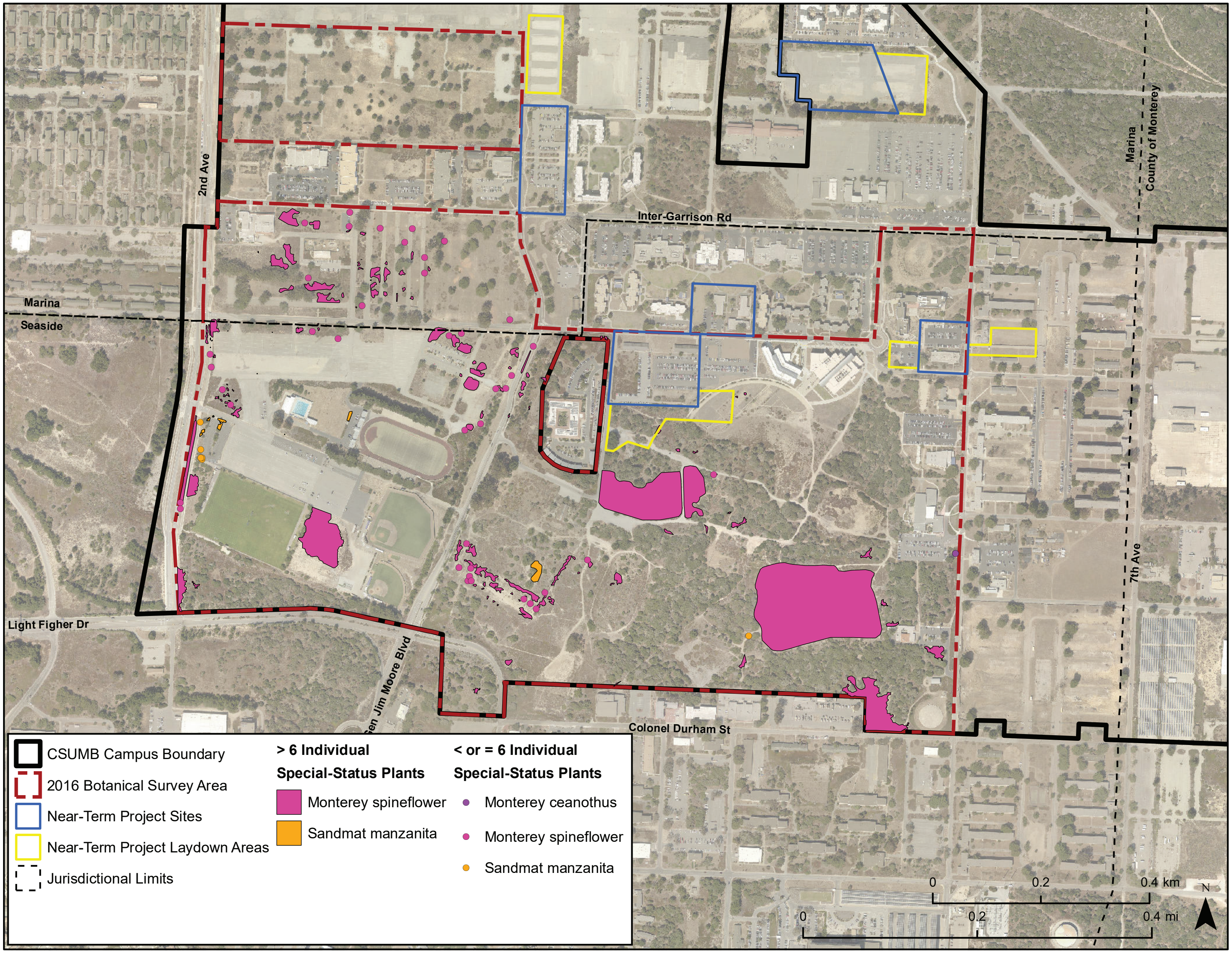
Notes:

1. The Academic IV Building site and a portion of the staging area was included in the survey area for botanical surveys conducted in 2017; however, a portion of the staging area was not included. Therefore, special-status plant species listed with potential to occur for this site may occur only within the unsurveyed portions of the staging area. No special-status plant species were observed within the surveyed areas of the Academic IV Building site in 2017.
2. These species were present only on the surveyed portion of the East Campus Open Space.

Table 4.3-4
Area of Special-Status Plant Species within the Survey Area

Species	Area (acres)			Individuals
	Low	Medium	High	
Toro manzanita	0	0	0	1
Sandmat manzanita	0.01	0.02	0.3	30
Monterey ceanothus	0	0	0	2
Monterey spineflower	16.5	1.1	0.1	120
Kellogg's Horkelia	0.03	0.003	0	48

Bold indicates Fort Ord HMP Species.



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SOURCE: Denise Duffy and Associates, Inc. 2018

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FIGURE 4.3-7a

Special-Status Plants Observed

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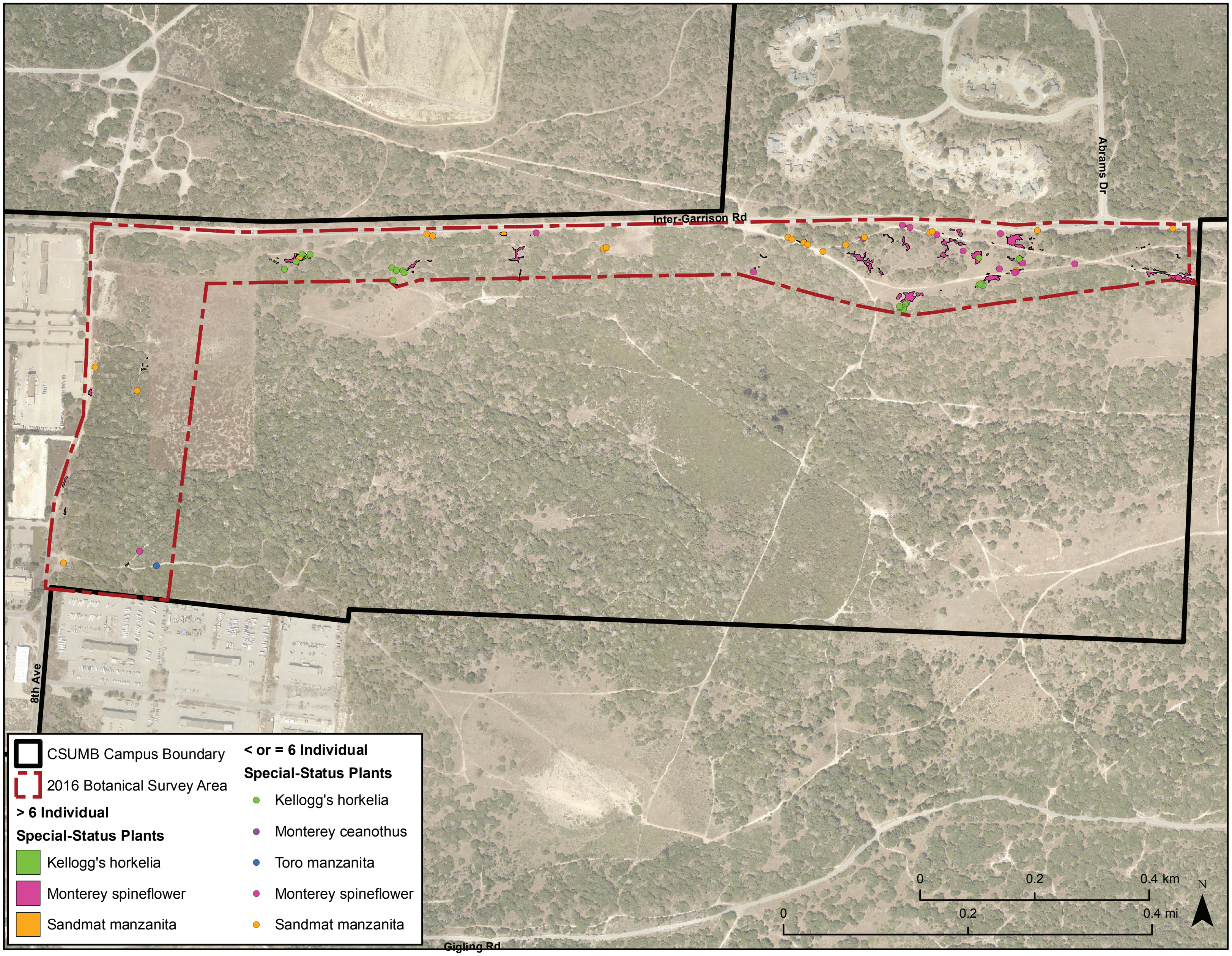

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FIGURE 4.3-7b

Special-Status Plants Observed

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Hooker's Manzanita

Hooker's manzanita is a CNPS CRPR 1B and HMP species. This evergreen shrub is associated with closed-cone coniferous forest, chaparral, cismontane woodland and coastal scrub habitats on sandy soils at a range of approximately 85-536 meters (280-1,760 feet) in elevation. The CNDDB reports 19 occurrences of this species within the Project region, the nearest of which is located approximately 0.2 mile south of the campus. This species was not observed within the survey area during surveys in 2016; however, suitable habitat for this species is present within the unsurveyed portions of the campus. Therefore, this species has a moderate potential to occur within the campus.

Toro Manzanita

Toro manzanita (also often referred to as Monterey manzanita) is a CNPS CRPR 1B and HMP species. Toro manzanita is associated with maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of approximately 30-730 meters (100-2,400 feet). The CNDDB reports an occurrence of this species within the campus (Figure 4.3-8). One individual Toro manzanita was identified within a portion of the survey area in East Campus Open Space during the 2016 botanical surveys (Figure 4.3-1). This species may also occur within the unsurveyed portions of the campus.

Pajaro Manzanita

Pajaro manzanita is a CNPS CRPR 1B species. This evergreen shrub is associated with chaparral on sandy soils at a range of approximately 30-760 meters (100-2,500 feet) in elevation. The CNDDB reports 18 occurrences of this species within the Project region, the nearest of which includes a very small portion of the southwestern corner of the campus (Figure 4.3-8). This occurrence is associated with the main entrance to Fort Ord and the Highway 1 overpass, and is, therefore, unlikely within the campus. This species was not observed within the survey area during surveys in 2016; however, Pajaro manzanita is known to occur in other areas of the Former Fort Ord and suitable habitat is present within the unsurveyed portions of the campus. Therefore, this species has a moderate potential to occur within the campus.

Sandmat Manzanita

Sandmat manzanita is a CNPS CRPR 1B and HMP species. Sandmat manzanita is associated with openings in chaparral, coastal scrub, closed cone coniferous forest, coastal dunes, and cismontane woodland habitats on sandy soils at elevations between approximately 3-205 meters (10-675 feet). The CNDDB reports 17 occurrences of this species within the Project region, including two specific occurrences within campus (Figure 4.3-8). Sandmat manzanita was identified within the survey area during the 2016 botanical surveys (Figure 4.3-1). This species may also occur within the unsurveyed portions of the campus.

Monterey Ceanothus

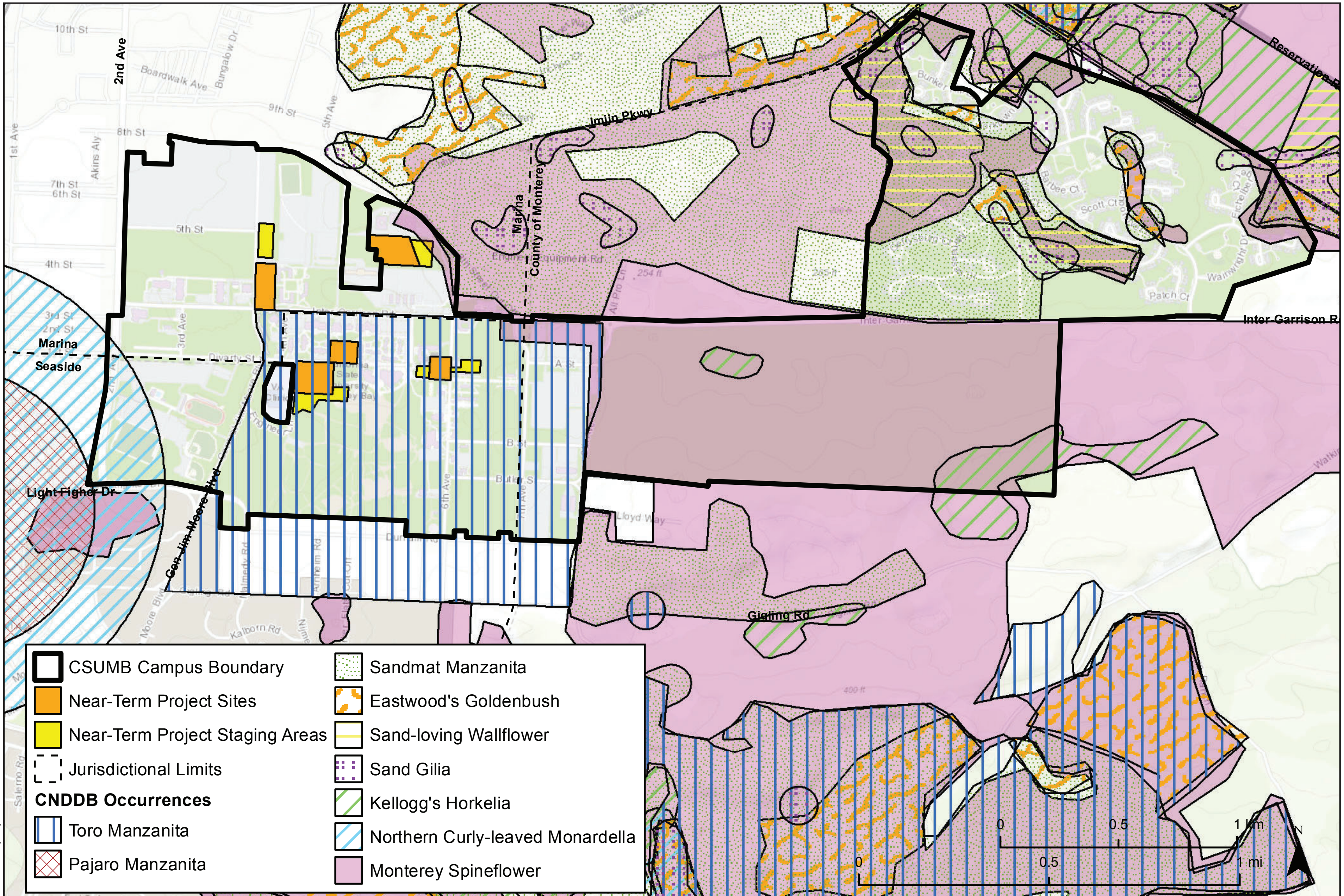
Monterey ceanothus is a CNPS CRPR 4 and HMP species. This species is associated with closed-cone coniferous forests, chaparral, and coastal scrub on sandy soils at elevations between approximately 3-550 meters (10-1,805 feet). The CNDDB does not report any occurrences of this species; however, it is known to occur throughout the former Fort Ord. Two individual Monterey ceanothus were identified within the survey area during the 2016 botanical surveys (Figure 4.3-1). This species may also occur within the unsurveyed portions of the campus.

Fort Ord Spineflower

Fort Ord spineflower is a CNPS CRPR 1B species. This annual herb is associated with sandy openings of maritime chaparral and coastal scrub at elevations of approximately 55-150 meters (180-490 feet). The CNDDB reports five occurrences of this species within the Project region, the nearest of which is located 0.3 mile south of the campus. This species was not observed within the survey area during surveys in 2016; however, this species is known to occur in other areas of the Former Fort Ord and suitable habitat is present within the unsurveyed portions of the campus. Therefore, this species has a moderate potential to occur within the campus.

Monterey Spineflower

Monterey spineflower is a federally threatened, CNPS CRPR 1B, and HMP species. Monterey spineflower typically occurs on open sandy or gravelly soils on relic dunes in coastal dune, coastal scrub, and maritime chaparral habitats, though it can also be associated with cismontane woodlands and valley and foothill grasslands, within a range of 3-450 meters (10-1,480 feet) in elevation. The CNDDB reports an occurrence of this species that includes the majority of the campus (Figure 4.3-8). Monterey spineflower was identified within the survey area during the 2016 botanical surveys, including a small population that overlaps with the Student Recreation Center proposed staging area (Figure 4.3-1). This species may also occur within the unsurveyed portions of the campus.



SOURCE: Z:\Projects\j1035701\MAPDOC\DOCUMENT\EIR\Bio

SOURCE: Denise Duffy and Associates, Inc. 2018

DUDEK

FIGURE 4.3-8

CNDDB Plant Occurrence

CSU Monterey Bay Master Plan EIR

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Seaside Bird's-Beak

Seaside bird's-beak is a state endangered, CNPS CRPR 1B, and HMP species. Seaside bird's-beak is typically associated with closed-cone coniferous forest, chaparral, cismontane woodlands, coastal dunes, and coastal scrub in sandy soils and often in disturbed areas, within the range of 0-425 meters (0-1,395 feet) in elevation. The CNDDB reports 17 occurrences of this species within the Project region, the nearest of which is located approximately 0.3 mile from the campus (Figure 4.3-8). This species was not observed within the survey area during surveys in 2016; however, seaside bird's-beak is known to occur in other areas of the Former Fort Ord and suitable habitat is present within the unsurveyed portions of the campus. Therefore, this species has a high potential to occur within the campus.

Eastwood's Goldenbush

Eastwood's goldenbush is a CNPS CRPR 1B and HMP species. This evergreen shrub in the Asteraceae is associated with openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of approximately 30-275 meters (100-900 feet). The CNDDB reports 17 occurrences of this species within the Project region, including a specific occurrence in the northeastern portion of the campus (Figure 4.3-8). This species was not observed within the survey area during surveys in 2016; however, suitable habitat is present within the unsurveyed portions of the campus. Based on this information, Eastwood's goldenbush has a high potential to occur within the campus, outside of the survey area.

Sand-loving Wallflower

Sand-loving wallflower is a CNPS CRPR 1B and HMP species. This perennial herb is associated with openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of approximately 0-60 meters (0-200 feet). The blooming period is February to June.

The CNDDB reports 16 occurrences of this species within the Project region, including a specific occurrence in the northeastern portion of the campus (Figure 4.3-8). This species was not observed within the survey area during surveys in 2016; however, suitable habitat is present within the unsurveyed portions of the campus. Based on this information, sand-loving wallflower has a high potential to occur within the campus, outside of the survey area.

Sand Gilia

Sand gilia is a federally endangered, state threatened, CNPS CRPR 1B, and HMP species. This annual herb is found in sandy openings of maritime chaparral, cismontane woodland, coastal dune and coastal scrub habitats within the range of approximately 0-45 meters (0-150 feet) in elevation. The CNDDB reports 30 occurrences of this species within the Project region, including a specific occurrence in the northeastern portion of the campus (Figure 4.3-8). This species was not observed within the survey area during surveys in 2016; however, suitable habitat is present within the unsurveyed portions of the campus. Based on this information, sand gilia has a high potential to occur within the campus, outside of the survey area.

Kellogg's Horkelia

Kellogg's horkelia is a CNPS CRPR 1B species. Kellogg's horkelia is typically associated with openings in closed cone coniferous forest, maritime chaparral, and coastal scrub in sandy or gravelly soils on relic dunes, within a range of approximately 10 to 200 meters (35-655 feet) in elevation. The CNDDB reports three occurrences of this species that overlap with the campus (Figure 4.3-8). This species was identified within a portion of the survey area on the East Campus Open Space during the 2016 botanical surveys (Figure 4.3-1). This species may also occur within the unsurveyed portions of the campus.

Point Reyes Horkelia

Point Reyes horkelia is a CNPS CRPR 1B species. Point Reyes horkelia is typically associated with coastal dunes, coastal prairie, and coastal scrub in sandy soils, within a range of approximately 5-755 meters (16-2,480 feet) in elevation. The CNDDB reports one occurrence of this species within the Project region, located approximately 1.5 miles northwest of the campus. This species was not observed within the survey area during surveys in 2016; however, suitable habitat is present within the unsurveyed portions of the campus. Based on this information, Point Reyes horkelia has a moderate potential to occur within the campus.

Marsh Microseris

Marsh microseris is a CNPS CRPR 1B species, which is found in closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland habitats at elevations from approximately 5-300 meters (16-985 feet). The CNDDB reports 10 occurrences of this species within the Project region, the nearest of which is located approximately 0.9 mile southeast of the campus. This species was not observed within the survey area during surveys in 2016; however, suitable habitat may be present within the unsurveyed portions of the campus. Therefore, marsh microseris has a moderate potential to occur within the campus.

Northern Curly-leaved Monardella

Northern curly-leaved monardella is a CNPS CRPR 1B species, which is found in chaparral, coastal dunes, and coastal scrub at elevations of approximately 0-300 meters (0-985 feet). This species may also be found in ponderosa pine sandhills in Santa Cruz County and valley and foothill grassland habitats at elevations from approximately 5-300 meters (16-985 feet). The CNDDB reports eight occurrences of this species within the Project region, the nearest of which is includes a portion of the southwestern corner of the campus (Figure 4.3-8). This occurrence is a non-specific occurrence based on collections from 1908 to 1919 and the exact location is unknown. This species was not observed within this portion of the campus or any other portions of the survey area during surveys in 2016. However, Northern curly-leaved monardella is known to occur in other areas of the Former Fort Ord and suitable habitat is present within the unsurveyed portions of the campus. Therefore, this species has a moderate potential to occur within the campus.

Woodland Woolythreads

Woodland woolythreads is a CNPS CRPR 1B species. This species is typically associated with openings in broadleaved upland forest, chaparral, cismontane woodland, north coast coniferous forest and valley and foothill grasslands on serpentine soils, within a range of approximately 100-1,200 meters (330-3,940 feet) in elevation. This species may occur within the non-native grassland habitat on the campus. The CNDDB reports two occurrences of this species within the Project region, the nearest of which is located approximately 5.1 miles southwest of the campus. This species was not observed within the survey area during surveys in 2016; however, suitable habitat is present within the unsurveyed portions of the campus. Based on this information, woodland woolythreads has a moderate potential to within the campus.

Yadon's Piperia

Yadon's piperia is a federally endangered, CNPS CRPR 1B, and HMP species, which is found in closed-cone coniferous forest, maritime chaparral on sandy soils, and coastal bluff scrub at elevations from approximately 10-510 meters (35-1,675 feet). The CNDDB reports 22 occurrences of this species within the Project region, the nearest of which is located approximately 0.9 mile north of the campus. This species has also been found approximately 0.1 mile west of the campus on 1st Street. This species was not observed within the survey area during surveys in 2016; however, suitable habitat is present within the unsurveyed portions of the campus and this species is known to occur within other portions of the Former Fort Ord. Based on this information, Yadon's piperia has a high potential to within the campus.

Santa Cruz Microseris

Santa Cruz microseris is a CNPS CRPR 1B species that is found in broadleaved upland forest, closed cone coniferous forest, chaparral, coastal prairie, coastal scrub, and valley and foothill grasslands in open areas, sometimes on serpentinite soils. The elevation range for Santa Cruz microseris is approximately 10-500 meters (35-1,640 feet). The CNDDB reports two occurrences of this species within the Project region, the nearest of which is located approximately 4.6 miles south of the campus. This species was not observed within the survey area during surveys in 2016; however, suitable habitat is present within the unsurveyed portions of the campus. Based on this information, Santa Cruz microseris has a moderate potential to within the campus.

Santa Cruz Clover

Santa Cruz clover is a CNPS CRPR 1B species that is associated with broad-leaved upland forest, cismontane woodland, and margins of coastal prairie on gravelly soils, at elevations of approximately105-610 meters (345-2,000 feet). The CNDDB reports four occurrences of this species within the Project region, the nearest of which is located approximately 0.5 miles southeast of the campus. This species was not observed within the survey area during surveys in 2016; however, suitable habitat is present within the unsurveyed portions of the campus. Based on this information, Santa Cruz clover has a moderate potential to within the campus.

Pacific Grove Clover

Pacific Grove clover is a CNPS CRPR 1B species that is found in closed-cone coniferous forest, coastal prairie, meadows, seeps, and mesic areas in valley and foothill grassland at elevations of approximately 5-120 meters (16-395 feet). The CNDDB reports 12 occurrences of this species within the Project region, the nearest of which is located approximately 4.9 miles south of the campus. This species was not observed within the survey area during surveys in 2016; however, suitable habitat may be present within the unsurveyed portions of the campus. Based on this information, Pacific Grove clover has a moderate potential to within the campus.

4.3.1.3 Site Conditions for Near-Term Development Components

The existing biological resources setting for the near-term development component sites is generally described above. Additional information is provided below related to specific conditions on each site, including vegetation types, and special-status species known or having the potential to occur on the sites. Chapter 3, Project Description provides additional information about the location of each development site.

No central maritime chaparral habitat—the only sensitive habitat identified within the CSUMB campus—is located on any of the near-term development component sites. With the exception of the Academic IV site, no buckwheat plant species suitable for Smith's blue butterfly habitat were observed within the near-term development component sites or proposed staging areas. Tables 4.3-2 and 4.3-3 identify the potential for special-status wildlife and plants species to be present on the near-term development component sites. Figures 4.3-3 through 4.3-8 show the locations of prior observations of these species.

Student Housing Phase III

The new student residential buildings for this development would be located on an approximately 6.4-acre site in the North Quad on an existing parking lot. The Student Housing Phase III site and staging area are mostly paved with an existing surface parking lot and an unused paved area. Vegetation and paved pathways border the development site on the west and south. The development site contains 4.1 acres of developed land; the staging area contains 2.2 areas of developed land and 0.1 acres of ruderal/disturbed habitat.

Of the special-status wildlife species listed in Table 4.3-2 above, Northern California legless lizard and nesting raptors, migratory birds, and other protected avian species have a moderate potential to occur on the site; all other special-status wildlife species are either not present, unlikely to occur, or have a low potential to occur. The special-status plants listed in Table 4.3-3 above are either not present, unlikely to occur, or have a low potential to occur within the development site and staging area.

Academic IV

The approximately 4.0-acre Academic IV site is mostly paved or developed. An existing building and two parking lots are bordered by vegetation and paved pathways on all sides of the development site. The staging area on the west is paved and the staging area on the east is mostly unpaved. The development site contains 1.6 acres of developed land and 0.5 acres of ruderal/disturbed habitat; the staging area contains 1.0 areas of developed land and 0.9 acres of ruderal/disturbed habitat.

Given that four dune buckwheat individuals were identified within the Academic IV site, Smith's blue butterfly has moderate potential to occur on the site. Of the other special-status wildlife species listed in Table 4.3-2, Townsend's big-eared bat, Northern California legless lizard, and nesting raptors, migratory birds, and other protected avian species have a moderate potential to occur on the site; all other special-status wildlife species are either not present, unlikely to occur, or have a low potential to occur. The special-status plants listed in Table 4.3-3 above are either not present, unlikely to occur, or have a low potential to occur within the development site and staging area.

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center site is partially paved or developed. Two existing buildings and portions of two parking lots are bordered by vegetation and paved pathways on the north and west sides of the site. The staging area to the south is mostly unpaved and vegetated. The development site contains 2.9 acres of developed land and 2.5 acres of ruderal/disturbed habitat; the staging area contains 2.0 acres of ruderal/disturbed habitat, 1.1 acres of developed land, and 0.01 acres of coast live oak woodland.

Of the special-status wildlife species listed in Table 4.3-2 above, Townsend's big-eared bat, hoary bat, Monterey dusty-footed woodrat, Northern California legless lizard, and nesting raptors, migratory birds, and other protected avian species have a moderate potential to occur on the site; all other special-status wildlife species are either not present, unlikely to occur, or have a low potential to occur. Monterey spineflower is present within the development site and staging area; all other special-status plants listed in Table 4.3-3 above are not present.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site and staging area are mostly paved. Vegetation borders a portion of the entire site on the north, west, and south. The development site contains 3.9 acres of developed land and 1.4 acres of ruderal/disturbed habitat; the staging area contains 1.7 acres of developed land and 0.2 acres of ruderal/disturbed habitat.

Of the special-status wildlife species listed in Table 4.3-2 above, Townsend's big-eared bat, hoary bat, Northern California legless lizard, and nesting raptors, migratory birds, and other protected avian species have a moderate potential to occur on the site; all other special-status wildlife species are either not present, unlikely to occur, or have a low potential to occur. The special-status plants listed in Table 4.3-3 above are either not present, unlikely to occur, or have a low potential to occur within the development site and staging area.

Academic V

The approximately 2.7-acre Academic V site is relatively flat and partially paved or developed. Three existing buildings and a parking lot are bordered by vegetation and paved pathways on all sides of the development site. The development site contains 2.7 acres of developed land. Construction staging for this development would use the same staging area as that identified for the Student Recreation Center which, as described above, contains 2.0 acres of ruderal/disturbed habitat, 1.1 acres of developed land, and 0.01 acres of coast live oak woodland.

Of the special-status wildlife species listed in Table 4.3-2 above, nesting raptors, migratory birds, and other protected avian species have a moderate potential to occur on the site; all other special-status wildlife species are either not present or unlikely to occur. The special-status plants listed in Table 4.3-3 above are either not present or unlikely to occur within the development site and staging area.

4.3.2 Regulatory Framework

4.3.2.1 Federal

Federal Endangered Species Act

Provisions of the Federal Endangered Species Act (FESA) of 1973 (United States Code [USC], tit. 16, chapter 35, § 1531 *et seq*., as amended) protect federally listed threatened or endangered species and their habitats from unlawful take. Listed species include those for which proposed and final rules have been published in the Federal Register (FR). The FESA is administered by the USFWS or the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). In general, the NMFS is responsible for the protection of FESA-listed marine species and anadromous fish, whereas other listed species are under USFWS jurisdiction.

Section 9 of FESA prohibits the take of any fish or wildlife species listed under FESA as endangered or threatened. Take, as defined by the FESA, is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Harm is defined as "any act that kills or injures the fish or wildlife…including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife." In addition, Section 9 prohibits removing, digging up, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction. Section 9 does not prohibit take of federally listed plants on sites not under federal jurisdiction. If there is the potential for incidental take of a federally listed fish or wildlife species, take of listed species can be authorized through either the Section 7 consultation process for federal actions or a Section 10 incidental take permit process for non-federal actions. Federal agency actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits).

Critical Habitat

Critical habitat is a term defined and used in the FESA. It is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. An area is designated as "critical habitat" after the USFWS publishes a proposed federal regulation in the Federal Register and then public comments are received and considered on the proposal. The final boundaries of the critical habitat area are also published in the Federal Register. Federal agencies are required to consult with the USFWS on actions they carry out, fund, or authorize to ensure that their actions will not destroy or adversely modify critical habitat. In this way, a critical habitat designation protects areas that are necessary for the conservation of the species. No critical habitat for federally listed species is designated within the campus.

Recovery Plans

The ultimate goal of the FESA is the recovery (and subsequent conservation) of endangered and threatened species and the ecosystems on which they depend. A variety of methods and procedures are used to recover listed species, such as protective measures to prevent extinction or further decline, consultation to avoid adverse impacts of federal activities, habitat acquisition and restoration, and other on-the-ground activities for managing and monitoring endangered and threatened species. The collaborative efforts of the USFWS and its many partners (federal, state, and local agencies, tribal governments, conservation organizations, the business community, landowners, and other concerned citizens) are critical to the recovery of listed species.

Two recovery plans have been prepared for listed species known or with the potential to occur within the CSUMB campus:

- Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*)
- Smith's Blue Butterfly Recovery Plan

Migratory Bird Treaty Act

The MBTA of 1918 (USC, tit. 16, § 703 *et seq*.) regulates or prohibits taking, killing, possession of, or harm to migratory bird species. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by the USFWS. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors). On December 22, 2017, the Department of Interior issued a legal opinion (M-Opinion 37050) that interpreted the above prohibitions as only applying to direct and purposeful actions of which the intent is to kill, take, or harm migratory birds; their eggs; or their active nests. Incidental take of birds, eggs, or nests that are not the purpose of such an action, even if there are direct and foreseeable results, was not prohibited. However, on January 7, 2021, the USFWS published a final rule (the January 7th rule) that codified the previous administration's interpretation, which after further review was determined to be inconsistent with the majority of relevant court decisions and readings of the MBTA's text, purpose, and history. On May 5, 2021, the USFWS published a rule to revoke the January 7th rule, which would result in a return to implementing the statute as prohibiting incidental take. On July 19, 2021, the USFWS announced the availability of two revised economic analysis documents for public review that evaluate the potential for the proposed rule to impact small entities, including businesses, governmental jurisdictions, and other organizations. The public review period on these documents ends on August 19, 2021.

Federal Clean Water Act

The U.S. Army Corps of Engineers (ACOE) and Environmental Protection Agency (EPA) regulate discharge of dredged and fill material into "Waters of the United States" (waters of the U.S.) under Section 404 of the Clean Water Act (USC, tit. 33, § 1344). Waters of the U.S. are defined broadly as waters susceptible to use in commerce (including waters subject to tides, interstate waters, and interstate wetlands) and other waters (such as interstate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds) (CFR, tit. 33, § 328.3). Potential wetland areas are identified as "those areas that are inundated or saturated by surface or ground water 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 soils conditions."

Under Section 401 of the Clean Water Act (USC, tit. 33, § 1341), any applicant receiving a Section 404 permit from the ACOE must also obtain a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB). A Section 401 Water Quality Certification is issued when a project is demonstrated to comply with state water quality standards and other aquatic resource protection requirements.

Federal Executive Order 11990 – Protection of Wetlands

Executive Order 11990 – Protection of Wetlands (42 Federal Register [FR] 26961) calls for no net loss of wetlands. For the regulatory process, the ACOE and EPA jointly define wetlands as follows: "Those areas that are inundated or saturated by surface or ground water 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." Federal agencies are required to implement the following procedures for any federal action that involves wetlands: 1) provide an opportunity for early public involvement; 2) consider alternatives that would avoid wetlands, and if avoidance is not possible, measures to minimize harm to wetlands must be included in the action; 3) prepare a "Wetlands Only Practicable Alternative Finding" for actions that require an Environmental Impact Study.

Federal Executive Order 13112 – Invasive Species

Executive Order 13112 – Invasive Species (64 FR 6183) requires the prevention of introduction and spread of invasive species. Invasive species are defined as "alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." Each federal agency whose actions may affect the status of invasive species on a project site shall, to the extent practicable and permitted by law, subject to the availability of appropriations, use relevant programs and authorities to: 1) prevent the introduction of invasive species; 2) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; 3) monitor invasive species populations accurately and reliably; 4) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; 5) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and 6) promote public education on invasive species and the means to address them. A national invasive species management plan was prepared by the National Invasive Species Council and the Invasive Species Advisory Committee that recommends objectives and measures to implement the Executive Order. The California Invasive Plant Council (Cal-IPC) Inventory categorizes non-native invasive plants that threaten California's wildlands. Categorization is based on an assessment of the ecological impacts of each plant. The Cal-IPC Inventory represents the best available knowledge of invasive plant experts in the state. Although the impact of each plant varies regionally, its rating represents cumulative impacts statewide. Therefore, a plant whose statewide impacts are categorized as Limited may have more severe impacts in a particular region. Conversely, a plant categorized as having a High cumulative impact across California may have very little impact in some regions.

4.3.2.2 State

California Endangered Species Act

The California Endangered Species Act (CESA) (Fish and Game Code [FGC] §§ 2050-2100) was enacted in 1984. The California Code of Regulations lists animal species considered endangered or threatened by the state (Cal. Code Regs., tit. 14, § 670.5). CESA § 2090 requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. FGC § 2080 prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. "Take" is defined in FGC § 86 as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." A Section 2081 Incidental Take Permit from the CDFW may be obtained to authorize "take" of any state listed species.

California Fish and Game Code

<u>Birds</u>

FGC § 3503 states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Section 3503.5 prohibits the killing, possession, or destruction of any birds in the orders Falconiformes or Strigiformes (birds-of-prey). Section 3511 prohibits take or possession of fully protected birds. Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal MBTA. Section 3800 prohibits take of nongame birds. (FGC §§ 3500-3864)

Fully Protected Species

The classification of fully protected was the state's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction (FGC §3511, §4700, §5050 and §5515). Lists were created for fish, mammals, amphibians and reptiles, and birds. Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Species of Special Concern

As noted above, CDFW also maintains a list of animal "species of special concern." Although these species have no legal status, CDFW recommends considering these species during analysis of project impacts to protect declining populations and avoid the need to list them as endangered in the future.

Lake and Streambeds

Under FGC §§ 1600-1616, the CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "… bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit ..." (FGC § 1601). In practice, the CDFW usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) (FGC § 1900 *et seq.*) of 1977 directed the CDFW to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in the state." The CNPPA prohibits importing rare and endangered plants into California, taking rare and endangered plants, and selling rare and endangered plants. The CESA and CNPPA authorized the Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (FGC §§ 2050-2098). Plants listed as rare under the CNPPA are not protected under CESA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne) (California Water Code [CWC] §13000 *et seq.*) is California's statutory authority for the protection of water quality and applies to surface waters, wetlands, and groundwater, and to both point and nonpoint sources. Under the Porter-Cologne, the State Water Resources Control Board (SWRCB) has the ultimate authority over State water rights and water quality policy. However, Porter-Cologne also establishes nine Regional Water Quality Control Boards (RWQCBs) to oversee water quality on a day-to-day basis at the local/regional level. The campus is located within Region 3 – Central Coast RWQCB. Porter-Cologne incorporates many provisions of the federal Clean Water Act, such as delegation to the State Board and RWQCBs of the National Pollutant Discharge Elimination System (NPDES) permitting program.

Under Porter-Cologne, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. Regional authority for planning, permitting, and enforcement is delegate to the nine RWQCBs. The regional boards are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. The Porter-Cologne sets forth the obligations of the State Board and RWQCBs to adopt and periodically update water quality control plans (basin plans). The act also requires waste dischargers to notify the RWQCBs of such activities through filing of Reports of Waste Discharge (RWD) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to RWD requirements and WDRs for broad categories of "low threat" discharge activities that have minimal potential for adverse water quality effects, when implemented according to prescribed terms and conditions. CSUMB has a waiver from the WDRs for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). Therefore, only the NPDES Construction General Permit and the WDRs General Permit for Discharges with Low Threat to Water Quality apply to the campus. See Section 4.8, Hydrology and Water Quality for additional information about NPDES permits that apply to the campus.

The term "Waters of the State" is defined by Porter-Cologne as "any surface water or groundwater, including saline waters, within the boundaries of the state." The RWQCB protects all waters in its regulatory scope but has special responsibility for wetlands, riparian areas, and headwaters, including isolated wetlands, and waters that many not be regulated by the ACOE under Section 404 of the federal Clean Water Act. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of fill and dredged material under Section 401 of the federal Clean Water Act and the Porter-Cologne.

4.3.2.3 CSUMB Tree Restoration Program

CSUMB has established a tree restoration program for impacts to coast live oak trees and other trees resulting from campus projects. This program requires that for every tree greater than 4 inches diameter at breast height (dbh) removed, a minimum of two coast live oak trees would be replanted, and assumed to survive, in the identified on-campus restoration area. In some cases, more than two trees would need to be planted to achieve this survival rate. The implementation of this program is required for all projects that would result in impacts to trees 4 inches dbh or greater. The proposed PDF-OS-4 will continue and expand this program to maximize the health and stability of existing and replacement trees.

4.3.2.4 Local

As a state entity, CSUMB is not subject to local government permitting or regulations, policies, or ordinances, such as the general plans and ordinances for the cities of Marina and Seaside and the County of Monterey. Accordingly, because neither local general plans or any other local land use plans or ordinances are applicable to CSUMB, such local plans and ordinances are not summarized here or further analyzed in this section. However, there are a number of local plans that have come out of the former Fort Ord Base Reuse process that are summarized below.

Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord

The U.S. Army's decision to close and dispose of the Fort Ord military base was considered a major federal action that could affect listed species under the FESA. The USFWS issued a Final Biological Opinion (BO) on the disposal and reuse of former Fort Ord requiring that a HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species (October 19, 1993). The HMP was prepared to assess impacts on vegetation and wildlife resources and provide mitigation for their loss associated with the disposal and reuse of former Fort Ord.

The HMP establishes guidelines for the conservation and management of HMP species and their habitats on former Fort Ord lands by identifying lands that are available for development, lands that have some restrictions with development, and habitat reserve areas. The intent of the plan is to establish large, contiguous habitat conservation areas and corridors to compensate for future development in other areas of the former base. The HMP establishes a habitat conservation area and corridor system with parcel-specific land use categories and management requirements for all lands on former Fort Ord. The HMP identifies what type of activities can occur on each parcel at former Fort Ord and parcels are designated as "development," "habitat reserves with management requirements," or "habitat reserves with development restrictions." Within these land use designations, parcels may also be identified as Borderlands with specific requirements for lands adjacent to Bureau of Land Management (BLM) lands and contain future road corridors, easements, and rights of way. The HMP sets the standards to assure the long-term viability of former Fort Ord's biological resources in the context of base reuse so that no further mitigation should be necessary for impacts to species and habitats considered in the HMP. This plan has been approved by the USFWS; the HMP, deed restrictions, and Memoranda of Agreement between the Army and various land recipients, including the Board of Trustees of the California

State University, provide the legal mechanism to assure HMP implementation. It is a legally binding document, and all recipients of former Fort Ord lands are required to abide by its management requirements and procedures.

The HMP anticipates some losses to HMP special-status species and HMP sensitive habitats as a result of redevelopment of the former Fort Ord. With the designated reserves and corridors and habitat management requirements in place, the losses of individuals of species and sensitive habitats considered in the HMP are not expected to jeopardize the long-term viability of those species, their populations, or sensitive habitats on former Fort Ord. Recipients of disposed land with restrictions or management guidelines designated by the HMP will be obligated to implement those specific measures through the HMP and through deed covenants.

However, the HMP does not provide specific authorization for incidental take of federal or state listed species to existing or future non-federal land recipients under the FESA or CESA. In compliance with the FESA and CESA, the campus would need to obtain a FESA Section 10(a)(1)(B) Incidental Take Permit from the USFWS and CESA Section 2081 Incidental Take Permit from the CDFW, to provide coverage for the take of federal and state listed wildlife and plant species as a non-federal entity receiving land on the former Fort Ord.

The entire campus is located within designated "development" parcels under the HMP. Additionally, a portion of the campus, along the southeastern boundary of the East Campus Open Space parcel (Army parcel number S1.3.2), is designated in the HMP as having Borderlands requirements. Borderlands are designated development parcels or habitat reserve parcels at the urban/wildland interface where specific design considerations and management activities are required to minimize effects of development on HMP species and natural communities. For the East Campus Open Space parcel, these activities include interim management activities, including but not limited to, the installation and maintenance of firebreaks and vehicle barriers where appropriate to separate developed and developing area from natural lands. To minimize the possibility of fire damage to the adjacent habitat reserve as well as structures on the development parcels, parking lots, greenbelts, or other nonflammable or fire-resistant land uses will be located as a buffer between the habitat reserve and development. Measures will also be taken to reduce potential for erosion in these parcels so as not to affect the adjacent habitat reserve from stormwater runoff that may originate in this parcel. This parcel is to be conserved and managed until development occurs. Non-native species (i.e., iceplant, scotch broom, and pampas grass) controls will also be in place to avoid spreading to the adjacent habitat reserve.

Parcels designated as "development" do not have habitat management requirements relative to HMP species. However, the BO and HMP require the identification of sensitive biological resources within the development parcels that may be salvaged for use in restoration activities in reserve areas. In addition, the campus is required to implement the Borderlands requirements within the East Campus Open Space parcel.

Habitat Conservation Plans or NCCP

There are no adopted HCPs or Natural Community Conservation Plans (NCCPs) associated with the CSUMB campus.

Fort Ord Oak Woodland Conservation Requirements

The Fort Ord Reuse Authority Act was implemented to facilitate the transfer and reuse of the Fort Ord military base, and established FORA as the entity responsible for planning, financing, and carrying out the transfer and reuse of the base in a cooperative, coordinated, balanced, and decisive manner (Cal. Gov. Code § 67650 *et seq.)*. Pursuant to the Act, FORA must dissolve when eighty percent of the base has been developed or reused in a manner consistent with the Fort Ord Reuse Plan (Reuse Plan), or on June 30, 2020, whichever comes first. The FORA Resolution No. 18-11 approved a Transition Plan that assigns assets and liabilities, designates responsible successor agencies, and provides a schedule of remaining obligations. The Transition Plan calls for the cities of Marina, Seaside, Monterey and Del Rey Oaks and the County of Monterey to follow the Reuse Plan policies and programs (see description below related to oak woodlands). FORA's legislatively defined mission was complete as of June 30, 2020 and FORA has now been dissolved.

Prior to its dissolution, FORA was assisting the City of Seaside and Monterey County in preparing an Oak Woodland Conservation Plan on the former Fort Ord Property. Since FORA's dissolution, Monterey County is now leading the completion of this plan. The map and plan will address oak woodland areas in the City of Seaside and Monterey County, and has proposed including the use of CSUMB property to connect key oak woodland areas on Fort Ord. These agencies are obligated to comply with Oak Woodland Policy B-2 and Programs B-2.1 and B-2.2, which are described in the 1997 Base Reuse Plan (BRP) (EDAW and EMC 1996), and 2012 BRP Reassessment Report (FORA and EMC 2012).

CSUMB is involved in meeting with these agencies on the in-progress plan related to conservation areas that may ultimately be identified on the CSUMB campus (A. Spear, personal communication 2019).

4.3.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to biological resources. The section includes the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.3.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to biological resources are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to biological resources would occur if the Project would:

A. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

B. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

C. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

D. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

E. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

F. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.3.2 Analytical Method

Program- and Project-Level Review

The biological resources impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3 Project Description. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the proposed Master Plan. Both construction and operation of the Project are considered in the impact analysis, where relevant. In the event significant environmental impacts would occur even with incorporation of applicable regulations and proposed PDFs, impacts would be potentially significant and mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

There are a number of PDFs that are incorporated into the technical analysis of biological resources, as summarized below (see Chapter 3, Project Description for specific text of each applicable PDF):

- *PDF-MO-5* provides for a compact campus core.
- *PMF-OS-1* provides for the management and designation of open space consistent with Figure 3-8 (see Chapter 3, Project Description), including natural open space and connecting landscape, which will connect and protect habitats and sensitive species and avoid fragmenting such areas.
- *PDF-OS-2* provides for the maintenance, enhancement and restoration of natural open spaces, native habitats and sensitive species, at a minimum in accordance with the HMP and HCP EIR requirements and/or other best management practices.
- *PDF-OS-3* provides for construction best management practices to avoid special-status plant and animal species, avoid or minimize erosion and sedimentation, and remove invasive species during construction, demolition and landscape projects.
- *PDF-OS-4* provides for continuation and expansion of the CSUMB tree restoration and management program to maximize the health and stability of existing and replacement trees. This includes, but is not limited to, Campus Planning approving and directing major trimming (over 30 percent) and replacement of all removed trees over 4-inches in diameter at a minimum 2:1 ratio.
- *PDF-OS-5* establishes a habitat restoration fund to collect funds for the replacement of trees and/or habitat that may be removed or disturbed during construction of proposed development.
- *PDF-OS-6* provides for the stabilization of newly created bare land after construction with native plants and seed mixes to eliminate erosion, and indicates that permanent landscaping will use consistent, low maintenance, native and drought-tolerant landscaping using a campus wide landscape palette informed by the campus Landscape Maintenance Plan and FORA RUDG palettes.
- *PDF-OS-7* minimizes human caused impacts along trail corridors by: minimizing obtrusive lighting, separating users by type and connecting people to and protecting the natural environment.
- *PDF-OS-11* requires the preparation and implementation of a defensible space plan to address landscape requirements for structures located: (1) along the eastern edge of the Main Campus, along Eighth Street (east of Fifth Avenue) and along Eighth Avenue between Inter-Garrison Road and Colonel Durham Street; (2) adjacent to the Southern Oak

Woodlands; (3) along the undeveloped portions of Inter-Garrison Road; and (4) at the East Campus Housing area.

- *PDF-D-7* indicates the CSUMB will aim to meet Neighborhood Development (LEED ND) light pollution reduction requirements in all new building and pathway development, adhere to Title 24 maximums for lighting power density, and shall use LED lights, reflectors, visors, shields and customized optics and technology at the replacement stadium to precisely aim and illuminate the field.
- *PDF-D-9* establishes ecological, sustainable and historical interpretive signage within the natural open space and connecting landscape and near, and as part of, new pathway development, which will highlight and educate users about the natural and cultural heritage of CSUMB.

Literature Review and Surveys

Potential impacts to biological resources in the study area are evaluated based on a review of the available literature regarding the status and known distribution of the special-status species or their habitat within the project area and surrounding areas. Literature and data sources reviewed to determine the occurrence or potential for occurrence of special-status species on the CSUMB campus include: current agency status information from the USFWS and CDFW for special-status species, the CNPS *Inventory of Rare and Endangered Vascular Plants of California*, CNDDB occurrence reports, the USFWS Critical Habitat Mapper, *Flora and Fauna Baseline Study of Fort Ord*, and the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord*. The U.S. Geological Survey (USGS) Marina quadrangle and the six surrounding quadrangles (Monterey, Moss Landing, Prunedale, Salinas, Seaside, and Spreckels) from the CNDDB were reviewed for documented special-status species occurrences in the vicinity of the campus. This search range was used to identify potential special-status species issues because it encompasses a sufficient distance to accommodate for regional habitat diversity and to overcome the limitations of the CNDDB. The CNDDB is based on actual recorded occurrences and does not constitute an exhaustive inventory of every resource.

Once all data sources were reviewed, a final list of special-status species with moderate or greater potential to occur in the vicinity of the campus was compiled (see Table 4.3-2 and 4.3-3), and each of the species was evaluated for presence or absence on the site. In addition, the presence of suitable habitat characteristics was evaluated based on all data sources and site surveys. Qualified biologists conducted reconnaissance-level wildlife and general habitat surveys, reconnaissance-level surveys for special-status plant and wildlife species habitat, and focused botanical surveys. Table 4.3-5 outlines the type, location, and dates for each of these surveys and Figure 4.3-1 shows the survey areas. Additional detail on survey methods is provided in Appendix E.

Table 4.3-5
Biological Survey Dates within the CSUMB Campus

Survey Type	Location	Date
Focused spring-flowering plant species survey	Survey Area	April 2016
Focused summer-flowering plant species survey	Survey Area	July 2016
Reconnaissance-level wildlife and general habitat survey	Main Campus and East Campus Open Space	December 2016[2]
Reconnaissance-level wildlife and general habitat survey	East Campus Housing and Portions of Main Campus	August 2017
Reconnaissance-level special-status plant and wildlife species habitat survey	Near-Term Development Component Sites	January 2018

HMP Species and Habitat Impacts Analysis

As described above, the entire campus is located within parcels designated by the HMP as "development" and no uses beyond what is permissible by the HMP are proposed with the Project. Parcels designated as "development" do not have management requirements. However, CSUMB is required to implement Borderlands requirements within the East Campus Open Space parcel and required to identify sensitive biological resources within development parcels that may be salvaged for use in restoration activities in habitat reserve areas. Through implementation of the HMP, impacts to HMP species and habitats occurring within the designated development parcels were anticipated and mitigated off campus through the establishment of habitat reserves and corridors and the implementation of habitat management requirements within habitat reserve parcels on former Fort Ord.

As described in Section 4.3.1.2, Campus Setting, the HMP species known or with the potential to occur within the campus include: Monterey spineflower, sand gilia, sandmat manzanita, Hooker's manzanita, Toro manzanita, Monterey ceanothus, seaside bird's-beak, sand-loving wallflower, Eastwood's goldenbush, Yadon's piperia, California tiger salamander, Smith's blue butterfly, Northern California legless lizard, and Monterey ornate shrew (see Section 4.3.1.2, Tables 4.3-2 and 4.3-3 and Appendix E). With the designated off-campus habitat reserves and corridors and habitat management requirements of the HMP in place, the loss of these species associated with development in the Fort Ord area is not expected to jeopardize the long-term viability of these species and their populations on the former Fort Ord. This is such because the recipients of disposed land with habitat management requirements and development restrictions designated by the HMP will be obligated to implement those specific measures through the HMP and deed covenants.

[2] Surveys completed in December 2016 for the Oak Woodlands Conservation Area Project under contract with FORA.

In addition to the HMP species identified, impacts to sensitive central maritime chaparral habitat are also addressed in the HMP and, therefore, impacts to this habitat are also considered mitigated through the implementation of the HMP based on the same conclusions. Specifically, the Project: 1) would pursue development activities only within designated development parcels; 2) would comply with the HMP, as required; and 3) would not result in any additional impacts to HMP species and habitats beyond those anticipated in the HMP. Therefore, no additional mitigation measures for these HMP species or central maritime chaparral habitat are required. Project impacts to these special-status species and central maritime chaparral are considered less than significant.

The HMP, as well as the BO, require the identification of sensitive biological resources within development parcels that may be salvaged for use in restoration activities in habitat reserve areas. In addition, CSUMB is required to implement Borderlands requirements in the East Campus Open Space parcel. CSUMB is required to implement HMP requirements in accordance with the deed covenants, which apply to all parcels within the campus boundaries. Therefore, this analysis assumes that salvage of HMP species and implementation of Borderland requirements will be conducted in accordance with the HMP.

However, as described earlier in this report, the HMP does not exempt existing or future land recipients from the federal and state requirements of FESA and CESA. Of the 14 HMP species known or with the potential to occur within the campus, there are six federally and/or state listed species that have the potential to be impacted by the Project and may require take authorization from the resource agencies (USFWS and/or CDFW): Monterey spineflower, federally threatened; sand gilia, federally endangered and state threatened; seaside bird's-beak, state endangered; Yadon's piperia, federally endangered; California tiger salamander, federal and state threatened; and Smith's blue butterfly, federally endangered. Therefore, although these species are HMP species, the take of these species is prohibited under the FESA and/or CESA. Development resulting in take of these species would need to be authorized by the USFWS and/or CDFW through the issuance of incidental take permits from the applicable agency to avoid violation of the FESA and/or CESA.

4.3.3.3 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of biological resources impacts associated with the Project.

Impact BIO-1:	**Special-Status Species (Threshold A).** The Project could result in substantial adverse effects to special-status plant and wildlife species and their habitat. *(Potentially Significant)*

Master Plan

Proposed Master Plan implementation has the potential to impact special-status species plant and wildlife species and their habitat. The proposed Master Plan and PDF-MO-5 cites development in already developed areas and creates a compact campus core, which would minimize these potential impacts. Proposed PDF-OS-1 through PDF-OS-7, PDF-OS-11, and PDF-D-8 and PDF- D-9 would also serve to minimize potential impacts on special-status species by: designating and managing open space to connect and protect sensitive species; implementing construction best management practices to avoid special-status species, where possible; minimizing erosion and sedimentation to protect habitat; removing invasive species; continuing and expanding the CSUMB tree restoration program to maximize the health of existing and replacement trees; establishing a habitat restoration fund to support the replacement of trees and/or habitat; implementing planting specifications that require native plants and seed mixes when replanting is required; minimizing human caused impacts along trails; minimizing wildland fire hazards; minimizing lighting; and establishing interpretive signage in natural open space.

Even with the proposed Master Plan focus on development within already developed areas and implementation of the above proposed PDFs, future development on the CSUMB campus under the proposed Master Plan could result in direct loss of individuals and habitat for a number of special-status wildlife species. These species include special-status bat species, Monterey dusky-footed woodrat, Monterey ornate shrew, American badger, Northern California legless lizard, coast horned lizard, California tiger salamander, Smith's blue butterfly, obscure bumble bee, western bumble bee, and nesting raptors and other protected avian species. In addition, future development on the campus could also result in direct loss of individuals and habitat for a number of special-status plant species, including Toro manzanita, Hooker's manzanita, Pajaro manzanita, sandmat manzanita, Monterey ceanothus, Fort Ord spineflower, Monterey spineflower, seaside bird's beak, Eastwood's goldenbush, sand-loving wallflower, sand gilia, Kellogg's horkelia, Point Reyes horkelia, marsh microseris, Northern curly-leaved monardella, woodland woolythreads, Yadon's piperia, Santa Cruz microseris, Santa Cruz clover, and Pacific Grove clover.

HMP Species

As described in Section 4.3.3.2, Analytical Methods, impacts to HMP plant and wildlife species are considered *less than significant*. HMP Species include California tiger salamander, Smith's blue butterfly, Northern California legless lizard, Monterey ornate shrew, Monterey spineflower, sand gilia, sandmat manzanita, Hooker's manzanita, Toro manzanita, Monterey ceanothus, seaside bird's-beak, sand-loving wallflower, Eastwood's goldenbush and Yadon's piperia (see Tables 4.3- 2 and 4.3-3 and Appendix E). While not required to reduce a significant impact, MM-BIO-1a will be implemented to further reduce the impact. This measure would ensure that sensitive biological resources are identified on development sites in advance of construction and that take authorization is obtained, were needed. Per the HMP and the BO requirements in deed covenants, MM-BIO-1a acknowledges that CSUMB will identify sensitive biological resources within all development parcels prior to any future construction to determine whether salvage is feasible and if so, seed and topsoil salvage would occur to support reseeding and restoration efforts on- or off-site. In addition, CSUMB is required to implement Borderlands requirements in the East Campus Open Space parcel. While new building construction is not proposed in this location, it is possible that open space management activities could occur in this area. Implementation of these requirements are included in MM-BIO-1d, which includes measures to avoid and minimize impacts to biological resources in adjacent open space areas. Additionally, Project impacts to species listed as threatened or endangered by CDFW and/or the USFWS may also require agency consultation and/or incidental take permits. These species include: Monterey spineflower, federally threatened; sand gilia, federally endangered and state threatened; seaside bird's-beak, state endangered; Yadon's piperia, federally endangered; California tiger salamander, federal and state threatened; and Smith's blue butterfly, federally endangered. Therefore, although these species are HMP species and impacts to HMP species are considered *less than significant*, the take of these species is prohibited under the FESA and/or CESA. The take of these species would need to be authorized by the USFWS and/or CDFW through the issuance of incidental take permits from the applicable agency to avoid violation of the FESA and/or CESA.

Non-HMP Species

If the Project would result in impacts to special-status species not included in the HMP, such impacts would be potentially significant, and mitigation will be required. Special-status species not included in the HMP that would require mitigation include: Kellogg's horkelia, Pajaro manzanita, Fort Ord spineflower, Point Reyes horkelia, marsh microseris, Northern curly-leaved monardella, woodland woolythreads, Santa Cruz microseris, Santa Cruz clover, Pacific Grove Clover, special-status bat species, Monterey dusky-footed woodrat, American badger, coast horned lizard, western bumble bee, and obscure bumble bee (see Tables 4.3-2 and 4.3-3 and Appendix E). These species are not listed under the FESA or CESA and take authorization from the USFWS or CDFW is not required;

however, the impact of the Project on these non-HMP special-status species either through direct removal or indirectly through habitat disturbance could be *potentially significant*.[3]

Implementation of MM-BIO-1b and MM-BIO-1d will avoid substantial adverse effects to non-HMP special-status species by requiring: project-specific biological assessments for future development to determine presence/absence of special-status species; identification and implementation of measures necessary to avoid, minimize, and/or compensate for any identified impacts; and implementation of open space requirements that will reduce the damaging effects of adjacent development, by providing for necessary access controls, barriers, signage, and control of non-native species. With the implementation of these mitigation measures, the impacts on non-HMP special-status species would be reduced to *less than significant*.

Protected Avian Species

The MBTA protects the majority of migrating birds breeding in the U.S., regardless of their official federal or state listing status under the FESA or CESA. The law applies to the disturbance or removal of active nests occupied by migratory birds during their breeding season. It is specifically a violation of the MBTA to directly kill or destroy an occupied nest of any bird species covered by the MBTA. FGC § 3503 protects the nest and eggs of native non-game birds. Under this law, it is unlawful to take, possess, or destroy any such birds or to take, possess, or destroy the nests or eggs of any such bird. FGC § 86 defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Most of the birds observed or with the potential to occur within the campus are protected under both the MBTA and FGC § 3503, and, in addition, birds may be designated as California species of special concern. Project impacts associated with construction-related activities (e.g., trimming and removal of vegetation, and equipment noise, vibration, and lighting) that result in harm, injury, or death of individuals, or abandonment of an active nest would be *potentially significant*.

Implementation of MM-BIO-1c will avoid harm, injury, or death of individuals, or abandonment of an active nest by requiring surveys to identify the presence of active nests prior to construction and measures to avoid active nests if found. With the implementation of this mitigation measure, the impact on protected avian species would be reduced to *less than significant*.

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[3] Indirect effects associated with Project implementation may include vandalism, dumping of trash, trampling, mountain bike use, equestrian use, and off-road vehicle use; runoff from adjacent streets and landscaped areas containing lawn fertilizer, pesticides, and vehicle waste (petroleum byproducts); introduction of invasive non-native species; off-trail activity resulting in habitat destruction and/or fragmentation and spread of invasive species; lights and noise from nearby development; unregulated movement of domestic animals; and a lack of barriers to special-status species that may enter developed areas.

Near-Term Development Components

Student Housing Phase III

This development component site is primarily developed, but the site does contain some suitable habitat for the Northern California legless lizard; a HMP species. Therefore, potential impacts to this species would be *less than significant*. While not required to reduce a significant impact, MM-BIO-1a and MM-BIO-1d will be implemented to further reduce this impact and comply with the HMP, as described for the proposed Master Plan.

In addition, trees within and adjacent to the site may provide nesting habitat for raptors, migratory birds, and other protected avian species, and potential impacts of this component to such species would be *potentially significant*. Implementation of MM-BIO-1c would reduce potentially significant impacts to *less than significant*, as described for the proposed Master Plan.

Academic IV Building

This development component site contains mostly developed areas with some ruderal/disturbed areas and would require building demolition. Four dune buckwheat individuals were identified within this site, which may provide habitat for the federally endangered Smith's blue butterfly (see Figure 4.3-6). Although Smith's blue butterfly is a HMP species and impacts to this species resulting from this development component would be *less than significant*, take authorization must be received from USFWS if avoidance is not possible. Therefore, implementation of MM-BIO-1g would provide for compliance with the HMP and with FESA in advance of construction.

In areas not surveyed (i.e., the staging area), the ruderal/disturbed habitat may provide suitable habitat for Northern California legless lizard; a HMP species. Therefore, potential impacts of this development component to this species would be *less than significant*. While not required to reduce a significant impact, MM-BIO-1a and MM-BIO-1d will be implemented to further reduce the impact and comply with the HMP, as described above for the proposed Master Plan.

In addition, mature trees and existing buildings within and adjacent to the site may provide nesting habitat for raptors, migratory birds, and other protected avian species, as well as Townsend's big-eared bat. Potential impacts of this development component on these species would be *potentially significant*. No special-status plant species were observed within the development site and staging area, and none are expected to occur in these areas. Implementation of MM-BIO-1b through MM-BIO-1e would reduce potential impacts on avian species and Townsend's big-eared bat to *less than significant*.

Student Recreation Center Phases I and II

The ruderal/disturbed habitat within the site may provide suitable habitat for Northern California legless lizard and approximately 0.01 acres of Monterey spineflower was observed within the development component site. Both of these species are HMP species and therefore potential impacts to these species would be *less than significant*. While not required to reduce a significant impact, MM-BIO-1a and MM-BIO-1d will be implemented to further reduce the impacts and comply with the HMP and FESA, as described above for the proposed Master Plan.

In addition, mature trees and existing buildings within and adjacent to the site may provide nesting habitat for raptors, migratory birds, and other protected avian species, as well as Townsend's big-eared bat and hoary bat. Although the hoary bat may roost and forage within some of the oak trees during the winter, they are not known to breed in California. Therefore, impacts to hoary bat are unlikely. The oak trees may provide suitable habitat for the Monterey dusky-footed woodrat. Potential impacts of this development component on these species, except for hoary bat, would be *potentially significant*. Implementation of MM-BIO-1b through MM-BIO-1f would reduce potential significant special-status species impacts to *less than significant*.

Student Housing Phase IIB

This development site is primarily developed with some ruderal/disturbed areas. The ruderal/disturbed habitat within the site may provide suitable habitat for Northern California legless lizard; a HMP species. Therefore, potential impacts to this species would be *less than significant*. While not required to reduce a significant impact, MM-BIO-1a and MM-BIO-1d will be implemented to further reduce the impact and comply with the HMP, as described above for the proposed Master Plan.

In addition, mature trees within and adjacent to the site may provide nesting habitat for raptors, migratory birds, and other protected avian species, as well as Townsend's big-eared bat and hoary bat. However, because the hoary bat is not known to breed in California, impacts to hoary bat are unlikely. Potential impacts of this development component on these species, except for hoary bat, would be *potentially significant*. Implementation of MM-BIO-1b through MM-BIO-1e would reduce potential special-status species impacts to *less than significant*.

Academic V

This development component site is completely developed; however, trees within and adjacent to the site may provide nesting habitat for raptors, migratory birds, and other protected avian species, as well as Townsend's big-eared bat. Potential impacts of this development component on these species would be *potentially significant*. Implementation of MM-BIO-1b through BIO-1e would reduce potential impacts on avian species and Townsend's big-eared bat to *less than significant*.

Mitigation Measures

MM-BIO-1a: Project-Specific Biological Assessments (HMP Species). The CSUMB CPD Department shall require that a biological survey of development sites be conducted by a qualified biologist to determine if the development could potentially impact HMP species or potential habitat (HMP Species include: California tiger salamander, Smith's blue butterfly, Northern California legless lizard, Monterey ornate shrew, Monterey spineflower, sand gilia, sandmat manzanita, Hooker's manzanita, Toro manzanita, Monterey ceanothus, seaside bird's-beak, sand-loving wallflower, Eastwood's goldenbush and Yadon's piperia). A report describing the results of the surveys shall be provided to the CSUMB CPD Department prior to any ground disturbing activities. The report shall include, but not be limited to: 1) a description of the biological conditions at the site; 2) identification of the potential for HMP species to occur or HMP species observed, if any; and 3) maps of the locations of HMP species or potential habitat, if observed.

If HMP species that do not require take authorization from the USFWS or CDFW are identified within the development site, salvage efforts for these species shall be evaluated by a qualified biologist in coordination with CSUMB CPD Department to further reduce impacts per the requirements of the HMP and BO. Where salvage is determined feasible and proposed, seed collection should occur from plants within the development site and/or topsoil should be salvaged within occupied areas to be disturbed. Seeds shall be collected during the appropriate time of year for each species by qualified biologists. The collected seeds and topsoil shall be used to revegetate temporarily disturbed construction areas and reseeding and restoration efforts on- or off-site, as determined appropriate by the qualified biologist and CSUMB CPD Department. For impacts to the HMP species within the development site that do require take authorization from the USFWS and/or CDFW, the CSUMB CPD Department shall comply with ESA and CESA and obtain necessary permits prior to construction. If non-HMP special-status species are identified during the implementation of this measure, MM-BIO-1b shall also be implemented.

MM-BIO-1b: Project-Specific Biological Assessments (Non-HMP Species). The CSUMB CPD Department shall require that a biological survey of development sites be conducted by a qualified biologist to determine if the development could potentially impact a special-status species or their habitat. A report describing the results of the surveys shall be provided to the CSUMB CPD

Department prior to any ground disturbing activities. The report shall include, but not be limited to: 1) a description of the biological conditions at the site; 2) identification of the potential for special-status species to occur or special-status species observed, if any; 3) maps of the locations of special-status species or potential habitat, if observed; and 4) recommended mitigation measures, if applicable. If special-status species are determined not to occur at the development site, no additional mitigation is necessary.

If special-status species are observed or determined to have the potential to occur, the project biologist shall recommend measures necessary to avoid, minimize, and/or compensate for identified impacts. Measures shall include, but are not limited to, revisions to the project design and project modifications, pre-construction surveys, construction buffers, construction best management practices, monitoring, non-native species control, restoration and preservation, and salvage and relocation.

MM-BIO-1c: <u>Pre-Construction Surveys for Protected Avian Species.</u> Construction activities that may directly (e.g., vegetation removal) or indirectly (e.g., noise/ground disturbance) affect protected nesting avian species shall be timed to avoid the breeding and nesting season. Specifically, vegetation and/or tree removal can be scheduled after September 16 and before January 31. Alternatively, a qualified biologist shall be retained by the CSUMB CPD Department to conduct pre-construction surveys for nesting raptors and other protected avian species within 500 feet of proposed construction activities if construction occurs between February 1 and September 15. Pre-construction surveys shall be conducted no more than 14 days prior to the start of construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). Because some bird species nest early in spring and others nest later in summer, surveys for nesting birds may be required to continue during construction to address new arrivals, and because some species breed multiple times in a season. The necessity and timing of these continued surveys shall be determined by the qualified biologist based on review of the final construction plans and in coordination with the USFWS and CDFW, as needed for protected avian species nests.

If raptors or other protected avian species nests are identified during the pre-construction surveys, the qualified biologist shall notify the CSUMB CPD Department and an appropriate no-disturbance buffer shall be imposed within which no construction activities or disturbance shall take place (generally 500 feet in all directions for raptors; other avian species may have species-specific requirements) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist.

MM-BIO-1d: Implement Open Space Protection Requirements. For open space areas adjacent to proposed campus development, the following measures shall be implemented:

- Conduct an access assessment to identify necessary access controls. In some cases, structures including fences or other appropriate barriers may be required within the new development parcel to control access into the habitat areas. An assessment of access issues and necessary controls shall be completed as part of planning for the development and submitted to the CSUMB CPD Department for review and approval, prior to development.
- Signs, interpretive displays, trailhead markers, or other information shall be installed and maintained at identified urban/wildland interface that illustrate the importance of the adjacent habitat area and prohibit trespass, motor vehicle entry, dumping of trash or yard wastes, pets off-leash, capture or harassment of wildlife, impacts to special-status species, and other unauthorized activities.
- Incorporate non-native species control features into site design. Detention ponds or other water features associated with new development shall be sited as far from the urban/wildland interface as possible. Suitable barriers shall be located between these features and the habitat area boundary to prevent these features from becoming "sinks" for special-status wildlife species, as well as sources for invasive non-natives that could then move into the adjacent habitat area.
- If detention ponds or other waterbodies must be located at the urban/wildland interface, a specific management program addressing control of non-native animals (e.g., bullfrogs) must be prepared and submitted for review and approval by the CSUMB CPD Department, prior to development.

- Landscaping within the areas adjacent to open space areas shall consist of native or non-native plant species that shall not colonize reserve areas in the former Fort Ord outside the campus boundaries. Any landscaping or replanting required for the Project shall not use species listed as noxious by the CDFA. All landscape plans shall be reviewed by the CSUMB CPD Department.
- Limit artificial lighting at the urban/wildland interface. Outdoor lighting associated with new development shall be low intensity, focused, and directional to preclude night illumination of the adjacent habitat area. Outdoor lighting shall be placed as far from the urban/wildland interface as possible given safety constraints. Facilities such as ball parks and fields that require high intensity night lighting (i.e., flood lights) shall be sited as far from the urban/wildland interface as possible. High-intensity lighting facing the habitat areas shall be directional and as low to the ground as possible to minimize long distance glare.
- Develop and implement erosion control measures to prevent sediment transport into and within habitat areas. Erosion control measures shall be required where vegetation removal or soil disturbance occurs as a result of all facility construction and maintenance, including trail, road, or fuel break construction/maintenance, access controls, or stormwater management, consistent with existing stormwater management plans. Specific measures to be implemented shall be detailed in an erosion control plan. The erosion control plan shall include, at a minimum, the following measures.
  - Re-contour eroded areas.
  - Maintain and grade areas along the reserve perimeter and main roads as appropriate to avoid washouts. Gullies shall be repaired as needed.
  - Install drainage features such as outlet ditches, rolling dips (similar to waterbars), and berms as needed to facilitate the proper drainage of storm runoff.
  - Add soil amendments such as fertilizers and gypsum for designated development areas only.
  - Prevent sediments from entering basins or swales that could be used by HMP species during erosion control activities.
  - Design and conduct erosion control measures to minimize the footprint of the structures and repairs, and design structures to

minimize potential impacts on CTS that may be moving between breeding and upland habitats.

- Use weed-free mulch, weed-free rice, sterile barley straw, or other similar functioning product where needed for erosion control. Seed native plant species to stabilize soils disturbed by erosion control activities and prevent colonization by invasive weeds. Incorporate native plant species to the extent practicable.

MM-BIO-1e: Pre-Construction Bat Assessment and Surveys. To avoid and reduce impacts to Townsend's big-eared bat, a qualified bat specialist or wildlife biologist shall conduct site surveys during the reproductive season (May 1 through September 15) to characterize bat utilization of the site and potential species present (techniques utilized to be determined by the biologist) prior to structure removal. Based on the results of these initial surveys, one or more of the following shall occur:

- If it is determined that bats are not present at the site, no additional mitigation is required.
- If it is determined that bats are utilizing the site and may be impacted by the development, pre-construction surveys shall be conducted no more than 30 days prior to any structure removal. If, according to the bat specialist, no bats or bat signs are observed in the course of the pre-construction surveys, structure removal may proceed. If bats and/or bat signs are observed during the pre-construction surveys, the biologist shall determine if disturbance will jeopardize the roost (i.e., maternity, day, or night).
- If a single bat and/or only adult bats are roosting, removal of buildings may proceed after the bats have been safely excluded from the roost. Exclusion techniques shall be determined by the biologist and depend on the roost type; the biologist shall prepare a mitigation plan for provision of alternative habitat to be approved by the CDFW.
- If an active maternity roost is detected, avoidance is preferred. Work in the vicinity of the roost (buffer to be determined by biologist) shall be postponed until the biologist monitoring the roost(s) determines that the young are no longer dependent on the roost. The monitor shall ensure that all bats have left the area of disturbance prior to initiation of structure removal. If avoidance is not possible and a

maternity roost must be disrupted, a depredation permit would be required prior to removal of the roost.

MM-BIO-1f: Pre-Construction Monterey Dusky-Footed Woodrat Surveys. Not more than thirty (30) days prior to the start of construction (including vegetation removal), a qualified biologist shall conduct a survey of the development sites to locate existing Monterey dusky-footed woodrat nests. All Monterey dusky-footed woodrat nests shall be mapped and flagged for avoidance. Graphics depicting all Monterey dusky-footed woodrat nests shall be provided to CSUMB and the construction contractor. Any Monterey dusky-footed woodrat nests that cannot be avoided shall be relocated according to the following procedures.

Each active nest shall be disturbed by the qualified biologist to the degree that the woodrats leave the nest and seek refuge elsewhere. After the nests have been disturbed, the nest sticks shall be removed from the impact areas and placed outside of areas planned for impacts. Nests shall be dismantled during the non-breeding season (between October 1 and December 31), if possible. If a litter of young is found or suspected, nest material shall be replaced and the nest left alone for 2-3 weeks, after this time the nest shall be rechecked to verify that young are capable of independent survival before proceeding with nest dismantling.

MM-BIO-1g: Smith's Blue Butterfly Habitat Avoidance/ESA Compliance. Smith's Blue Butterfly habitat (i.e., dune buckwheat) shall be avoided to the greatest extent feasible. Smith's Blue Butterfly habitat that will not be impacted by the Project shall be protected prior to and during construction to the maximum possible using exclusionary fencing and/or flagging. A biological monitor shall supervise the installation of protective fencing/flagging and monitor at least once per week until construction is complete to ensure that the protective fencing/flagging remains intact.

If all Smith's Blue Butterfly habitat is avoided, no additional mitigation is necessary. If the Project will impact SBB habitat, CSUMB shall comply with the FESA and obtain necessary authorizations prior to construction due to the assumed presence of the federally listed SBB. CSUMB shall be required to initiate consultation with the USFWS to receive take authorization. Take authorization would be granted through the issuance of an individual, project-specific incidental take permit. Mitigation for take likely will require restoration at a 3:1 ratio of impacted habitat. Dune buckwheat plants and/or seed salvage may also be required prior to ground disturbing activities.

Significance After Mitigation

Implementation of MM-BIO-1b through MM-BIO-1f would avoid substantial adverse effects on non-HMP special-status species and protected avian species by requiring project-specific biological assessments for future development to determine presence/absence of non-HMP special-status species and protected avian species; identification and implementation of measures necessary to avoid, minimize, and/or compensate for any identified impacts; and implementation of open space requirements that will reduce the damaging effects of adjacent development, by providing for necessary access controls, barriers, signage, and control of non-native species. With the implementation of these mitigation measures, the potentially significant impacts on non-HMP special-status species and protected avian species would be reduced to *less than significant*.

Additionally, the implementation of MM-BIO-1a, MM-BIO-1d, and MM-BIO-1g will further reduce the less than significant impact on HMP species and provide for compliance with the HMP and CESA and FESA, where relevant.

Impact BIO-2:	**Riparian and Wetland Habitat (Thresholds B and C).** The Project could result in a substantial adverse effect on riparian habitat or other sensitive community as identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or on state or federally protected wetlands. *(Potentially Significant)*

Master Plan

Proposed Master Plan implementation has the potential to impact sensitive habitat. The proposed Master Plan and PDF-MO-5 cites development in already developed areas and creates a compact campus core, which would minimize these potential impacts. Proposed PDF-OS-1 through PDF-OS-7, PDF-OS-11, and PDF-D-8 and PDF-D-9 would also serve to minimize potential impacts on sensitive habitat, as described in Impact BIO-1. Even with the proposed Master Plan focus on development within already developed areas and implementation of the above proposed PDFs, future development on the CSUMB campus under the proposed Master Plan could result in impacts to sensitive habitat, as further described below.

Central Maritime Chaparral

Habitats occurring within the campus that are listed as sensitive on the CDFW's CNDDB working list of high priority and rare natural communities include central maritime chaparral. This habitat type includes central maritime chaparral mix habitats. Approximately 124.3 acres of central maritime chaparral (including central maritime chaparral mix habitats) are present within the campus and could be impacted if trail or other similar development occurs in the East Campus

Housing or East Campus Open Space areas; however, the proposed Master Plan does not site new development in these areas where central maritime chaparral is located.

As described in Section 4.3.3.2, Analytical Methods, the implementation of the HMP mitigates for the loss of central maritime chaparral by preserving the same habitat within the habitat reserve areas on the former Fort Ord, outside of the campus boundaries. Therefore, with the implementation of the HMP, impacts to central maritime chaparral are considered *less than significant*.

Riparian, Wetlands and Other Sensitive Communities

Although not observed on the campus during the surveys in 2016 and 2017, there is a low potential for future establishment of riparian habitat, state or federally protected wetlands, and/or other sensitive communities within the campus boundaries. Development that occurs within or adjacent to sensitive natural communities may result in a significant impact. The presence of sensitive natural communities on a development site must be evaluated prior to approval of the development. Any impacts to sensitive natural communities are considered a *potentially significant*.

Near-Term Development Components

The proposed near-term development components are generally located on sites that have been disturbed and are mostly developed. No sensitive communities occur within the near-term development component sites; therefore, *no impacts* related to the removal of riparian habitat or other sensitive community would occur as a result of their implementation.

Mitigation Measures

MM-BIO-2: Project-Specific Sensitive Natural Community Assessments - The CSUMB CPD Department shall require that for any development that could potentially impact a sensitive natural community, a survey of the site by a qualified biologist shall be required. A report describing the results of the survey shall be provided to CSUMB prior to any ground-disturbing activities. The report shall include but shall not be limited to: 1) a description of the biological conditions at the site; 2) identification of the potential for sensitive habitats or sensitive habitats observed, if any; 3) maps of the locations of sensitive habitats or potential sensitive habitat, if observed; and 4) recommended avoidance and minimization measures, if applicable. If a potential state or federally protected wetland is newly identified to be present on the site, a formal wetland delineation shall be conducted in accordance with ACOE methodology.

If a proposed development cannot avoid impacts to sensitive habitat areas, CSUMB shall require a compensatory habitat-based mitigation to reduce impacts. Compensatory mitigation must involve the preservation, restoration, or purchase of off-site mitigation credits for impacts to sensitive habitats. Mitigation must be conducted in-kind or within an approved mitigation bank in the region. The specific mitigation ratio for habitat-based mitigation shall be determined through consultation with the appropriate agency (i.e., CDFW, USFWS, or ACOE) on a project-by-project basis.

Impacts to sensitive habitats, including but not limited to, vernal pools, streambeds, waterways, or riparian habitat, protected under FGC Section 1600 and Sections 401 and 404 of the Clean Water Act, require regulatory permitting to reduce impacts. Acquisition of permits and implementation of the approved mitigation strategy would ensure impacts are fully mitigated and "no net loss" of wetland habitat would occur.

Significance After Mitigation

Implementation of MM-BIO-2 would avoid substantial adverse effects on riparian habitat, protected wetlands, and/or other sensitive communities by requiring project-specific biological assessments for future development to determine presence/absence of sensitive habitats and identification of measures necessary to avoid, minimize, and/or compensate for any identified impacts. With the implementation of this mitigation measure, the potentially significant impact on riparian habitat, protected wetlands, and/or other sensitive communities would be reduced to *less than significant*.

Impact BIO-3: **Wildlife Corridors (Threshold D).** The Project would not result in interference with wildlife migration or corridors. *(Less than Significant)*

Master Plan

The proposed Master Plan would not interfere with wildlife migration or wildlife corridors. The proposed Master Plan and PDF-MO-5 cites development in already developed areas, creates a compact campus core, and avoids non-trail development in the East Campus Open Space.

Wildlife movement corridors are pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or man-made factors, such as urbanization. The fragmentation of natural habitat creates isolated "islands" of vegetation that may not provide sufficient area or resources to accommodate sustainable populations for a number of species, and therefore, adversely affect both genetic and species diversity. Corridors often partially or largely mitigate the adverse effects of fragmentation by: 1) allowing animals to move between remaining habitats to replenish depleted populations and increase the gene pool available; 2) providing escape routes from fire, predators, and human disturbances, thus, reducing the risk that catastrophic events (e.g., fire and disease) will result in population or species extinction; and 3) serving as travel paths for individual animals moving throughout their home range in search of food, water, mates, and other needs, or for dispersing juveniles in search of new home ranges.

The East Campus Open Space connects with other planned habitat areas to the east, south, and north beyond CSUMB campus boundaries and is considered an important area for wildlife movement. The majority of the area is proposed to be retained in Open Space and the remainder of the area is designated as a faculty and staff housing reserve area and is not proposed for development as part of the proposed Master Plan, thus maintaining wildlife movement through this area. No other areas of the campus contain significant open space areas that would support wildlife movement. Therefore, impacts to movement of wildlife resulting from implementation of the proposed Master Plan would be *less than significant*.

Near-Term Development Components

The proposed near-term development components are located on sites that have been disturbed and are mostly developed. These sites do not contain significant wildlife habitat used for migration or movement corridor; therefore, *no impacts* would occur.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact BIO-4:	**Biological Resource Policies and Ordinances (Threshold E).** The Project would not conflict with local policies and ordinances protecting biological resources, including tree preservation policies. *(Less than Significant)*

Master Plan

The proposed Master Plan would not conflict with local policies and ordinances protecting biological resources, including CSUMB's tree restoration program. The proposed Master Plan, and PDF-MO-5 cites development in already developed areas, creates a compact campus core, and avoids development in the East Campus Open Space, which serves to minimize tree removal with the Project.

Regardless, implementation of the proposed Master Plan may result in impacts to trees within the campus boundaries. However, CSUMB has established a tree restoration program for impacts to coast live oak and other trees from projects that take place on campus. This program requires that, for every coast live oak tree or other tree greater than 4 inches dbh removed, a minimum of two (2) coast live oak trees will be replanted in the identified restoration area on campus. The implementation of this program is required for all development that would result in impacts to coast live oak or other trees at least 4 dbh in size. The replanting specifications would be required in subsequent project plans and permits. Proposed PDF-OS-4 continues and expands this program to maximize the health and stability of existing and replacement trees. Therefore, implementation of the proposed Master Plan would not conflict with the CSUMB tree restoration program and the impact would be *less than significant*.

Near-Term Development Components

Implementation of the proposed Student Recreation Center could result in impacts to trees within the campus boundaries; other near-term development components would not result in tree removal. As described above, at a minimum, two coast live oak trees would be replanted for every coast live oak or other tree 4 inches dbh or greater removed from the Student Recreation Center site, per CSUMB's tree restoration program. Further, proposed PDF-OS-4 calls for continuation and expansion of this tree restoration program to maximize the health and stability of existing and replacement trees, which would benefit existing trees on the near-term development component sites. Therefore, the near-term development components would not conflict with the CSUMB tree restoration program for the campus and the impact would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact BIO-5: **Adopted Habitat Conservation Plans (Threshold F).** The Project would not conflict with any adopted HCP, NCCP, or other approved conservation plan. *(No Impact)*

Master Plan

As described in Section 4.3.2.3, the campus is not located within an approved HCP or NCCP area. However, the campus is located within the approved Fort Ord HMP area. The entire campus is located within parcels designated by the HMP as "development." Parcels designated as "development" do not have habitat management requirements. Additionally, a portion of the campus, along the southeastern boundary of the East Campus Open Space parcel (Army parcel number S1.3.2), is designated in the HMP as having Borderlands requirements. Borderlands are designated development parcels or habitat reserve parcels at the urban/wildland interface where specific design considerations and management activities are required to minimize effects of development on HMP species and natural communities. However, the proposed Master Plan does not currently propose new non-trail development in the East Campus Open Space, as described in Impact BIO-4.

CSUMB is required to implement HMP requirements in accordance with the deed covenants, which apply to all parcels within the campus boundaries. This requirement is acknowledged in PDF-OS-2 and described in detail in MM-BIO-1a and MM-BIO-1d (see Impact BIO-1). Therefore, implementation of the proposed Master Plan would not conflict with the approved HMP and *no impact* would occur.

Near-Term Development Components

The campus is not located within an approved HCP or NCCP area. However, the campus is located within the approved Fort Ord HMP area. All of the proposed near-term development component sites are located within parcels designated by the HMP as "development." CSUMB is required to implement HMP requirements, applicable to all parcels within the campus boundaries, which is acknowledged in PDF-OS-2 and described in detail in MM-BIO-1a and MM-BIO-1d (see Impact BIO-1). Therefore, as described above, implementation of the proposed near-term development components would not conflict with the approved HMP and *no impact* would occur.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

4.3.3.4 Cumulative Impacts

This section provides an evaluation of biological resources impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and as relevant to the environmental topic being evaluated. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

The Project would not interfere with wildlife migration or wildlife corridors, as it would not allow for development in the East Campus Open Space (see Impact BIO-3). The Project also would not conflict with local policies and ordinances protecting biological resources, including CSUMB's tree restoration program, as it would comply with and continue and expand this program (see Impact BIO-4). Lastly, the Project would not conflict with adopted HCP or NCCP (see Impact BIO-5). Accordingly, per the California Environmental Quality Act (CEQA) Guidelines Section 15130(a)(1), the cumulative analysis does not further discuss these impacts given that any such cumulative impacts would not result in part from the Project.

Impact BIO-6:	**Cumulative Biological Resources Impacts (Thresholds A, B, and C).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts on special-status species, protected avian species and sensitive habitat, with the implementation of mitigation. *(Less than Significant)*

The geographic context for the analysis of cumulative impacts related to special-status species, protected avian species, and sensitive habitat includes the campus and other cumulative project sites in the former Fort Ord and beyond. This cumulative impact analysis considers the incremental effects of the Project, when combined with the effects of past, present and reasonably foreseeable projects listed in Table 4.0.1 and shown in Figure 4.0.1, Section 4.0, Introduction to Analysis.

Special-Status Species

HMP Species

As described in Section 4.3.3.2, Analytical Methods, impacts to HMP plant and wildlife species, including impacts that would result from the Project and cumulative development located on HMP-designated development parcels in the former Fort Ord, would be *less than significant*. Impacts to HMP species and habitats occurring within the designated development parcels were anticipated and mitigated through the establishment of habitat reserves and corridors and the implementation of habitat management requirements within habitat reserve parcels on the former Fort Ord, located off-campus. As acknowledged in MM-BIO-1a, CSUMB and other landowners subject to the HMP are required to identify sensitive biological resources within all development parcels prior to any future construction to determine whether salvage is feasible and if so, seed and topsoil salvage would occur to support reseeding and restoration efforts on- or off-site. Additionally, Project and on- and off-campus cumulative impacts to HMP species listed as threatened or endangered by CDFW and/or the USFWS (see Impact BIO-1) may also require agency consultation and/or incidental take permits to avoid violation of the FESA and/or CESA. This is acknowledged for the Project in MM-BIO-1a and MM-BIO-1g and would also be a requirement for other on- and off-campus cumulative development. While not required to reduce a significant impact, MM-BIO-1a, MM-BIO-1d, and MM-BIO-1g will be implemented to further reduce the impact to HMP species and their habitats. In summary, as indicated above, cumulative impacts to HMP species would be *less than significant*.

Non-HMP Species and Protected Avian Species

Implementation of the Project and other on- and off-campus cumulative development located in the former Fort Ord and beyond could impact non-HMP special-status species and protected avian species if any are present on these sites at the time of construction (see Table 4.0-1 and Figure 4.0-1). As indicated in Impact BIO-1, Project impacts related to non-HMP special-status species and protected avian species would be reduced to *less than significant* through the implementation of MM-BIO-1b through MM-BIO-1f. Implementation of MM-BIO-1b through MM-BIO-1f will require project-specific biological assessments and pre-construction surveys where warranted for future development to determine presence/absence of special-status species and identification of measures necessary to avoid, minimize, and/or compensate for any identified impacts; open space requirements are also included to protect habitat adjacent to development (i.e., access controls, barriers, signage, and control of non-native species).

The impacts of cumulative development projects on non-HMP special-status species and protected avian species should be evaluated as part of the discretionary approval process and should incorporate all feasible mitigation measures to reduce impacts. However, it is possible that these cumulative projects could have significant cumulative impacts on non-HMP species and protected avian species due to construction if these cumulative projects are not properly mitigated. With the implementation of the Project mitigation measures, potential Project-related impacts would be avoided, reduced, or compensated for such that they would not result in a considerable contribution to the significant cumulative impact. Therefore, the Project would not result in a cumulatively considerable contribution to the significant cumulative impacts on non-HMP species and protected avian species. As such, the Project's cumulative impact would be *less than significant*.

Sensitive Habitat

Implementation of the Project and other on- and off-campus cumulative development located in the former Fort Ord and beyond could impact riparian habitat, state or federally protected wetlands, and/or other sensitive communities if such habitat is present or becomes established on these sites prior to construction (see Table 4.0-1 and Figure 4.0-1), as further described below.

Central Maritime Chaparral

Impacts of the Project to central maritime chaparral, located on the campus and likely on other cumulative development sites on the former Fort Ord, are considered *less than significant* with the implementation of the HMP. It should also be noted that the proposed Master Plan does not site new development in areas where central maritime chaparral is located. While it is possible that significant cumulative impacts on central maritime chaparral could result from cumulative development outside of the former Fort Ord boundaries, the Project would not result in a cumulatively considerable contribution to any such significant cumulative impacts on central maritime chaparral. As such, the Project's cumulative impact would be *less than significant*.

Riparian, Wetlands and Other Sensitive Communities

As indicated in Impact BIO-2, the Project's impact on riparian habitat, state or federally protected wetlands, and/or other sensitive communities that may become established in the future would be reduced to *less than significant* through the implementation of MM-BIO-2. Implementation of MM-BIO-2 will require project-specific biological assessments for future development to determine presence/absence of sensitive habitats and identification of measures necessary to avoid, minimize, and/or compensate for any identified impacts.

The impacts of cumulative development projects on riparian, wetlands and other sensitive habitat should be evaluated as part of the discretionary approval process and should incorporate all feasible mitigation measures to reduce impacts. However, it is possible that these cumulative projects could have significant cumulative impacts on such resources due to construction if these cumulative projects are not properly mitigated. With the implementation of the Project mitigation measures, potential Project-related impacts would be avoided, reduced, or compensated for such that they would not result in a considerable contribution to the significant cumulative impact. Therefore, the Project would not result in a cumulatively considerable contribution to the significant cumulative impacts on riparian, wetlands and other sensitive habitat. As such, the Project's cumulative impact would be *less than significant*.

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4.4 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

This section of the EIR presents an analysis of the potential cultural resources and tribal cultural resource impacts associated with development and implementation of the proposed Master Plan, including five near-term developments (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate any identified significant or potentially significant impacts. Information in this section is based on a Cultural Resource Inventory Report (see Appendix F-1) and a Built Environment Inventory and Evaluation Report (Appendix F-2) prepared for the Project.

Public and agency comments related to cultural resources were received during the public scoping periods in response to the original Notice of Preparation (NOP) or the Revision to Previously Issued NOP. Comments in response to the NOP were related to consultation with California Native American tribes that are traditionally and culturally affiliated with the Project area. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.4.1 Environmental Setting

4.4.1.1 Study Area

The study area for the evaluation of impacts on cultural resources and tribal cultural resources generally includes the 1,396-acre CSUMB campus, located in the northwestern portion of the former Fort Ord military base, and a 1-mile buffer. The records search area and the survey area for the Cultural Resources Inventory (Appendix F-1) are shown in Figures 4.4-1 and 4.4-2. Additionally, the Built Environment Inventory and Evaluation Report (Appendix F-2) evaluated 11 buildings on the Main Campus All that were constructed at least 45 years ago as of 2021 (i.e., on or before 1976) and proposed for demolition or substantial alteration as part of the Project (see Figure 4.4-3). Section 4.4.4.2, Analytical Methods provides additional information about how cultural resources and tribal cultural resources in the study area were identified and evaluated in this section of the EIR.

4.4.1.2 Campus Setting

Prehistoric Context

The Project area lies within the territory prehistorically occupied by the Costanoan or Ohlone people. Costanoan refers to eight separate Penutian-stock language groups extending roughly from modern-day Richmond in the north to Big Sur in the south. The Rumsen tribelet occupied the Monterey area. Of the four local Rumsen-speaking groups in the Project area, the *Calenda Ruc* inhabited the project vicinity.

The prehistoric era of greater Central California coast spans a period of approximately 10,000 to 12,000 years. People's initial occupation of the region was sparse and is evidenced by isolated artifacts or sparse lithic scatters. The traditional interpretation is that people living during this time were highly mobile hunters who focused subsistence efforts on large mammals. Alternatively, the "kelp highway" hypothesis posits that the earliest inhabitants of the region focused their economic pursuits on coastal resources. Some scholars hypothesize that rising sea levels throughout the Holocene may have inundated some of the earliest prehistoric sites. Evidence suggests that people were highly mobile and had a flexible subsistence focus, including a diet of both terrestrial and marine resources.

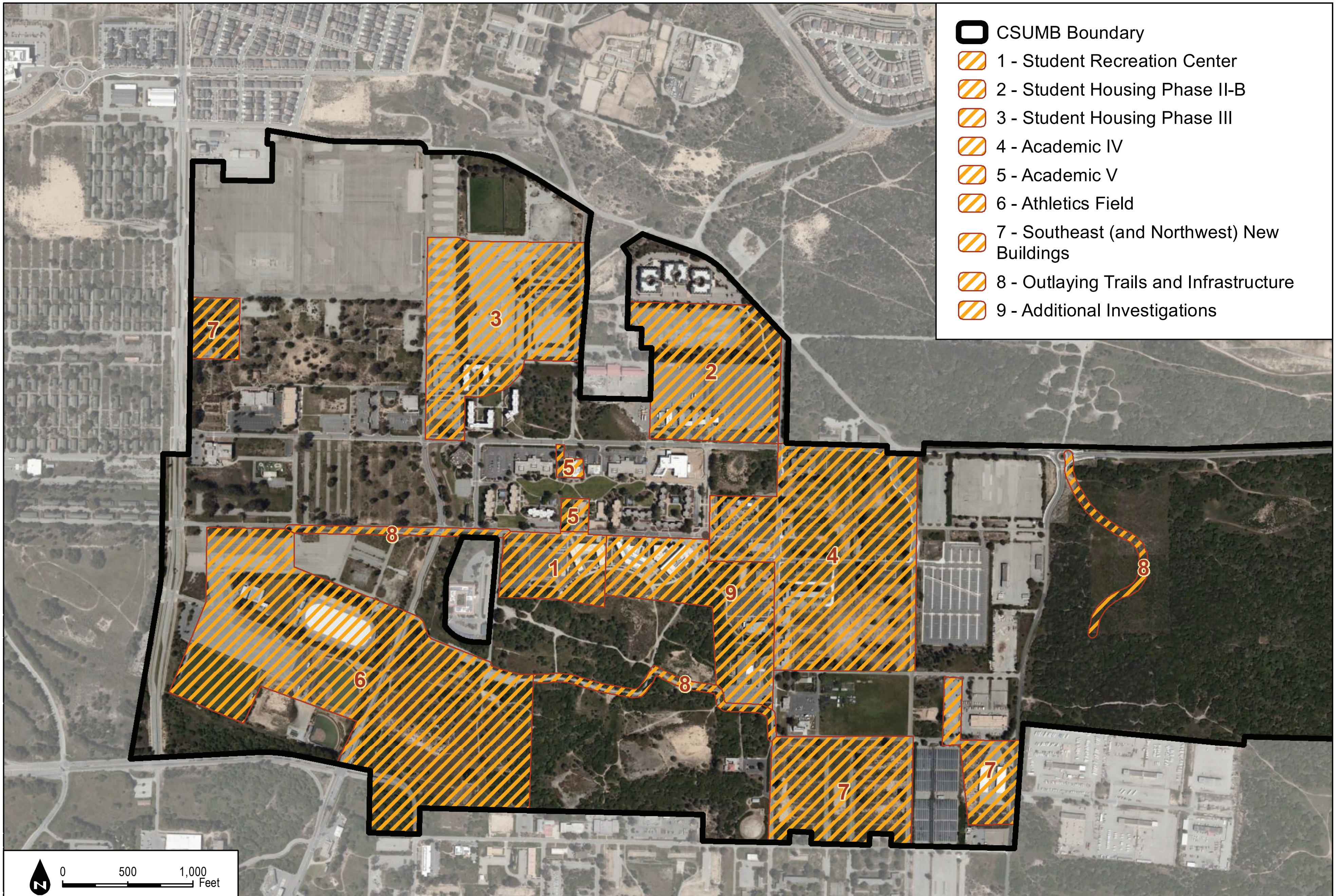
Evidence for later occupation of the region is more common and marked by a greater emphasis on flaked stone tools and the initial use of mortar and pestle technology. Sites are located in more varied environmental contexts, including in estuary settings along the coast or along river terraces inland, suggesting more intensive use of the landscape than previous evidence suggested. Trends toward greater labor investment and increased use of plant resources continued, with a shift toward hunting more labor-intensive species including small schooling fishes, sea otters, rabbits, and plants such as acorn.

A period of rapid climate change known as the Medieval Climatic Anomaly may have been an impetus for cultural change in response to fluctuations between cool-wet and warm-dry conditions. Coastal sites tended to be more resource acquisition or processing sites, while residential occupation was more common inland.

Historical Context

The first European to explore the Monterey Bay was Sebastián Vizcaíno, who, in 1602, was sent by the Spanish government to map the Californian coastline. It was Vizcaíno who named the area "Puerto de Monterey" after the viceroy of New Spain. The location of Vizcaíno's landing (and later Junipero Serra) lies within the Lower Presidio Park in downtown Monterey. The Gaspar de Portolá expedition traveled through the region in 1769 and returned again in 1770 to establish both the Monterey Presidio, Spain's first military base in Alta California, and Mission San Carlos Borreméo de Carmelo.

The establishment of the Spanish missions drastically altered the lifeways of the Native Americans. The Spanish conscripted members of local Native American communities to move to the Mission San Carlos Borreméo de Carmelo, where they were indoctrinated as Catholic neophytes.



SOURCE: Bing Maps 2019

FIGURE 4.4-1

Archaeological Survey Coverage

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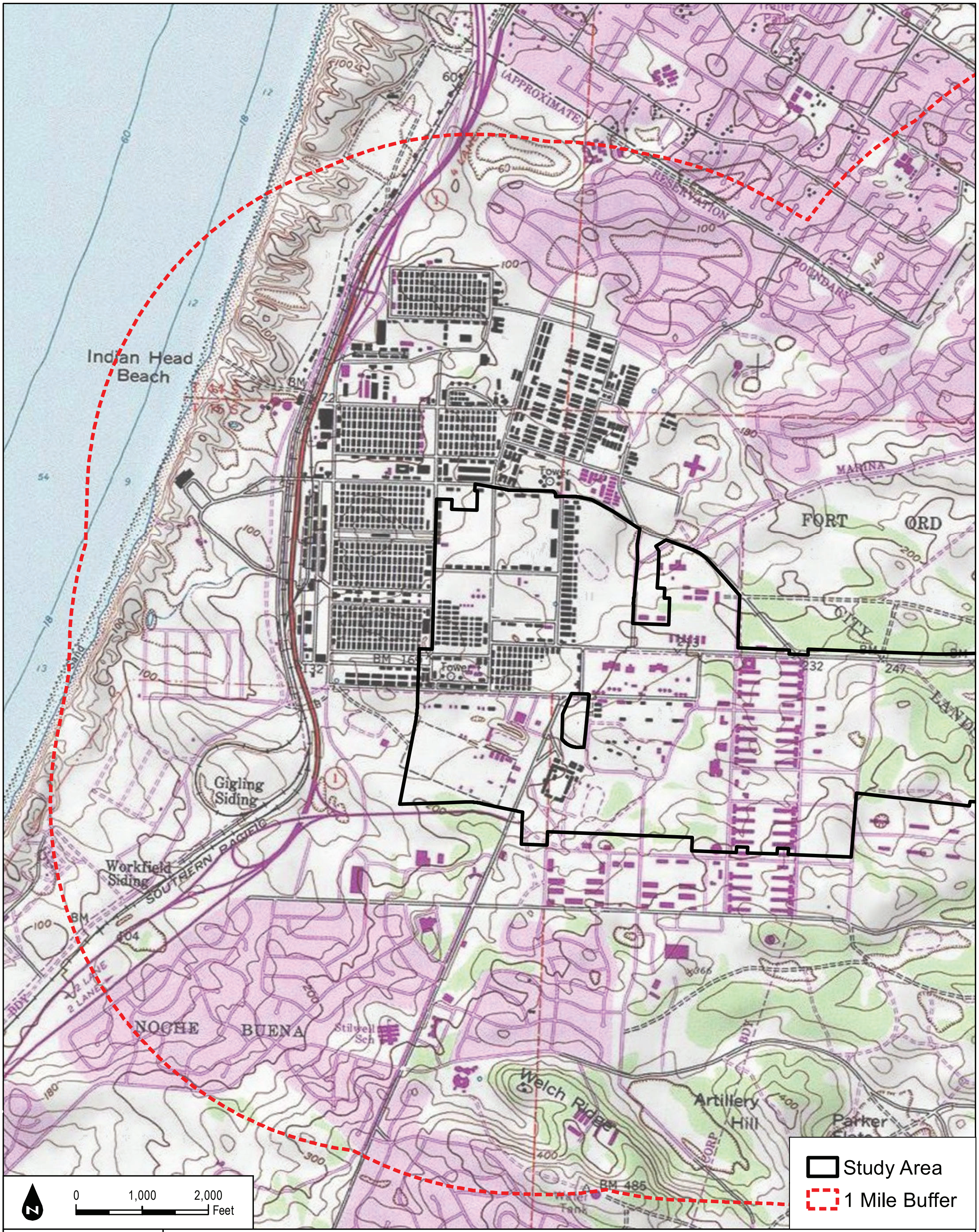

SOURCE: USGS 7.5-Minute Series Marina & Salinas Quadrangles
Township 14S, 15S; Range 2E, 1E; Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 28, 29, 30, 31, 32, 33, 34, 35, 36

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FIGURE 4.4-2A

Records Search Area

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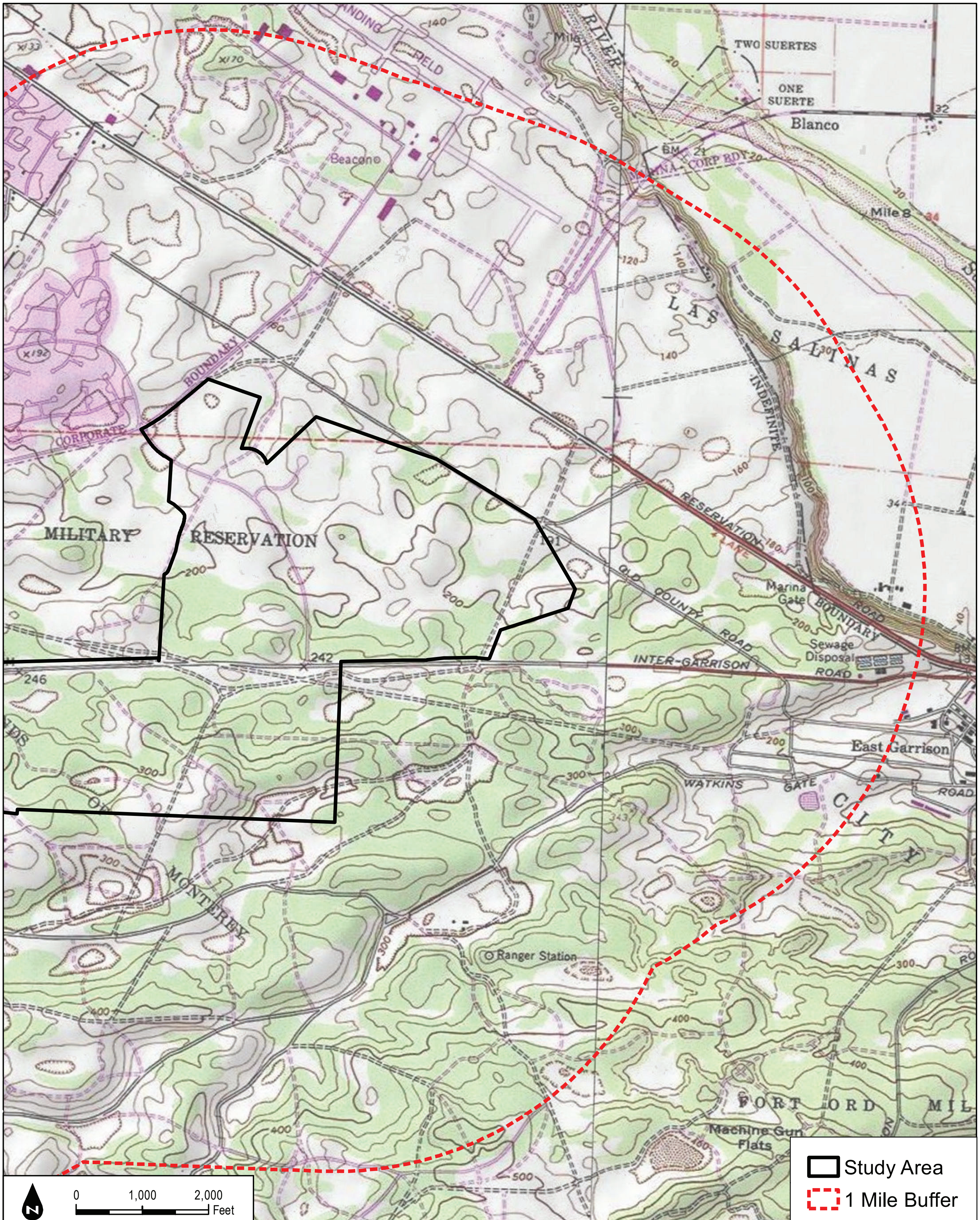

SOURCE: USGS 7.5-Minute Series Marina & Salinas Quadrangles
Township 14S, 15S; Range 2E, 1E; Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 28, 29, 30, 31, 32, 33, 34, 35, 36

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FIGURE 4.4-2B

Records Search Area

CSU Monterey Bay Master Plan EIR

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SOURCE: Bing Maps 2021

FIGURE 4.4-3

Built Environment Study Area

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Mexico gained independence from Spain in 1821. In 1834, the Mexican government secularized the mission lands, releasing the Native Americans from control by the mission-system. The City of Monterey continued as the capital of Alta California and the *Californios*—the Mexicans who settled in the region—were given land grants. The United States of America acquired Alta California after landing at Monterey in the 1848 during the Mexican-American War. California became a state in 1850.

The former Fort Ord was established in 1917, originally called Camp Gigling. Prior to decommissioning, Fort Ord covered 28,000 acres. The Fort was originally used to train cavalry troops stationed at Presidio of Monterey and was developed at that time with temporary housing and facilities. The Army did not make permanent improvements on the land until the 1930s, in which simple wood construction techniques were used to build administrative buildings, barracks, mess halls, tent pads, and a sewage treatment plant. By 1939, the location became known as Camp Ord, then Fort Ord in 1940. By 1941, the Fort had over 28,514 acres of land, 27,000 people, and $12 million invested to create a training base and staging area for the U.S. Army.

From 1940 to 1975, Fort Ord served as a basic training center, then by light infantry troops (i.e., operated without heavy tanks, armor, or artillery) of the 7th Infantry Division after 1975. During World War II, the Army constructed additional temporary buildings for soldiers that included mess halls, kitchens, lavatories, company supply, administration buildings, supply and general utilities, medical infirmaries, and recreation facilities. By the 1950s, Fort Ord had become one of the largest basic training camps in the United States. Permanent building construction started in 1952, when the military began a multi-million dollar building program to transform Fort Ord into a permanent post, including the development of troop housing (i.e., barracks), and the construction of a guard house, stockade, and multiple warehouses. Buildings developed during 1946 to 1976 were constructed with reinforced concrete and concrete masonry materials, which later largely contributed to the original built setting for the CSUMB campus. Infrastructure was also improved at this time, with the introduction of paved streets and roadways, and the addition of several water tanks, water pumping plants, and warehouse buildings.

The base began the transition to closure in 1990 and was decommissioned in 1994. Upon its closure the base was divided; a portion of the base was retained by the Army, another was kept as a nature preserve, and another was designated to establish CSUMB. In May of 1994, the CSU system was given 1,350 acres of former Fort Ord land to establish the CSUMB campus. Many of the permanent buildings constructed after 1952 within Fort Ord became part of the CSUMB campus and their uses shifted to fit the needs of the university, so that CSUMB began with a pre-constructed campus of buildings remaining from the decommissioned military installation. The Army buildings that the university inherited in 1994 were organized in efficient, easily monitored, gridded developments that were separated by large paved areas to store military vehicles. In order to make them usable by students, faculty, and workers, buildings constructed for military use were converted into usable education spaces, and outdoor spaces were reconfigured as roads, landscaping, and pedestrian pathways. The newest campus of the California State University system opened in August 1995.

Former Fort Ord Resources

Archaeological Resources

Three archaeological surveys were previously conducted within the boundaries of the former Fort Ord prior to the preparation of the U.S. Army's Fort Ord Disposal and Reuse Environmental Impact Statement (USACE 1993). An archaeological sensitivity analysis prepared for the former Fort Ord (USACE 1993) divided the land into five classifications based on landforms. The survey found no archaeological potential in the active beach strand; low potential in the active dunes; and medium potential in the stabilized dunes. The dissected uplands were found to have a high potential for prehistoric archaeological resources along the streams that connect with the Salinas River floodplain. The benches and terraces adjacent to the Salinas River and El Toro Creek along the northeastern boundary of the installation are considered to have a high potential for possessing archaeological resources (USACE 1993). According to the Fort Ord Disposal and Reuse EIS, complete archaeological surveys would be needed for lands having high potential for resources. The CSUMB campus is not located in an area that has a high potential for archaeological resources (FORA 1996).

Historic Resources

An Inventory Survey of Historic-Period Sites at Fort Ord was prepared for the Department of the Army to identify historic sites that may be eligible for inclusion in the National Register of Historic Places (NRHP). The Army and the California State Historic Preservation Officer (SHPO) concluded from the results of five reports conducted for the Army that Stilwell Hall and 35 structures in the East Garrison area were the only former Fort Ord properties eligible for listing on the NRHP at the time that the Army reports were prepared (U.S. Army 1993; FORA 1996). Further, the 1994 CSUMB quitclaim deed indicates that the SHPO had determined that no structures, monuments, or other property within the subject Property were identified as having any historical significance (Secretary of the Army and Board of Trustees of the California State University System 1994).

Given the passage of time, the campus prepared a new Built Environment Inventory and Evaluation Report (Appendix F-2) to address buildings on campus that are now 45 years or older that may be affected by the proposed Master Plan. There was a total of 11 properties over 45 years old located within the campus area of direct impact (ADI) for the proposed Master Plan.

All 11 properties that were constructed at least 45 years ago as of 2021 (i.e., on or before 1976) and proposed for demolition or substantial alteration as part of the Project were photographed, researched, formally recorded and evaluated under the NRHP, California Register of Historical Resources (CRHR), California Historic Landmarks (CHL), and local eligibility criteria and integrity requirements, and in consideration of potential impacts to historical resources under the California Environmental Quality Act (CEQA) and Public Resources Code §§ 5024 and 5024.5. See Section 4.4.4, Regulatory Framework, for information about these regulations.

All 11 of these built environment properties were identified as not eligible for national, state, or local designation. Consequently, all 11 built environment properties evaluated for the purposes of the Project are not considered historical resources under CEQA.

Record Search Results

Historic Architectural Features

CSUMB was founded in 1994. There are no historic sites on the campus that have been identified as being eligible or potentially eligible for listing in the NRHP in past studies, based on the records search and the information provided in Section 4.4.1.2 above.

Known Cultural Resource Sites and Prior Surveys

A records search of the study area was conducted on August 27, 2017 at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). The results of the records search indicated the approximate location of one previously recorded prehistoric site on the former Fort Ord, potentially within the campus, as well as two historic sites and sixteen built environment resources located within a 1-mile radius of the campus. The location of the prehistoric site (P-27-000385) is unknown; the site record provides no locational data other than "On the Fort Ord Military Reservation," which extends well beyond the Project area. Furthermore, the site was described as "destroyed by bulldozing in ca. 1940." The two historic sites within a 1-mile radius of the campus are a historic ranch (P-27-001724) and a World War II era military site (P-27-002915). Sixteen built environment resources exist within 1 mile of the campus. Appendix E provides further details on these resources and on other archaeological studies conducted in the area.

Native American Consultation

A Sacred Lands File (SLF) search and request for a list of Native American contacts with the Native American Heritage Commission (NAHC) resulted in negative results for the SLF and contacts for eight separate groups.

CSUMB conducted and completed AB 52 consultation for the Project. Pursuant to AB 52 requirements, all NAHC-listed California Native American tribes who have requested project notification from CSUMB were contacted. CSUMB initiated AB 52 consultation on this Project through the following process: Two Native American groups, the Ohlone/Costanoan-Esselen Nation (OCEN) and the Torres Martinez Desert Cahuilla Indians, contacted CSUMB requesting consultation under AB 52 for new projects initiated by CSUMB meeting requirements for consultation under CEQA. The Torres Martinez Desert Cahuilla Indians are geographically located in the vicinity of Imperial and Riverside counties, California. Due to the geographic distance and lack of traditional and cultural affiliation with geographic area surrounding CSUMB, CSUMB responded to Torres Martinez on July 18, 2017 that AB 52 consultation would not be initiated unless additional information supporting the tribe's traditional or cultural affiliation with the campus and region was provided. Also on July 18, 2017, CSUMB sent a letter to OCEN notifying them of the intent to prepare an Environmental Impact Report for the proposed Master Plan. The letter described a general overview of the Project and included maps. Appendix E presents the record of AB 52 consultation, which is summarized below.

OCEN responded to CSUMB in a letter dated August 4, 2017 requesting consultation and outlining a series of requests as a component of consultation. CSUMB initiated AB 52 consultation with OCEN by a letter dated August 31, 2017. OCEN responded in a letter dated September 11, 2017 further requesting no disturbance of cultural lands and implementation of procedures to follow when known or unknown cultural resources are identified, among other points. CSUMB followed up with a letter dated September 5, 2018 providing summary results of the NWIC and NAHC searches and the surface cultural survey. CSUMB met with OCEN on December 17, 2018 and January 29, 2019 to discuss the Project. CSUMB followed up with a letter dated April 18, 2019 summarizing the results of the two meetings, providing OCEN with a copy of the draft cultural report, summarizing supplemental investigations and research completed to attempt to identify tribal cultural resources (TCRs) on the campus, and offering to continue consultation with OCEN by holding a field meeting to obtain additional information from OCEN about potential resources. OCEN did not respond to this letter and CSUMB concluded consultation on May 17, 2019.

AB 52 requires a TCR to have tangible, geographically defined properties that can be impacted by a project. No known TCRs have been identified through consultation with OCEN. In the future, should one or more TCRs be identified that may be affected, CSUMB will work with tribal representatives that have requested consultation under AB 52 to establish a feasible and appropriate mitigation approach. See Section 4.4.2, Regulatory Framework, for additional information about TCRs.

4.4.1.2 Near-Term Development Site Conditions

The existing cultural resources and tribal cultural resources setting for the near-term development component sites is generally described above. All near-term development component sites were surveyed as shown in Figure 4.4-2. Additional information is provided below related to specific conditions on each site, including existing development conditions. Chapter 3, Project Description provides additional information about the location of each development site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site and potential staging area are mostly paved with an existing surface parking lot and an unused paved area. Vegetation and paved pathways border the development site on the west and south. No archaeological resources were identified on this development component site within the open areas that could be surveyed. Additionally, no historic built environment resources were identified on this site.

Academic IV

The approximately 4.0-acre Academic IV site is mostly paved or developed. Vegetation and paved pathways border the development site on all sides. The potential staging area on the west is paved and the potential staging area on the east is mostly unpaved. No archaeological resources or historic built environment resources were identified on this development component site within the open areas that could be surveyed. Additionally, no historic built environment resources were identified on this site.

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center site is partially paved or developed. Vegetation and paved pathways border the development site on the north and west sides of the site. The potential staging area to the south is mostly unpaved and vegetated. No archaeological resources were identified on this development component site within the open areas that could be surveyed. Additionally, no historic built environment resources were identified on this site.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site and potential staging area are mostly paved. Vegetation borders the site on the north, west and south. No archaeological resources were identified on this development component site within the open areas that could be surveyed. Additionally, no historic built environment resources were identified on this site.

Academic V

The approximately 2.7-acre Academic V site is partially paved or developed. Vegetation and paved pathways border the development site on all sides. Construction staging for this development would use the same potential staging area as that identified for the Student Recreation Center. No archaeological resources were identified on this development component site; this site was fully developed with buildings, grass, and a paved parking lot. Additionally, no historic built environment resources were identified on this site.

4.4.2 Regulatory Framework

4.4.2.1 Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) (54 U.S.C. § 300101 *et. seq.*) established a national program to preserve the country's historical and cultural resources. NHPA provides the legal framework for most state and local preservation laws. The NHPA established the NRHP program, authorized funding for state programs with provisions for pass-through funding and participation by local governments, created the Advisory Council on Historic Preservation (ACHP), and established the Section 106 review process for protecting historic properties.

Under the NHPA, historic resources are buildings, structures, objects, districts, or sites that are both historically significant and that possess integrity of location, design, setting, materials, workmanship, feeling, and association. A resource is considered historically significant if it meets any of the following criteria (parentheses summarize each criterion for ease of reference):

A. Is associated with events that have made a significant contribution to the broad patterns of history (aka associations);

B. Was associated with the lives of significant persons (aka persons);

C. Embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction (aka architectural distinction); or

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

A project is considered to have a significant impact when its effects on a historic resource have the potential to diminish the resource's integrity. The seven aspects of integrity 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 resource should possess most of the above aspects of integrity; however, certain aspects may be more important than others for communicating historic significance. Determining which aspects of integrity are essential for a given resource requires an understanding of the formal eligibility criteria (associations, distinctive characteristics, potential to yield information) that apply to that property – in other words, why a property is considered potentially significant in the first place. 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.

Section 106 of the National Historic Preservation Act

Federal protection of cultural resources is legislated by the following:

- The NHPA of 1966 as amended by 16 U.S. Code § 470;
- The Archaeological Resource Protection Act of 1979; and
- 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.

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 on 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 resource.

In 1992, the Secretary's Standards were revised to be applicable to all types of historic resources, including landscapes and focused on four different approaches to treatment: preservation, rehabilitation, restoration, and reconstruction. The four distinct treatments are 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 non-surviving 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.

4.4.2.2 State

California Register of Historical Resources

The California Office of Historic Preservation (OHP) administers the CRHR, which was established in 1992 though amendments to the Public Resources Code, to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected from substantial adverse change. The SHPO, an appointed official, implements the state's historic preservation programs.

The CRHR includes resources that have been formally determined eligible for, or listed in, the NRHP, State Historical Landmark Number 770 or higher, Points of Historical Interest recommended for listing by the State Historical Resources Commission (SHRC) for listing, resources nominated for listing and determined eligible in accordance with criteria and procedures adopted by the SHRC, and resources and districts designated as city or county landmarks when the designation criteria are consistent with CRHR criteria.

California Public Resources Code § 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, which is described above.

A property qualifies as an historic resource and should be considered as such if it meets one or more of the criteria for listing on the California Register of Historic Resources (CRHR), per the criteria set forth in the CEQA Guidelines (Cal. Code Regs. tit. 14, § 5064.5). These criteria indicate that a resource shall be considered historically significant if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

With a few exceptions, to qualify as a significant resource, a property must be at least 50 years old. This threshold is not absolute; it was chosen as a reasonable span of time after which a professional evaluation of historical significance can be made. Per OHP recommendations, resources are typically documented if they are over 45 years old to account for lag times between resource identification and the date that planning decisions are made. This standard is commonly used in determining which resources should be assessed under CEQA.

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."

Public Resources Code § 21084.1: Historical Resources

"Historical resource" is a term with a defined statutory meaning (PRC § 21084.1; determining significant impacts to historical and archaeological resources is described in the CEQA Guidelines, § 15064.5[a] and [b]). Per the 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 § 5024.1).
2. A resource included in a local register of historical resources, as defined in PRC § 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC § 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 (Cal. Pub. Resources Code § 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 Cal. Pub. Resources Code § 5020.1(k)), or identified in a historical resources survey (meeting the criteria in Cal. Pub. Resources Code § 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Cal. Pub. Resources Code§§ 5020.1(j) or 5024.1.

Public Resources Code § 21083.2(g): Archaeological Resources

Under CEQA, archaeological resources are presumed non-unique unless they meet the definition of "unique archaeological resources" (Cal. Pub. Resources Code § 21083.2[g]). Under CEQA, an impact on a non-unique archaeological resource is not considered a significant environmental impact. A unique archaeological resource is a resource for which it can be clearly demonstrated that—without merely adding to the current body of knowledge—there is a high probability that it:

- Contains information needed to answer important scientific questions and there is a demonstrable public interest in that information;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important historic or prehistoric event or person (Cal. Pub. Resources Code § 21083.2(g)).

Public Resources Code §§ 21074 and 21080.3.1(b): Tribal Cultural Resources

CEQA requires lead agencies to consider whether projects would affect tribal cultural resources. Cal. Pub. Resources Code § 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 § 5024.1. In applying the criteria set forth in subdivision (c) of § 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 § 21084.1, a unique archaeological resource as defined in subdivision (g) of § 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of § 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Additionally, Cal. Pub. Resources §21080.3.1(b) requires that California lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if the tribe submits a request for consultation to the lead agency in writing.

Public Resources Code §§ 5097: Native American Historic Cultural Sites

State law (Cal. Pub. Resources Code § 5097 *et seq.*) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and established the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic

Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Health and Safety Code §§ 7052 and 7050.5: Human Remains

The California Health and Safety Code states that disturbance of Native American cemeteries is a felony (Cal. Health and Safety Code § 7052). Construction or excavation must be stopped in the vicinity of discovered human remains until the County Coroner can determine whether the remains are those of a Native American (Cal. Health and Safety Code § 7050.5). Section 7050.5(b) outlines the procedures to follow should human remains be inadvertently discovered in any location other than a dedicated cemetery. The section also states that the County Coroner, upon recognizing the remains as being of Native American origin, is responsible to contact the NAHC within twenty-four hours. The NAHC has various powers and duties to provide for the ultimate disposition of any Native American remains, as does the assigned Most Likely Descendant.

Public Resources Code §§ 5024 and 5024.5: State-Owned Historical Resources

The California State Legislature enacted Public Resources Code §§ 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 (see below) eligibility, maintaining an inventory of eligible and listed resources, and managing these historical resources so that that they will retain their historic characteristics and integrity.

California Public Resources Code § 5024(f) requires state agencies to submit to the 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.

California Historical Landmarks

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

To be designated as a CHL, a resource must either have the approval of the property owner(s), be recommended by the State Historical Resources Commission, or be officially designated by the Director of California State Parks. A resource must also meet at least one of the following three 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.

4.4.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to cultural resources and tribal cultural resources. The section includes the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.4.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to cultural resources or tribal cultural resources are based on Appendix G of the CEQA Guidelines. Based on the above, a significant impact related to cultural resources or tribal cultural resources would occur if the Project would:

A. Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5.
B. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.
C. Disturb any human remains, including those interred outside of dedicated cemeteries.
D. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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 § 5020.1(k).

- 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.4.3.2 Analytical Method

Program- and Project-Level Review

The cultural resources impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3 Project Description. It should be noted, however, that there are no PDFs that apply to the analysis of cultural resources and tribal cultural resources. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the proposed Master Plan. In the event significant environmental impacts would occur even with incorporation of applicable regulations, impacts would be potentially significant and mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Records Search and Surveys

As described in Section 4.4.1, Environmental Setting, a records search of the study area was conducted on September 20, 2017 at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). An archaeological survey of the campus was conducted on November 22, 2017. The archaeologists applied a mixed-intensity strategy for the survey, using intensive-level 15-meter transects when possible, and adopting a less intensive reconnaissance-level approach in highly developed areas. The archaeologists focused intensive-level surveys in areas that will be affected by “near-term” development components. (See Appendix F-1).

A built environment survey of the CSUMB campus included a total of 11 properties located within the ADI. The properties were constructed between 1951 to 1964 and were documented and evaluated in consideration of NRHP, CRHR, CHL, and local eligibility criteria and integrity requirements as part of this study. These properties required recordation and evaluation for historical significance because they are over 45 years old and will potentially be impacted by implementation of the Project. Appendix F-2 provides survey results for the 11 properties, including a photograph of each building/structure, current name, year built (if known), a general physical description of the building/structure, and any alterations identified either through building development research or during the historic built environment resources survey. Dates and details of construction and alterations were confirmed through building development research conducted at the CSUMB Facilities office and archival research.

Historic and Archaeological Resources

Significant impacts to historic resources may result from demolition or physical alteration of buildings, or alteration of the setting of a historic resource by the introduction of incompatible elements, in cases where the property retains integrity of setting and the setting of the resource contributes to its significance. As described above, there are no historic building sites on the campus that have been identified as being eligible or potentially eligible for listing in the NRHP or CRHR in past studies and in the Built Environment Inventory and Evaluation Report (Appendix F- 2) prepared for the Project.

Archaeological sites are usually adversely affected only by physical destruction or damage that can be caused by grading and excavation, trenching, weather-induced erosion, etc. Impacts to archaeological resources and human remains most often occur as the result of excavation or grading within the vertical or horizontal boundaries of a significant archaeological site. Archaeological resources may also suffer impacts as the result of project activity that increases erosion, or increases the accessibility of a surface resource, and thus increases the potential for vandalism or illicit collection. Because archaeological resources often are buried, or cannot be fully defined or assessed on the basis of surface manifestations, substantial ground-disturbing work may have the potential to uncover previously unidentified resources, including archaeological deposits and human remains. As fill depths may not be known, it must be assumed that any ground-disturbing activities in any area of the campus where development will occur could potentially affect cultural resources. The mitigation measures developed to address impacts to unique archaeological resources and historical resources of an archaeological nature address potential impacts both to identified archaeological resources, if any, and to archaeological resources that might be discovered during construction.

4.4.3.3 Issues Not Evaluated Further

The Project would not have impacts with respect to the following thresholds of significance related to built environmental resources and therefore this topic is not further evaluated:

- <u>Historic Built Environment Resources (Threshold A)</u>. As described in Section 4.4.1, Environmental Setting, there are no historic built environment resources on the campus that have been identified as being eligible or potentially eligible for listing in the NRHP or CRHR in past and current studies. Specifically, the Built Environment Inventory and Evaluation Report (Appendix F-2) determined that there are no historic built environment resources on campus that may be affected by the proposed Master Plan. Therefore, the proposed Master Plan would not have impacts related to historic built environment resources.

4.4.3.4 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of potential impacts to cultural resources and tribal cultural resources that would be associated with the Project.

Impact CUL-1:	**Archaeological Resources (Thresholds A and B)**. The Project could cause a substantial adverse change in the significance of unique archaeological resources or historic resources of an archaeological nature. *(Potentially Significant)*

Master Plan

As indicated in Section 4.4.1, Environmental Setting, there are no known historic archaeological sites on campus and therefore no such known sites would be affected by the Project.

While the results of the records search indicated the approximate location of one previously recorded prehistoric site (P-27-000385) potentially within the campus boundaries, the location of this site is an unknown location on the former Fort Ord, which extends well beyond the Project area. Additionally, the previously recorded prehistoric site was described as "destroyed by bulldozing in ca. 1940." Therefore, it is unlikely that the Project would affect this previously recorded prehistoric site.

Nevertheless, unknown subsurface archaeological resources may exist on the campus. Future development under the proposed Master Plan that would disturb native soils or surface features would have the potential to result in impacts to unknown archaeological resources of the prehistoric or historic period. Substantial adverse changes to unknown archaeological deposits and features may result from ground disturbance in native soils or from increased traffic, erosion, vibrations, or other activities that could affect the physical integrity of archaeological deposits or features. Such substantial adverse changes to an unknown archaeological site would result in a significant impact if the site were determined to be a unique archaeological resource or historic archaeological resource.

Project implementation has the potential to effect unknown archaeological resources to the extent that excavations extend into native soils and adversely affect such resources. While the proposed Master Plan proposes development in already developed areas that are underlain by variable amounts of artificial fill, Project construction and associated excavations have the potential to extend into native dune sands and therefore the impact on unknown archaeological resources could be *potentially significant*.

Near-Term Development Components

No archaeological resources were found during archaeological surveys of the near-term development component sites. However, it is possible that ground-disturbing activities during construction on near-term development component sites could result in the discovery of previously unknown subsurface archaeological resources of the prehistoric or historic period, and the impact could be *potentially significant*.

Mitigation Measures

MM-CUL-1a: Sensitivity Training. CSUMB shall include a standard clause in every construction contract for the Project that requires cultural resource sensitivity training by a qualified archaeologist for workers prior to conducting earth disturbance in the vicinity of a documented cultural-resource-sensitive area, should one be identified in the future. Additionally, campus staff involved in earth-disturbing work in the vicinity of a documented resource sensitive area will also receive such training.

MM-CUL-1b: Inadvertent Discovery Evaluation and Recordation. CSUMB shall include a standard inadvertent discovery clause in every construction contract for the Project, which requires that in the event that an archaeological resource is discovered during construction (whether or not an archaeologist is present), all soil-disturbing work within 100 feet of the find shall cease until a qualified archaeologist can evaluate the find and make a recommendation for how to proceed. For an archaeological resource that is encountered during construction, the campus shall:

- Retain a qualified archaeologist to determine whether the resource has potential to qualify as a historical resource or a unique archaeological resource as outlined in the California Environmental Quality Act (CEQA) (Public Resources Code § 21083.2).
- If the resource has potential to be a historical resource or a unique archaeological resource, the qualified archaeologist, in consultation with CSUMB, shall prepare a research design and archaeological evaluation plan to assess whether the resource should be considered significant under CEQA criteria.
- If the resource is determined significant, CSUMB shall provide for preservation in place, if feasible. If preservation in place is not feasible, in consultation with CSUMB, a qualified archaeologist will prepare a

data recovery plan for retrieving data that is specific to the site's geographic extent and the significance of any resources encountered. The data recovery plan shall be developed prior to site development and implemented prior to or during site development (with a 100-foot buffer around the resource). The archaeologist shall also perform appropriate technical analyses, prepare a full written report and file it with the Northwest Information Center, and provide for the permanent curation of recovered materials.

MM-CUL-1c: Construction Monitoring. A Native American and archaeological monitor shall be present for earth-disturbing work in native soils within 750 feet of a documented archaeological resource or tribal cultural resource, if such resources are discovered and documented in the future. Depth to native soils on specific project sites is typically identified in project-specific geotechnical investigations.

Significance After Mitigation

Implementation of MM-CUL-1a through MM-CUL-1c would avoid directly or indirectly destroying unique archaeological resources or archaeological resources of an historical nature by: conducting cultural resource sensitivity training for workers prior to conducting earth disturbance; requiring an inadvertent discovery clause to cease soil disturbing work within 100 feet of any potential archaeological resources unearthed during construction; using a qualified archaeologist to identify any potential historical archaeological resources or unique archaeological resources onsite; preserving in place identified significant resources, if feasible; providing a data recovery plan for any identified historical or archaeological resources if preservation in place is not feasible; and requiring construction monitoring by both a Native American and archaeological monitor during earth-disturbing work in native soils within 750 feet of a documented resource. With the implementation of these mitigation measures, the potentially significant impact on unique archaeological resources or archaeological resources of an historical nature would be reduced to *less than significant*.

Impact CUL-2: Disturbance of Human Remains (Threshold C). The Project could inadvertently disturb human remains. *(Potentially Significant)*

Master Plan

No human remains have been encountered during the construction of buildings and other improvements on the campus. Development under the proposed Master Plan that includes excavation and grading has the potential to uncover, displace, and destroy human remains.

CSUMB must comply with the procedures included in California Public Resources Code § 5097.98 and California Health and Safety Code § 7050.5, which include: halting work if human remains are discovered; contacting the County Coroner who would contact the NAHC to designate a Most Likely Descendent, if Native American remains are determined to be present; and consulting with the Most Likely Descendent for the appropriate treatment of human remains under CEQA. Given that the Project could inadvertently disturb human remains, the impact could be *potentially significant*.

Near-Term Development Components

Like the rest of the campus, no known human remains are located on the near-term development component sites. Excavation and grading associated with the near-term development components has the potential to uncover, displace, and destroy human remains, and therefore the impact could be *potentially significant*.

Mitigation Measures

MM-CUL-2: <u>Proper Handling of Human Remains.</u> Should human remains be discovered at any time, work will halt in that area and procedures set forth in the California Public Resources Code (§ 5097.98) and State Health and Safety Code (§ 7050.5) will be followed, beginning with notification to CSUMB and the County Coroner. If Native American remains are determined to be present, the County Coroner will contact the Native American Heritage Commission to designate a Most Likely Descendant, who will arrange for the dignified disposition and treatment of the remains. The Ohlone/Costanoan-Esselen Nation (OCEN) shall be notified of the discovery even if not assigned as Most Likely Descendant.

Significance After Mitigation

Implementation of MM-CUL-2 would set forth the course of action to stop work and follow State procedures if human remains are discovered at any time. The implementation of this measure would ensure that human remains will be protected from destruction that might result from development, through identification, Native American consultation, preservation in place or recovery, respectful treatment and study, and reinternment. With the implementation of this mitigation measure, the potentially significant impact related to discovery of human remains would be reduced to *less than significant*.

Impact CUL-3:	**Tribal Cultural Resources (Threshold D).** The Project could cause a substantial adverse change in the significance of a tribal cultural resource. *(Potentially Significant)*

Master Plan

CSUMB consulted with a traditionally geographically affiliated Native American tribe (OCEN) pursuant to Public Resources Code 21074 and 21080.3.1(b) during the preparation of this EIR, as indicated in Section 4.4.1.2, Campus Setting. Government-to-government consultation with the OCEN initiated by CSUMB, acting in good faith and after a reasonable effort, has not resulted in the identification of a TCR within or near the Project area. Based on the results of these efforts, the Project does not appear to threaten impacts to known archaeological sites or TCRs. Nevertheless, in the event that unknown archaeological sites or TCRs are uncovered during the course of Project construction, impacts to such resources could be *potentially significant*.

Near-Term Development Components

No TCRs have been identified on the near-term development component sites. Nevertheless, in the event that unknown archaeological sites or TCRs are uncovered during the course of construction on a near-term development component site, impacts to such results could be *potentially significant*.

Mitigation Measures

MM-CUL-1a: See Impact CUL-1 for this mitigation measure.

MM-CUL-1b: See Impact CUL-1 for this mitigation measure.

MM-CUL-1c: See Impact CUL-1 for this mitigation measure.

MM-CUL-2: See Impact CUL-2 for this mitigation measure.

Significance After Mitigation

Refer to Impacts CUL-1 and CUL-2 for a description of MM-CUL-1a, MM-CUL-1b, MM-CUL-1c, and MM-CUL-2. With the implementation of these mitigation measures, the potentially significant impact on TCRs would be reduced to *less than significant*.

4.4.3.5 Cumulative Impacts

This section provides an evaluation of impacts to cultural resources and tribal cultural resources associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis and as relevant to this topic. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

The Project would not impact known historic built environment resources on campus, as no known historic built environment resources eligible for listing in the NRHP or CRHR are located on the campus (see Section 4.4.3.3, Issues Not Evaluated Further). Accordingly, the Project would not contribute to cumulative impacts related to such historic built environment resources.

Impact CUL-4:	**Cumulative Cultural Resource and Tribal Cultural Resource Impacts (Thresholds A, B, C, and D).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts to buried historical or archaeological resources, human remains, and tribal cultural resources, with the implementation of mitigation. *(Less than Significant)*

Master Plan

The geographic context for the analysis of cumulative impacts related to archaeological resources, human remains, and tribal cultural resources includes the campus and other cumulative project sites in the former Fort Ord and beyond. This cumulative impact analysis considers the incremental effects of the Project, when combined with the effects of past, present, and reasonably foreseeable projects listed in Table 4.0.1 and shown in Figure 4.0.1, Section 4.0, Introduction to Analysis.

Implementation of the Project and other cumulative development could impact unknown subsurface archaeological resources of the prehistoric or historic period. As indicated in Impact CUL-1 through CUL-3, the Project impact related to unknown archaeological resources, human remains, and TCRs would be reduced to less than significant through the implementation of MM-CUL-1a through MM-CUL-1c, and MM-CUL-2. The implementation of MM-CUL-1a through MM-CUL-1c will provide sensitively training, standard inadvertent discovery clauses in all construction contracts that include stop work requirements if resources are discovered, evaluation of any identified resources, preservation in place, if feasible, data recovery and other measures that would provide for the preservation of significant information, if preservation in place is not feasible, and monitoring where needed. MM-CUL-2 would set forth the course of action to stop work and follow State procedures if human remains are discovered at any time, which would ensure that human remains will be protected from destruction that might result from development, through identification, Native American consultation, preservation in place or recovery, respectful treatment and study, and reinternment.

CSUMB would require the implementation of adopted mitigation measures for the previously approved Monterey Bay Charter School (MBCS), the Freeman Stadium Facilities Renovation Project, as demonstrated by the CEQA documents prepared for the MBCS and the Freeman Stadium project (DDA 2016 and 2021), and would require similar mitigation measures for the possible future development on the campus's Second Avenue site. Off-campus cumulative projects are also be required to assess impacts to archaeological resources, human remains and tribal cultural resources as part of the discretionary approval process and should incorporate individual mitigation for site-specific impacts identified on each individual project site. It is possible that these cumulative off-campus projects could have a potentially significant cumulative impact if individual projects are not properly mitigated. However, with the implementation of MM-CUL-1a through MM-CUL-1c, and MM-CUL-2, the Project would not have a considerable contribution to a potentially significant cumulative impact. As such, the cumulative impact of the Project on archaeological resources, human remains, and tribal cultural resources would be *less than significant*.

4.4.4 References

Denise Duffy & Associates, Inc. 2016. Final Initial Study/Mitigated Negative Declaration Monterey Bay Charter School New School Project (SCH# 2016031034). July 7, 2016.

Denise Duffy & Associates, Inc. 2021. Final Initial Study/Mitigated Negative Declaration Freeman Stadium Facilities Renovation Project (SCH# 2021070153). September 2021.

FORA (Fort Ord Reuse Authority). 1996. *Public Draft Fort Ord Reuse Plan.* May 1996. Prepared by EDAW, Inc. and EMC Planning Group, Inc.

Secretary of the Army and Trustees of the California State University. 1994. *Quitclaim Deed.* Grantor: Secretary of the Army. Grantee: Trustees of the California State University. Executed August 19, 1994.

USACE (U.S. Army Corps of Engineers). 1993. *Fort Ord Disposal and Reuse Environmental Impact Statement.* Final. Sacramento District. June 1993. Technical assistance from Jones & Stokes Associates, Inc. (JSA 90-214). Sacramento, CA.

U.S. Army. 1993. Historical and Architectural Documentation Reports for Fort Ord, California. September 1993.

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4.5 GEOLOGY, SOILS AND PALEONTOLOGY

This section of the EIR presents an analysis of the potential geological, soils, and paleontological impacts associated with development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate significant or potentially significant impacts.

Geologic and soils resources used to prepare this section include the CSUMB 2007 Master Plan EIR (Denise Duffy & Associates, Inc. [DDA] 2007) and its related technical resources; two geotechnical reports completed on-campus (GEOCON Consultants, Inc. 2012 and Pacific Crest Engineering, Inc. 2015); the U.S. Geological Survey (USGS) 7.5-minute Marina topographic quadrangle; geotechnical maps in Appendix A of the City of Marina General Plan; and published maps prepared by the California Geological Survey (CGS).

No public and agency comments related to geology, soils or paleontology were received during the public scoping periods in response to the original Notice of Preparation (NOP) or the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods, refer to Appendix B.

4.5.1 Environmental Setting

4.5.1.1 Study Area

The study area for the evaluation of impacts related to geology and soils includes the 1,396-acre CSUMB campus, located in the northwestern portion of the former Fort Ord military base.

4.5.1.2 Campus Setting

Topography and Stratigraphy

The CSUMB campus is located in the Coast Ranges geomorphic province, which generally consists of two core complexes: the Franciscan Formation and the Salinian Block. The Salinian Block, which underlies most of the Project region, consists of an elongated north-northwest-trending crustal block of granitic and metamorphic rock (CGS 2002). None of the bedrock units are known to be exposed with the campus (DDA 2007; Dibblee 1999).

The CSUMB campus is geomorphically characterized by bar and swale landforms of perennial, vegetation-stabilized dunes, which represent older (Pleistocene age) coastal dune sand. On the Main Campus, most of the original hummocky dune topography has been graded, resulting in relatively flat to gently sloping topography. Open space in the southern portion of the campus has retained some of the natural topography and localized moderately steep slopes, up to 30 feet, are present in the northern portion of the campus (GEOCON Consultants, Inc. 2012). The East Campus Housing area has been partially graded; however, much of the original dune topography remains, with relief up to 40 feet across the area. The East Campus Open Space Area has mostly retained its natural dune topography, with localized steep slopes and topographic relief up to 120 feet across the area.

The sand dunes range in thickness up to approximately 100 feet below the ground surface of the campus. Surface and subsurface soils are expected to be composed of fine to medium grained sand containing variable amounts of fines and gravel. The density of the sand is expected to vary significantly. Data compiled from geotechnical borings taken within the campus suggest that the upper 20 to 26 feet of this sand is typically medium to very dense. In some locations at the surface, the sand contains traces of clay (DDA 2007). Based on geotechnical borings drilled in association with construction of the Promontory student housing, in the northern portion of the campus, at the intersection of 8th Street and Imjin Road, the dune sand deposits consist primarily of fine- to medium-grained sands with silt and silty sands, to a depth of 50 feet below ground. The sand deposits are primarily damp to moist, with relative densities ranging from loose to very dense and increasing in density with depth (GEOCON Consultants, Inc. 2012; Pacific Crest Engineering, Inc. 2015).

Surficial soils on the campus generally consist of Baywood sand in the northern portion and Oceano loamy sand in the southern portion. These soils occur on stabilized sand dunes, on 2 percent to 15 percent slopes; are somewhat excessively to excessively drained; have very low to low runoff; and are not prone to ponding or flooding (USDA NRCS 2019).

Soil erosion is the process by which soil particles are removed from a land surface by wind, water, or gravity. Most natural erosion occurs at slow rates; however, the rate of erosion increases when land is cleared of vegetation or structures or is otherwise altered and left in a disturbed condition. Erosion can occur as a result of, and can be accelerated by, site preparation activities (e.g., demolition, grading) associated with development. Vegetation removal in pervious landscaped areas can render the exposed soils more susceptible to erosive forces.

Sand deposits on the campus have a moderate to high potential for wind erosion (City of Marina 2010). Additionally, the soils underlying the campus have moderate limitations, which are defined as soil properties and site features that are unfavorable for most uses, but the limitations can be overcome or minimized by special planning, design, and engineering (City of Marina 2010).

Seismic Conditions

Seismically induced ground rupture occurs as the result of differential movement across a fault. An earthquake occurs when seismic stress builds to the point where rocks rupture. As the rocks rupture, one side of a fault block moves relative to the other side. The resulting shock wave is the earthquake. If the rupture plane reaches the ground surface, ground rupture occurs. The principal cause of damage from an earthquake is ground shaking. The strength of ground shaking depends on the magnitude of the earthquake, the type of fault, and the distance from the epicenter. The entire campus is susceptible to damage from ground shaking in the event of an earthquake. Geological conditions can greatly influence the amount of shaking experienced.

The CSUMB campus is located in an area of potential moderate to significant seismically induced ground shaking (City of Marina 2010; GEOCON Consultants, Inc. 2012; Pacific Crest Engineering, Inc. 2015). The campus vicinity is seismically dominated by the presence of the active San Andreas Fault System. The campus is not traversed by a State-designated Alquist-Priolo Fault Zone, which delineate areas of potential surface fault rupture and regulate development within such zones. The closest Alquist-Priolo Fault Zone is associated with the San Andreas Fault Zone, located approximately 19 miles northeast of the campus (CGS 2010, 2015).

The CGS defines active faults as those that demonstrate evidence of activity within Holocene time (last 11,000 years). A potentially active fault shows evidence of movement during Pleistocene time (11,000 to 1.6 million years). Faults older than 1.6 million years are generally considered inactive. Active faults within 100 miles of the campus include those listed in Table 4.5-1.

Table 4.5-1
Regional Fault Summary

Fault Name	Approximate Distance to Site (miles)	Maximum Moment Magnitude (M_w)
Rinconada	3	7.3
Monterey Bay – Tularcitos/Navy	6	7.1
Cypress Point	10	6.2
Sur	13	6.7
Palo Colorado	14	7.0
Zayante-Vergeles	15	6.8
San Andreas (1906)	19	7.9
San Andreas (Pajaro)	19	6.8
San Andreas (Creeping)	20	6.5
San Andreas (Santa Cruz Mountains)	21	7.0
San Gregorio	22	7.3
Sargent	23	6.8
Calaveras (south of Calaveras Reservoir)	25	6.2

Source: CGS 2010; GEOCON Consultants, Inc. 2012; DDA 2007

The faults identified in Table 4.5-1 are sources of potential ground motion. However, earthquakes that might occur on numerous other faults within northern and central California area are also potential generators of significant ground motion and could subject the campus to intense ground shaking (GEOCON Consultants, Inc. 2012).

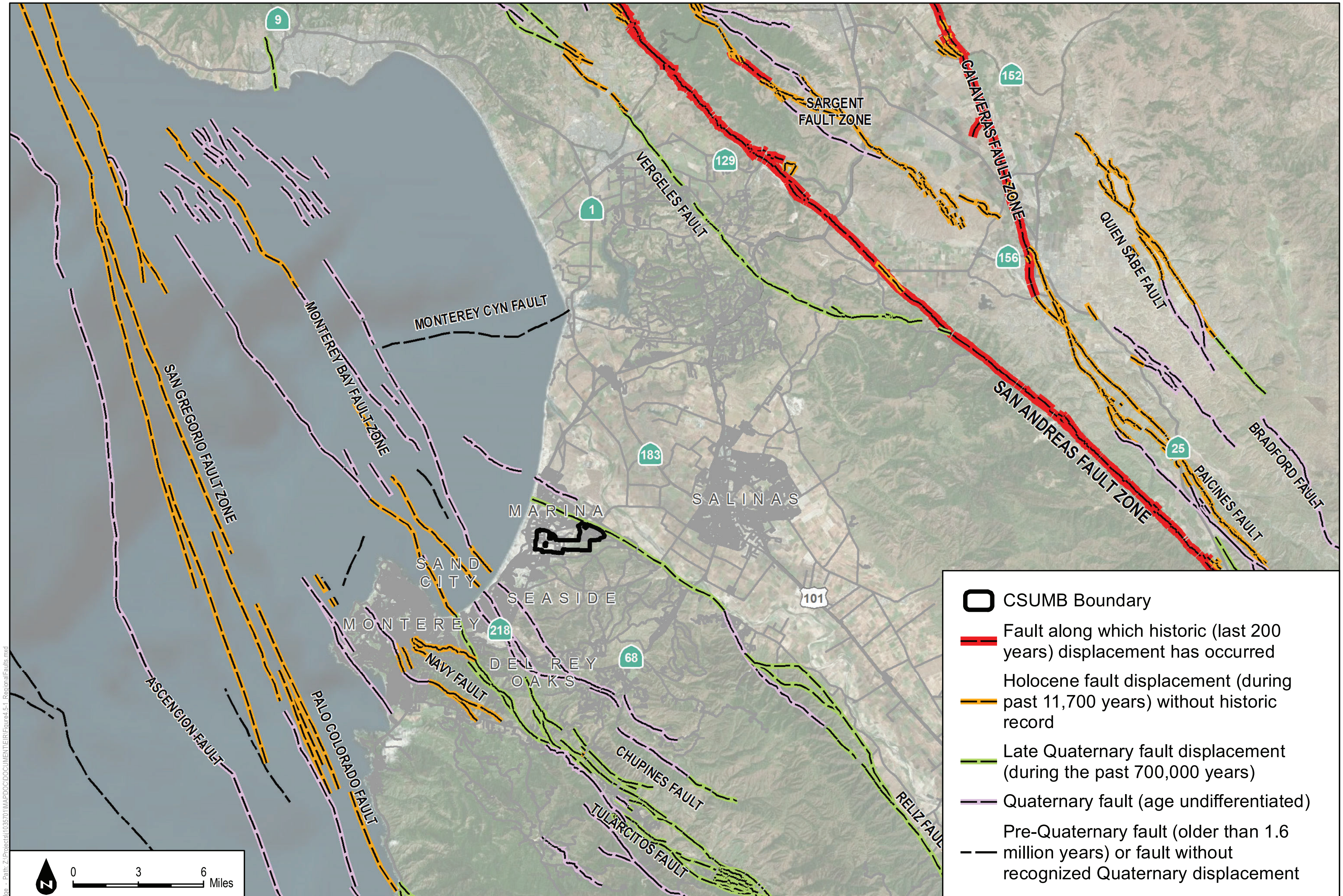
The vast majority of earthquake epicenters in the Project vicinity are concentrated along a linear trend that is roughly two to three miles wide and associated with the San Andreas fault. Earthquake fault zones are also observed in two general locations beneath Monterey Bay. One group is a linear zone that trends northwesterly along the San Gregorio fault zone and in central Monterey Bay. There is a small concentration of epicenters to the south where the Sur and Palo Colorado faults come ashore at the southern end of the San Gregorio fault zone, in the Big Sur area. Earthquakes also cluster between the Navy and the Cypress Point faults on the Monterey Bay Peninsula, as well as in the eastern Monterey Bay, east of the Monterey Bay fault zone and approximately 9 to 12 miles north of the campus (DDA 2007). See Figure 4.5-1 for a depiction of regional faults.

The potential for ground shaking was analyzed in a geotechnical report completed for the Promontory student apartments in the northern portion of the campus (GEOCON Consultants, Inc. 2012). The analysis estimated the peak ground acceleration (PGA) and modal (most probable) magnitude earthquake associated with a 475-year return period earthquake, which corresponds to an event with a 10 percent chance of exceedance in a 50-year period. The estimated PGA is 0.36g (percent of gravity) and the modal magnitude earthquake is 8.0. Figure A-3, *Seismic Shaking Hazards Within the City of Marina Planning Area*, of the City of Marina General Plan (City of Marina 2010), supports this conclusion of estimated PGA at the CSUMB campus.

While listing PGA is useful for comparison of potential effects of fault activity in a region, other considerations are important in seismic design, including frequency and duration of motion and soil conditions underlying the campus. The campus could be subject to ground shaking in the event of an earthquake along the faults mentioned above or other area faults (GEOCON Consultants, Inc. 2012).

Liquefaction and Lateral Spreading

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary loss of shear strength due to pore pressure buildup under the cyclic shear stresses associated with intense earthquakes. Liquefaction induced lateral spreading occurs when a liquefied soil mass fails toward an open slope face or fails on an inclined topographic slope. Primary factors that trigger liquefaction include moderate to strong ground shaking (seismic source); relatively clean, loose granular soils (primarily poorly graded sands and silty sands); and saturated soil conditions (shallow groundwater). Due to the increasing overburden pressure with depth, liquefaction of granular soils is generally limited to the upper 50 feet of a soil profile.



DUDEK

SOURCE: Bing Maps 2018; CGS 2010

FIGURE 4.5-1

Regional Faults

CSU Monterey Bay Master Plan EIR

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The CSUMB campus is located within the USGS 7.5-Minute Marina topographic quadrangle. This quadrangle has not been mapped by the CGS with respect to the potential for liquefaction. However, based on geotechnical investigations completed onsite, in-situ density of the dune sand deposits and lack of a static groundwater table within 50 feet of the existing ground surface, the potential for liquefaction and associated lateral spreading occurring on campus is considered to be low (GEOCON Consultants, Inc. 2012; Pacific Crest Engineering, Inc. 2015). Figure A-4, *Liquefaction and Lateral Spreading Potential Within the City of Marina Planning Area,* of the City of Marina General Plan (City of Marina 2010), supports this conclusion.

Unsaturated Seismic Soil Settlement

Strong seismic shaking can induce settlement of unsaturated, loose sandy soil through cyclic densification. Based on anticipated seismic accelerations at the campus, the loose to medium dense sands within the upper 15 to 20 feet below existing grade are susceptible to settlement during a seismic event. Such settlements would likely be one-quarter inch or less, which is considered minimal (GEOCON Consultants, Inc. 2012; Pacific Crest Engineering, Inc. 2015).

Landslides

A landslide is defined as the movement of a mass of rock, debris, or earth down a slope. The size of a landslide usually depends on the geology and the initial trigger event of the landslide. Some characteristics that determine the type of landslide are slope of the hillside, moisture content, and the nature of the underlying materials. Areas at risk from landslides include areas on or close to steep hills and steep road cuts or excavations, or areas where existing landslides have occurred. Landslides and debris flows can occur rapidly and without warning during periods of exceptionally high rainfall.

There are no known landslides on or near the site. Based on the relatively flat to gently sloping topography across the Main Campus (see Figure 4.5-2), the potential for slope instability is low. However, localized slopes, up to 30 feet in height, are present within the dune topography on campus, such as along the northern campus perimeter. Such localized slopes could potentially be prone to failure (GEOCON Consultants, Inc. 2012; Pacific Crest Engineering, Inc. 2015).

Expansive Soil

Expansive soils are composed largely of clays, which greatly increase in volume when saturated with water and shrink when dried. If expansive soils are present, changes in moisture content cause the clay soils to shrink or expand, which can damage building foundations and cause structural instability. The CSUMB campus is underlain by older dune sand, which does not contain clay-rich soils. Therefore, there is a low potential of soil expansion on the CSUMB campus (City of Marina 2010). A site-specific geotechnical investigation on campus by GEOCON Consultants, Inc. (2012) similarly determined the on-site soils to have a low expansion potential.

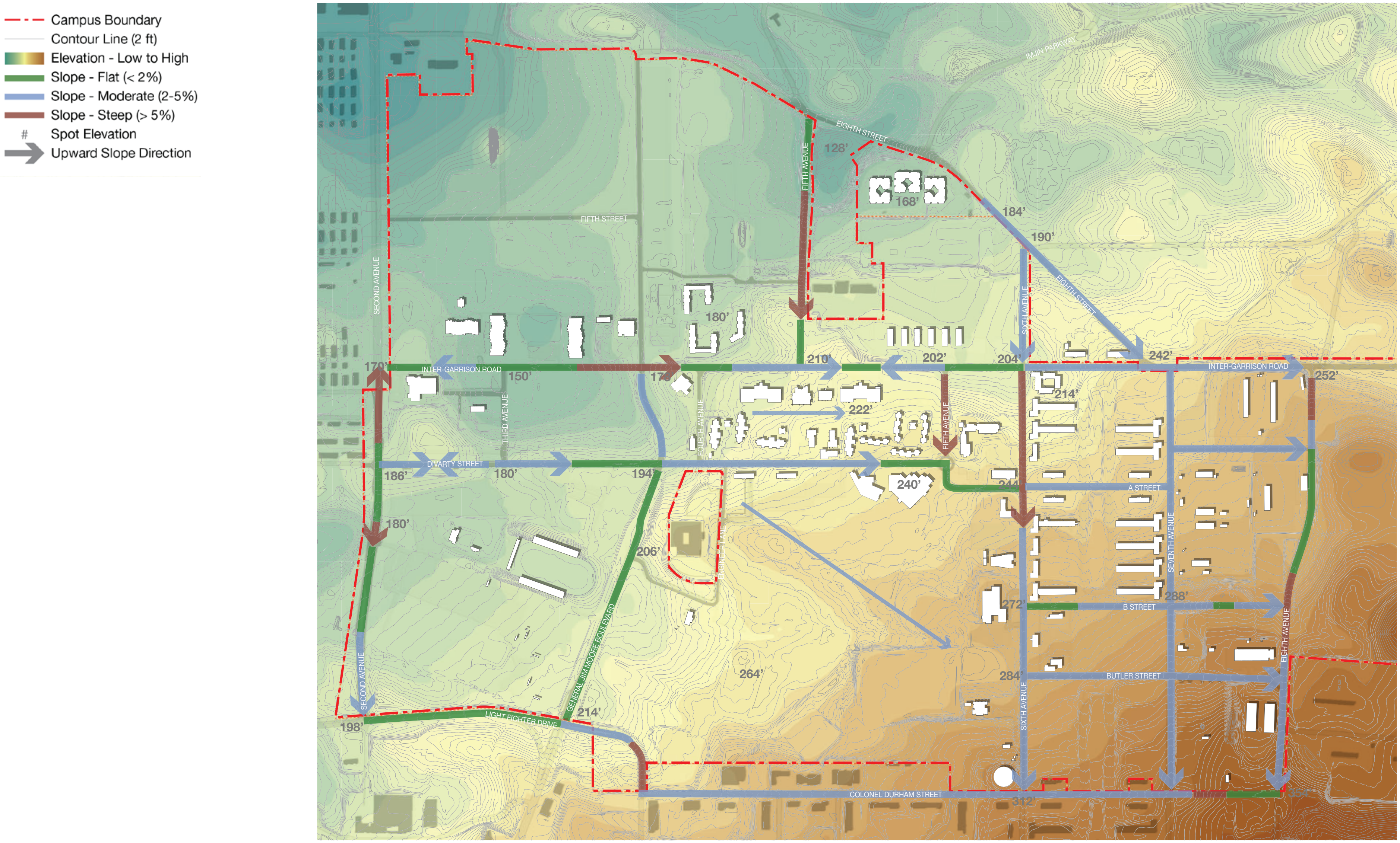
Paleontological Resources and Unique Geologic Features

As previously discussed, the CSUMB campus is geomorphically characterized by older coastal dune sand (map units Qos and Qar) and either Baywood sand (in the northern portion of the campus) or Oceano loamy sand (in the southern portion of the campus), based on surficial geological mapping of Dibblee (2007) at a scale of 1:24,000. Coastal older dune sand is generally Pleistocene age (~ 2.58 million years ago – 11,700 years ago) and is likely underlain by older Pleistocene alluvial deposits. On the Main Campus, most of the original hummocky dune topography has been graded, resulting in relatively flat to gently sloping topography. Open space in the southern portion of the campus has retained some of the natural topography; however, these older sand dunes are not considered unique geologic features in the area.

Many Monterey County fossils are the skeletons of micro-organisms (i.e., foraminifera or diatoms) or invertebrates found in sedimentary rocks ranging from Cretaceous (~145 – 66 million years ago) to Pleistocene age. However, no paleontological sites have been recorded on the CSUMB campus, nor in other older dune sand deposits in the County (Rosenberg 2001).

In addition to fossil invertebrates, fossil vertebrates have been recovered from unspecified late Pleistocene deposits in Monterey County. In his compilation of Pleistocene to Holocene fossils from California, Jefferson (1991) listed fossil specimens of horse (*Equus* sp.), bison (*Bison latifrons*), and camel (*Camelops* sp.) from Monterey County. More recently, an exceptional Columbian mammoth specimen (*Mammuthus columbi*) was reported in the news along with fossilized bison, horses, camels, and giant ground sloths (The Californian 2014). This fossil locality is situated approximately 8 miles north-northeast of the campus in the City of Castroville.

Older coastal dune sand has yielded significant paleontological resources in southern California; however, published Pleistocene fossil localities from Monterey County do not specify whether they were recovered from coastal dune sand or alluvial deposits. Because age-equivalent coastal dune sand has yielded significant paleontological resources outside of Monterey County and is likely underlain by Pleistocene alluvium with high paleontological sensitivity, coastal dune sand has high paleontological sensitivity per the Society of Vertebrate Paleontology (SVP) guidelines for paleontological mitigation (SVP 2010).



SOURCE: CSUMB 2017

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FIGURE 4.5-2

Existing Elevation and Slopes

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4.5.1.3 Site Conditions for Near-Term Development Components

The existing geologic and soils setting for the near-term development component sites is generally described above. All of the sites are located on older (i.e., Pleistocene) coastal dune sand and either Baywood sand (in the northern portion of the campus) or Oceano loamy sand (in the southern portion of the campus) with high paleontological sensitivity. The soil characteristics are generally the same throughout the campus. Additional information is provided below related to specific conditions on each site, including existing development conditions, slope, and landscaping. Chapter 3, Project Description provides additional information about the location of each development component site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site and potential staging area are flat to gently sloping and mostly paved with an existing surface parking lot and an unused paved area. Vegetation and paved pathways border the component site on the west and south.

Academic IV

The approximately 4.0-acre Academic IV site gently slopes down to the northeast and is mostly paved or developed. Vegetation and paved pathways border the development site on all sides. The two potential staging areas are located on flat sites; the staging area on the west is paved and the staging area on the east is mostly unpaved.

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center site slopes gently down to a sharper drop to the north at Divarty Street and is partially paved or developed. Vegetation and paved pathways border the development site on the north and west sides of the site. The parking lot and potential staging area along the south of the site slopes gently down to the north and is mostly unpaved and vegetated.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site and potential staging area are relatively flat and mostly paved. Vegetation borders a portion of the entire site on the north, west and south.

Academic V

The approximately 2.7-acre Academic V site is relatively flat and partially paved or developed. Vegetation and paved pathways border the development site on all sides. Construction staging for this development would use the same potential staging area as that identified for the Student Recreation Center.

4.5.2 Regulatory Framework

This section describes the applicable regulatory plans, policies, and ordinances related to geology and soils for the Project.

4.5.2.1 Federal

There are no federal regulations directly applicable to geology, soils, and paleontology at the campus. Nonetheless, installation of underground infrastructure/utility lines must comply with national industry standards specific to the type of utility (e.g., National Clay Pipe Institute for sewers, American Water Works Association for water lines), and the discharge of contaminants and sediments must be controlled through the National Pollutant Discharge Elimination System (NPDES) permitting program for management of construction and municipal stormwater runoff. As indicated in Section 4.8, Hydrology and Water Quality, CSUMB has a waiver from the requirements of the Municipal Stormwater Program (Central Coast RWQCB 2017b), but complies with the NPDES construction requirements, where relevant, as individual development projects are implemented. These requirements contain construction specifications that reflect site-specific geologic and soils conditions.

4.5.2.2 State

The primary state regulations protecting the public from geologic and seismic hazards are contained in the Seismic Hazards Mapping Act, the California Building Code, and the State Earthquake Protection Law. The California State University (CSU) Office of the Chancellor has established additional state requirements. Each is described below.

Alquist-Priolo Earthquake Fault Zoning Act of 1972

In response to the 1971 San Fernando Earthquake, which damaged numerous homes, commercial buildings, and other structures, California passed the Alquist-Priolo Earthquake Fault Zoning Act (Cal. Pub. Resources Code § 2621-2630 *et seq*.). The goal of the act is to avoid or reduce damage to structures, like that caused by the San Fernando Earthquake, by preventing the construction of buildings on active faults.

In accordance with the law, the CGS maps active faults and the surrounding earthquake fault zones for all affected areas. Any project that involves the construction of buildings or structures for human occupancy, such as residential housing, is subject to review under this law. The intent of the act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a hazard to structures from surface faulting or fault creep. Structures for human occupancy must be constructed at least 50 feet from any active fault.

Locations of Earthquake Fault Zone boundaries are controlled by the position of fault traces shown on the Official Maps of Earthquake Fault Zones. Zone boundaries have been drawn approximately 500 feet away from major active faults and about 200 to 300 feet away from well-defined, minor faults, to accommodate imprecise locations of the faults and possible existence of active branches.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (Cal. Pub. Resources § 2690-2699.6 *et seq*.), passed by the California legislature in 1990, addresses earthquake hazards from non-surface fault rupture, including liquefaction and seismically induced landslides. The act established a mapping program for areas that have the potential for liquefaction, strong ground shaking, or other earthquake and geologic hazards. To date, the CGS has only created liquefaction hazard maps for USGS quadrangle maps in the greater Los Angeles and San Francisco Bay areas (CGS 2007).

California Building Code

The state regulations protecting structures from geo-seismic hazards are contained in the California Building Code (Cal. Code Regs. tit. 24, part 2) (the California Building Code), which is updated on a triennial basis. These regulations apply to public and private buildings in the state. Until January 1, 2008, the California Building Code was based on the then-current Uniform Building Code and contained additions, amendments, and repeals specific to building conditions and structural requirements of the State of California. The 2016 California Building Code, effective January 1, 2017, is based on the current (2015) International Building Code and enhances the sections dealing with existing structures. Seismic-resistant construction design is required to meet more stringent technical standards than those set by previous versions of the California Building Code.

Chapter 16 and 16A of the 2016 California Building Code include structural design requirements governing seismically resistant construction, including (but not limited to) factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design. Chapters 18 and 18A include (but are not limited to) the requirements for foundation and soil investigations (Sections 1803 and 1803A); excavation, grading, and fill (Sections 1804 and 1804A); damp-proofing and water-proofing (Sections 1805 and 1805A); allowable load bearing values of soils (Sections 1806 and 1806A); the design of foundation walls, retaining walls, embedded posts and poles (Sections 1807 and 1807A), and foundations (Sections 1808 and 1808A); and design of shallow foundations (Sections 1809 and 1809A) and deep foundations (Sections 1810 and 1810A). Chapter 33 of the 2016 California Building Code includes (but is not limited to) requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304).

Construction activities are subject to occupational safety standards for excavation and trenching, as specified in the California Safety and Health Administration regulations (Cal. Code Regs. tit. 8) and in Chapter 33 of the California Building Code. These regulations specify the measures to be used for excavation and trench work where workers could be exposed to unstable soil conditions. The Project would be required to employ these safety measures during excavation and trenching.

As indicated above, the California Building Code is updated and revised every 3 years. The 2019 version of the California Building Code will be effective January 1, 2020. It is anticipated that future development on the campus would use the most current California Building Code at the time of specific Project building activity. The CSU is responsible for enforcement of the California Building Code. The Chief of Architecture and Engineering in Capital Planning, Design, and Construction (CPDC) at the Office of the Chancellor, is the Building Official for the CSU. By delegation, one person at each campus is a Campus Deputy Building Official for that campus and its other administrative locations. This person is responsible for enforcing the requirements of the California Building Code for all construction at the campus. An assigned CSU Peer Reviewer provides the technical review of the seismic aspects of projects, as indicated in the CSU Seismic Requirements below (CSU 2018).

State Earthquake Protection Law

The State Earthquake Protection Law (Cal. Health and Safety Code § 19100 *et seq*.) requires that structures be designed and constructed to resist stresses produced by lateral forces caused by wind and earthquakes, as provided in the California Building Code. Chapter 16 of the California Building Code sets forth specific minimum seismic safety and structural design requirements, requires a site-specific geotechnical study to address seismic issues, and identifies seismic factors that must be considered in structural design. Because the campus is not located within an Alquist-Priolo Earthquake Fault Zone, as noted above, no special provisions would be required for Project development related to fault rupture.

California Environmental Quality Act

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state (CEQA) laws and regulations. This study satisfies project requirements in accordance with CEQA (Cal. Pub. Resources Code § 2100 et seq.; § 5097.5). This analysis also complies with guidelines and significance criteria specified by the SVP (2010).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section VII(f) of CEQA Guidelines Appendix G, the "Environmental Checklist Form," which addresses the potential for adverse impacts to "unique paleontological resource[s] or site[s] or … unique geological feature[s].” This provision covers fossils of significant importance – remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group – as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth. Further, CEQA provides that generally, a resource shall be considered “historically significant” if it has yielded or may be likely to yield information important in prehistory (Cal. Pub. Resources Code § 15064.5 [a][3][D]). Paleontological resources would fall within this category. The removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites (Cal. Pub. Resources Code §§ 5097.5 and 30244).

CSU Seismic Requirements

The CSU Seismic Requirements (CSU 2018), prepared by the CSU Office of the Chancellor, include specific requirements for the construction of new buildings and the rehabilitation of existing buildings to ensure that all CSU buildings provide an acceptable level of earthquake safety, per the California Building Code. The policy adopted by the CSU Board of Trustees in 1993 supplements the requirements of the California Building Code and is provided below.

> *It is the policy of the Trustees of the California State University that to the maximum extent feasible by present earthquake engineering practice to acquire, build, maintain, and rehabilitate buildings and other facilities that provide an acceptable level of earthquake safety for students, employees, and the public who occupy these buildings and other facilities at all locations where University operations and activities occur. The standard for new construction is that it meets the life safety and damageability objectives of Title 24 provisions; the standard for existing construction is that it provides reasonable life safety protection, consistent with that for typical new buildings. The California State University shall cause to be performed independent technical peer reviews of the seismic aspects of all construction projects from their design initiation, including both new construction and remodeling, for conformance to good seismic resistant practices consistent with this policy. The feasibility of all construction projects shall include seismic safety implications and shall be determined by weighing the practicality and cost of protective measures against the severity and probability of injury resulting from seismic occurrences.*

The CSU Seismic Requirements describe the CSU framework used to implement the Board of Trustees’ Seismic Policy. All new construction is required to meet the life, safety, and damage objectives of Title 24 of the California Building Code, while the standard for rehabilitating existing structures is that reasonable life safety protection is provided, consistent with that for typical new structures.

Geotechnical investigations are required by the CSU Seismic Requirements to assess and classify a building site’s soils. Any geotechnical investigation conducted for future developments shall include consideration of all seismically induced site failure hazards, including liquefaction, differential settlement, lateral spreading, landsliding, and surface faulting. As the CSU has determined campus-specific seismic design ground motion parameters to be used for new and modification of existing buildings that supersede those given in the California Building Code, geotechnical investigations do not require additional site exposure work for determining seismic design requirements. These seismic design ground motion parameters are used by the geotechnical engineer during project design.

Independent technical peer reviews shall be conducted concerning the seismic aspects of all construction projects from their design initiation, including both new construction and remodeling, for conformance with good seismic-resistant practice consistent with this policy. The CSU Seismic Review Board is charged with implementing the independent peer review requirements and advises CSU on structural engineering issues for specific projects.

4.5.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to geology, soils and paleontology. The section includes the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.5.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to geology, soils and paleontology are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to geology, soils and paleontology would occur if the Project would:

A. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
   ii) Strong seismic ground shaking;
   iii) Seismic-related ground failure, including liquefaction; or
   iv) Landslides.
B. Result in substantial soil erosion or the loss of topsoil.

C. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

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

E. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater.

F. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.5.3.2 Analytical Method

Program- and Project-Level Review

The geological, soils and paleontological impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3 Project Description. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the Master Plan. Both construction and operation of the Project are considered in the impact analysis, where relevant. The impact analysis assumes that Project development, including 5 near-term developments, would be constructed in compliance with the most current provisions of the California Building Code, as well as the CSU Seismic Requirements, as described in Section 4.7.2, Regulatory Framework. In addition, buildings implemented as part of the Project would undergo an independent technical peer review regarding seismic design, in accordance with CSU Seismic Requirements (CSU 2016). In the event significant adverse environmental impacts would occur with the implementation of the Project even with incorporation of applicable regulations and proposed PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

The proposed PDF relevant to this topic is PDF-OS-3, which identifies Construction Best Management Practices to avoid or minimize erosion and sedimentation, where possible. During demolition and construction of new buildings, CSUMB would implement this PDF to avoid or minimize erosion and sedimentation on all development sites, regardless of site acreage.

4.5.3.3 Issues Not Evaluated Further

The Project would not have impacts with respect to the following thresholds of significance and therefore these topics are not further evaluated:

- Earthquake Fault Rupture (Threshold A-i). As described in Section 4.5.1, Environmental Setting, no active faults, including Alquist-Priolo Fault Zones, traverse the campus. Therefore, surface fault rupture is not anticipated at the campus and the Project would have no impacts related to fault rupture.

- Expansive Soils (Threshold D). As described in Section 4.5.1, Environmental Setting, the campus is not underlain by expansive soils. Therefore, the Project would have no impacts related to expansive soils.

- Septic Tanks/Alternative Wastewater Disposal (Threshold E). The Project would be served by sewers rather than septic tanks or alternative wastewater disposal systems. Therefore, the Project would have no impacts related to the capability of soils to support alternative wastewater disposal systems.

4.5.3.4 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of geological, soils and paleontological impacts associated with the Project.

Impact GEO-1:	**Seismic Hazards (Thresholds A-ii and A-iii).** The Project would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking and seismic-related ground failure. *(Less than Significant)*

Master Plan

The proposed Master Plan would result in construction of approximately 3.0 million gross square feet (GSF) of new academic and support facilities, including housing, administration, student life, recreational, and institutional partnership buildings (see Chapter 3, Project Description, Table 3-4 and Figures 3-5 and 3-6). As indicated in Section 4.5.1, Environmental Setting, the campus is located in an area that is seismically active with numerous known active faults traversing the region, including the Rinconada, Monterey Bay-Tularcitos/Navy, Palo Colorado, Zayante-Vergeles, Cypress Point, Sur, and San Andreas faults. However, earthquakes that might occur on numerous other faults within northern and central California area are also potential generators of significant ground motion and could subject the campus to intense ground shaking. Based on prior geotechnical analyses on the campus, the estimated PGA for the campus is 0.36g (percent of gravity) and the modal magnitude earthquake is 8.0k. Based on these analyses, it is reasonable to assume that the site will experience significant seismic shaking episodically during the lifetime of the project (Pacific Crest Engineering, Inc. 2015).

In the event of a major earthquake, ground shaking is a main cause of structural damage. The strength of ground shaking depends on the magnitude of the earthquake, type of fault, and distance from the epicenter. Although onsite soils are not prone to liquefaction, the entire campus would be susceptible to damage from ground shaking in the event of an earthquake, including seismically-induced settlement. However, all proposed buildings and infrastructure would be constructed and/or renovated to meet the California Building Code and CSU Seismic Requirements and would provide an acceptable level of earthquake safety for students, employees, and the public who occupy these building and facilities.

Geotechnical investigations would be required by the CSU Seismic Requirements to assess and classify each proposed building site's soils. Any geotechnical investigation conducted for future developments shall include consideration of all seismically induced site failure hazards, including liquefaction, differential settlement, lateral spreading, landsliding, and surface faulting. As the CSU has determined campus-specific seismic design ground motion parameters to be used for new buildings and the modification of existing buildings which supersede those given in the California Building Code, geotechnical investigations for individual development projects under the proposed Master Plan do not require additional site exposure work for determining seismic design requirements.

All new buildings would also be subject to review and plan approval by CSU building officials, prior to and during construction, to ensure that all new buildings and building renovations provide an acceptable level of earthquake safety, per the California Building Code (CSU 2004). In addition, an independent technical peer review regarding seismic design is required for major capital projects and all minor capital projects are required to be seismically assessed per the CSU Seismic Requirements.

Compliance with the California Building Code and the CSU Seismic Requirements, including preparation and implementation of a geotechnical investigations, would help to offset potential risks to structures and people associated with a major earthquake event. In addition, the Project would not exacerbate the potential for seismic activity to occur and therefore would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking and seismic-related ground failure. Therefore, the seismic-related impacts of the proposed Master Plan would be *less than significant*.

Near-Term Development Components

All near-term development components would be required to comply with the California Building Code and CSU Seismic Requirements, including the preparation and implementation of a geotechnical investigation, which would help to offset potential risks to these structures and their residents associated with a major earthquake event. In addition, the components would not exacerbate the potential for seismic activity to occur and therefore would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking and seismic-related ground failure. Therefore, seismic-related impacts of the near-term development components would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact GEO-2:	**Landslides (Threshold A-iv).** The Project would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving landslides. *(Less than Significant)*

Master Plan

As indicated in Section 4.5.1, Environmental Setting, there are no known landslides on or near the site. Based on the relatively flat to gently sloping topography across most of the Main Campus (see Figure 4.5-2), the potential for slope instability is low. Localized moderately steep slopes, up to 30 feet in height, are present in the northern portion of the campus, such as adjacent to the existing Promontory student housing at 8th Street and Imjin Road. A slope stability analysis completed by GEOCON Consultants, Inc. (2012) indicated that this adjacent slope is stable with respect to deep-seated instability in both static and pseudostatic (seismic) conditions. No proposed development under the Master Plan would occur adjacent to this slope. In addition, proposed construction across the campus would not occur on or adjacent to steep slopes such as this.

The topography in all areas of proposed construction is relatively flat to gently sloping, and locally undulating due to the dune topography. The proposed Master Plan would reduce the potential for landslide impacts by focusing new construction to areas of existing development and generally maintaining the natural state of the East Campus Open Space, such that natural slopes potentially prone to failure would not be disturbed. The East Campus Open Space is the area of campus with the highest topographic relief due to the undulating dune topography in this area. While approximately 50 acres of this area is designated as a staff faculty housing reserve, the Project does not propose development in the East Campus Open Space at this time. Proposed trails in this area would not alter the topography such that slope instability would occur.

In addition, as previously discussed, the Project is required to comply with the California Building Code, which outlines specific design, engineering, and development standards for structures proposed in areas with unstable soils. Additionally, all new buildings would be subject to review and plan approval by CSU building officials, prior to and during construction (CSU 2004). Compliance with the current California Building Code would ensure that all structures are designed and built to current standards to minimize impacts associated with ground failure, including landslides. The relatively flat to gently sloping nature of most of the campus would reduce the risk of landslide hazards. In addition, the Project would not exacerbate the potential for landslides to occur and therefore would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, the landslide-related impacts of the proposed Master Plan would be *less than significant*.

Near-Term Development Components

All near-term development component sites are flat to gently sloping and no slope stability hazards have been identified on these sites. Compliance with the current California Building Code would ensure that these new buildings are designed and built to current standards to minimize impacts associated with ground failure, including landslides. As these components would not cause landslides, they would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, the landslide-related impacts of the near-term development components would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact GEO-3:	**Soil Erosion (Threshold B).** Project-related grading and construction would potentially result in soil erosion. *(Less than Significant)*

Master Plan

As indicated in Section 4.5.1, Environmental Setting, the campus is underlain by older dune sand, consisting primarily of fine- to medium-grained sands with silt and silty sands. Demolition and construction activities associated with the Project, including vegetation removal, excavations, and grading, would temporarily expose underlying soils, thereby increasing the potential to cause wind- and water-induced soil erosion. The effects of erosion are intensified with an increase in slope (as water moves faster, it gains momentum to carry more debris) and the narrowing of runoff channels (which increases the velocity of water).

As the Project proposes new construction primarily in already developed areas, as shown in Chapter 3, Project Description (Figures 3-5 and 3-6), and avoids areas with steep slopes, erosion would be minimized. During demolition and construction of new buildings, CSUMB would implement Construction Best Management Practices as part of PDF-OS-3 to avoid or minimize erosion and sedimentation on all development sites, regardless of site acreage. Additionally, CSUMB would be required to implement erosion control measures stipulated in a SWPPP, pursuant to project specific NPDES discharge requirements for construction on sites greater than 1 acre, as discussed in Section 4.8, Hydrology and Water Quality. Implementation of a SWPPP on constructions sites greater than 1 acre would avoid or minimize erosion and sedimentation by including and specifying BMPs designed to reduce and capture soil erosion. Upon completion of Project construction, structures, roadways, artificial turf, and landscaping or revegetated areas would eventually cover any soils exposed during construction, thus minimizing the potential for wind erosion and water-induced erosion. Therefore, the erosion-related impacts of the proposed Master Plan would be *less than significant*.

Near-Term Development Components

The flat to gently sloping nature of the near-term development component sites would reduce the potential for erosion. During demolition and construction of these developments, CSUMB would implement Construction Best Management Practices as part of PDF-OS-3 to avoid or minimize erosion and sedimentation on all development sites, regardless of site acreage. Additionally, CSUMB would be required to implement erosion control measures stipulated in a SWPPP, given that the near-term development component sites are greater than 1 acre. Upon completion of construction, structures, roadways, artificial turf, and landscaping or revegetated areas would eventually cover any soils exposed during construction, thus minimizing the potential for wind erosion and water-induced erosion. Therefore, the erosion-related impacts of the near-term development components would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact GEO-4:	**Unstable Geologic Units or Soils (Threshold C).** New Project construction would be located on dune sand, which could become unstable as a result of the Project and potentially result in collapse. *(Less than Significant)*

Master Plan

As indicated in Section 4.5.1, Environmental Setting, dune sands underlying the campus have moderate limitations, which are defined as soil properties and site features that are unfavorable for most uses, but the limitations can be overcome or minimized by special planning, design and engineering. The dune sands generally consist of fine- to medium-grained sands that would be prone to collapse as a result of excavations during grading and construction. Collapse of excavation walls not only create problems for construction but can be dangerous to onsite workers.

However, as previously discussed, proposed Master Plan implementation would be required to comply with the California Building Code, which outlines specific design, engineering, and development standards for structures proposed in areas with unstable soils. Compliance with the current regulations would ensure that all structures are designed and built to current standards to minimize impacts associated with ground failure, including soil collapse. CSUMB's designated building inspectors would review Project plans to ensure compliance with Chapter 33 of the California Building Code, which includes (but is not limited to) requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304). Construction activities are also subject to occupational safety standards for excavation and trenching, as specified in the California Safety and Health Administration regulations (Cal. Code Regs. tit. 8). These regulations specify the measures to be used for excavation and trench work where workers could be exposed to unstable soil conditions. Additionally, all temporary excavations would be completed in accordance with the Occupational Safety and Health Administration, with respect to protection of worker safety. Temporary shoring would be utilized to prevent caving of collapsible soils. Therefore, the soil collapse-related impacts of the proposed Master Plan would be *less than significant*.

Near-Term Development Components

The near-term development components would be required to comply with the California Building Code, the California Safety and Health Administration and the Occupational Safety and Health Administration requirements for construction of structures proposed in areas with unstable soils, due to cut or fill slopes or other conditions. Additionally, temporary shoring would be utilized to prevent caving of collapsible soils. Therefore, the soil collapse-related impacts of the near-term development components would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact GEO-5:	**Paleontological Resources (Threshold F).** Project construction could directly or indirectly destroy a unique paleontological resource or site. *(Potentially Significant)*

Master Plan

As indicated in Section 4.5.1, Environmental Setting, the campus is underlain by older dune sands that are Pleistocene age. Pleistocene fossils have been recovered from several localities in Monterey County; however, it is not known if they were recovered from older dune sands or other Pleistocene geological units. Consequently, the older dune sands are considered to have high paleontological sensitivity per the SVP (2010) guidelines. Proposed Master Plan implementation has the potential to affect unique paleontological resources to the extent that excavations extend into native dune sands and directly or indirectly destroy unique paleontological resources. While the proposed Master Plan proposes development in already developed areas that are likely underlain by variable amounts of artificial fill, Project construction and associated excavations have the potential to extend into native dune sands and therefore impacts on unique paleontological resources could be *potentially significant*.

Near-Term Development Components

All of the near-term development component sites are partially disturbed with buildings and/or pavement and likely contain varying amounts of artificial fill. However, these sites are underlain by older dune sands that are Pleistocene age and are considered to have high paleontological sensitivity per the SVP (2010) guidelines. If excavations for near-term development components extend below disturbed soils or artificial fill into native undisturbed older dune sands, impacts on unique paleontological resources could be *potentially significant*.

Mitigation Measures

MM-GEO-1 Monitoring, Discovery, and Treatment of Paleontological Resources. Prior to the commencement of any grading activity, CSUMB shall retain a qualified paleontologist, as defined by the Society of Vertebrate Paleontology, to determine when, where, and the duration of paleontological monitoring that is warranted. The qualified paleontologist shall make these determinations based on construction plans, geotechnical reports if available, and subsurface geological observations that indicate the likely depth to undisturbed native sands that possess high paleontological sensitivity. The level of monitoring may range from full-time, part-time (spot-check), or unnecessary based on the qualified paleontologist's review of plans and relevant documentation as well as observations. Monitoring shall not be required under any conditions if excavations for proposed development do not extend into undisturbed native sands that possess high paleontological sensitivity. If it is determined that paleontological monitoring is required, qualified paleontologist shall attend any preconstruction meetings and manage the paleontological monitor(s) if he or she is not doing the monitoring.

For monitoring that is required in a given work area, the paleontological monitor shall be equipped with necessary tools for the collection of fossils and associated geological and paleontological data. The monitor shall complete daily logs detailing the day's excavation activities and pertinent geological and paleontological data. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor shall temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery shall be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, which in most circumstances, is less than a day, the monitor shall remove the rope and allow grading to recommence in the area of the find. If it will require more than one (1) day to document and/or salvage the find, the qualified paleontologist shall work with CSUMB to determine an appropriate treatment plan to ensure the protection of fossil resources while not impeding development.

Following the paleontological monitoring program, a final monitoring report shall be submitted to CSUMB for approval. The report should summarize the monitoring program and include geological observations and be accompanied by any paleontological resources recovered during paleontological monitoring for the development. The qualified paleontologist shall be responsible for ensuring that all fossils associated with the paleontological monitoring program are permanently curated with an accredited institution that maintains paleontological collections.

Significance After Mitigation

Implementation of MM-GEO-1 would avoid directly or indirectly destroying a unique paleontological resource by using a qualified paleontologist to determine the need for and extent of paleontological monitoring during construction based on site conditions, construction plans, geotechnical reports and subsurface geological observations; and protecting, recovering and documenting any paleontological find that may be discovered during construction. With the implementation of this mitigation measure, the potentially significant impact on unique paleontological resources would be reduced to *less than significant*.

4.5.3.5 Cumulative Impacts

This section provides an evaluation of geologic and soils impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and as relevant to this topic. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact GEO-6:	**Cumulative Geology, Soils and Paleontological Impacts (Thresholds A-ii, A-iii, A-iv, B, C and F).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to seismic-related ground shaking and/or failure, landslides, soil erosion, unstable soils and/or paleontological resources, with the implementation of mitigation. *(Less than Significant)*

The geographic area for the analysis of cumulative impacts resulting from seismic-related ground shaking and/or failure, landslides, soil erosion, and/or unstable soils impacts is generally site-specific. Impacts related to geologic and seismic hazards depend on the specific conditions and features on the particular project site and its immediate vicinity, such as soil composition and slope. Thus, these site-specific impacts would not combine with one another to create cumulative impacts, unless the project sites overlapped or were immediately adjacent to one another. Therefore, the geographic area considered for potential cumulative seismic-related ground shaking and/or failure, landslides, soil erosion, and/or unstable soils impacts consists of the CSUMB campus and areas immediately adjacent to the campus.

Based on review of Table 4.0-1 and Figure 4.0-1, the Project building sites would not physically overlap with other cumulative development sites located on the campus or adjacent the campus to the south and west. The cumulative projects that would be constructed on the campus include the already approved Monterey Bay Charter School and Freeman Stadium Renovation Project, and the possible development on the campus's Second Avenue site. The cumulative projects that are proposed to be constructed near the campus include the Campus Town Specific Plan to the south of the campus along Colonel Durham Street, the Dunes on Monterey Bay, to the north and west of campus, the Projects at Main Gate Specific Plan, to the southwest and the Concourse Auto Dealership, further to the southwest of the campus along Second Avenue.

The effects of the Project and other cumulative development would not result in significant cumulative impacts related to seismic-related ground shaking and/or failure, landslides, soil erosion, or unstable soils. Such impacts would be similar to what is described for the Project under Impacts GEO-1 through GEO-4 and would be addressed on a project-by-project basis through compliance with the California Building Code, NPDES general construction permit discharge requirements, California Safety and Health Administration regulations, Occupational Safety and Health Administration regulations, CSU Seismic Requirements for CSUMB development projects, and local agency code requirements for local development projects. Compliance with these requirements would: (1) offset potential risks to structures and people associated with a major earthquake event; (2) ensure that all structures are designed and built to current standards to minimize impacts associated with ground failure and landslides; (3) avoid or minimize erosion and sedimentation; and (4) prevent caving of collapsible soils and associated risks to construction workers. Additionally, the Project and other cumulative development would not themselves exacerbate the potential for seismic activity to occur and therefore would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking and seismic-related ground failure. Given the above, cumulative impacts related to seismic-related ground shaking and/or failure, landslides, soil erosion, and unstable soils would be *less than significant*.

Implementation of the Project has the potential to affect paleontological resources to the extent that excavations extend into native dune sands, which have high paleontological sensitivity, and directly or indirectly destroy unique paleontological resources. As indicated in Impact GEO-5, the potentially significant Project impact on paleontological resources would be reduced to less than significant with the implementation of MM-GEO-1. MM-GEO-1 would reduce the impact by using a qualified paleontologist to determine the need for and extent of paleontological monitoring during construction based on site conditions, construction plans, geotechnical reports, and subsurface geological observations. It also provides for protection, recovery, and documentation of any paleontological find that may be discovered during construction.

CSUMB would require the implementation of adopted mitigation measures for the approved Monterey Bay Charter School and Freeman Stadium Renovation Project, as demonstrated by the CEQA documents prepared for these projects (DDA 2016 and 2021), and would require similar mitigation for the possible development on campus's Second Avenue site. Off-campus cumulative projects should also be required to assess impacts to paleontological resources as part of the discretionary approval process and should incorporate individual mitigation for site-specific geological units present on each individual project site. However, it is possible that these cumulative projects could have a significant cumulative impact if individual projects are not properly mitigated. With the implementation of MM-GEO-1, the Project would not have a considerable contribution to the significant cumulative impact. As such, the cumulative impact of the Project on paleontological resources would be *less than significant*.

4.5.4 References

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4.6 GREENHOUSE GAS EMISSIONS

This section of the EIR presents an analysis of the potential greenhouse gas (GHG) emission impacts associated with development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate any significant or potentially significant impacts, if any such impacts are identified. Information in this section is based on the EIR's Transportation Analysis (Appendix H) and Air Quality and Greenhouse Gas Emissions Calculations (Appendix D).

No public and agency comments related to greenhouse gas emissions were received during the public scoping periods in response to the original Notice of Preparation (NOP) or the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.6.1 Environmental Setting

4.6.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate—such as temperature, precipitation, or wind patterns—lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and buildup of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a three-part process as follows: (1) short-wave radiation emitted by the Sun is absorbed by the Earth, (2) the Earth emits a portion of this energy in the form of long-wave radiation, and (3) GHGs in the upper atmosphere absorb this long-wave radiation and emit it both into space and back toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. However, recent climate changes, in particular the warming observed over the past century, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of warming since the mid-twentieth century and are the most significant driver of observed climate change (IPCC 2013; EPA 2017). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

4.6.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code § 38505(g), for purposes of administering many of the State's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride. (See also Cal. Code Regs. tit. 14, § 15364.5.)[1] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are the predominant GHGs emitted from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6.[2]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities; it is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 include the combustion of fuels such as coal, oil, natural gas, and wood, and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (i.e., without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

[1] Climate-forcing substances include GHGs and other substances such as black carbon and aerosols.
[2] The descriptions of GHGs are summarized from the IPCC Fourth Assessment Report (2007), CARB's "Glossary of Terms Used in GHG Inventories" (2021a), and EPA's "Climate Change" (2017).

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone (O_3)-depleting substances (e.g., chlorofluorocarbons [CFCs], hydrochlorofluorocarbons [HCFCs], and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O_3-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced, along with HFCs, as alternatives to the O_3-depleting substances. The two main sources of PFCs are primarily aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** Nitrogen trifluoride is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds the structure of which is very close to that of CFCs—containing fluorine, chlorine, and carbon atoms—but also including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants.

HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter ($PM_{2.5}$), which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation; influences cloud formation; and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived substance that varies spatially, which makes it difficult to quantify its global warming potential (GWP). Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter as a result of the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have decreased by 70 percent between 1990 and 2010, with 95-percent control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen, plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, which occurs due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

4.6.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017). The Intergovernmental Panel on Climate Change developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of CO_2 equivalent (MT CO_2e).

For purposes of this analysis, the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2) and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007).

4.6.1.4 Greenhouse Gas Inventories and Climate Change Conditions

GHG Inventories

Global Inventory. Anthropogenic GHG emissions worldwide in 2017 (the most recent year for which data is available) totaled approximately 50,860 million metric tons (MMT) of CO_2e, excluding land use change and forestry (PBL 2018). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65 percent of the total global emissions, or approximately 33,290 MMT CO_2e (PBL 2018). Table 4.6-1 presents the top GHG-emissions-producing countries.

Table 4.6-1
Six Top Greenhouse-Gas-Producer Countries and the European Union

Emitting Countries (listed in order of emissions)	Greenhouse Gas Emissions (MMT CO_2e)
China	13,350
United States	6,640
European Union	4,560
India	3,650
Russian Federation	2,220
Japan	1,490
Brazil	1,200
Total	**33,290**

Source: PBL 2018.
Note: MMT CO_2e = million metric tons of carbon dioxide equivalent.

National and State Inventories. Per the 2021 U.S. Environmental Protection Agency (EPA) Inventory of U.S. GHG Emissions and Sinks: 1990–2019, total U.S. GHG emissions were approximately 6,558 MMT CO_2e in 2019 (EPA 2021). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 80.1 percent of total GHG emissions (5,256 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 74.1 percent of CO_2 emissions in 2019 (4,857 MMT CO_2e). Relative to the 1990 emissions level, gross U.S. GHG emissions in 2019 were 1.8 percent higher; however, the gross emissions were down from a high of 15.6 percent above the 1990 level that occurred in 2007. GHG emissions decreased from 2018 to 2019 by 1.7 percent (113 MMT CO_2e) and, overall, net emissions in 2019 were 13 percent below 2005 levels (EPA 2021).

According to California's 2000–2019 GHG emissions inventory (2021 edition), California emitted 418 MMT CO_2e in 2019, including emissions resulting from out-of-state electrical generation (CARB 2021b). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high-GWP substances, and recycling and waste. Table 4.6-2 presents California GHG emission source categories (as defined in CARB's 2008 Scoping Plan) and their relative contributions to the emissions inventory in 2019.

Table 4.6-2
Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total
Transportation	166.14	40%
Industrial uses	88.18	21%
Electricity generation	58.83	14%
Residential and commercial uses	43.81	10%
Agriculture	31.75	8%
High-GWP substances	20.58	5%
Recycling and waste	8.85	2%
Totals	**429.40**	**100%**

Source: CARB 2021b.
Notes: GHG = greenhouse gas; MMT CO2e = million metric tons of carbon dioxide equivalent; GWP = global warming potential.
Emissions reflect 2019 California GHG inventory.

Between 2000 and 2019, per-capita GHG emissions in California dropped from a peak of 14.0 MT per person in 2001 to 10.5 MT per person in 2019, representing a 25-percent decrease. Overall trends in the inventory also continue to demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product [GDP]) is declining (CARB 2021b).

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. While climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights. Shifts in the water cycle have been observed, with less winter precipitation falling as snow and earlier spring runoff. Sea levels have risen, and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra Nevada snowpack, which accounts for approximately half of the surface water storage in California, by 30 percent to as much as 90 percent is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late twenty-first century in central and southern California. By the late century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10 percent below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in the *Safeguarding California: Reducing Climate Risk* (CNRA 2014), is provided below.

Agriculture. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availability and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production.

Biodiversity and Habitat. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites, and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurs).

Energy. Specific climate change challenges for the energy sector include increasing temperatures, fluctuating precipitation patterns, increasing extreme weather events, and sea-level rise.

Forestry. The most significant risk to forests related to climate change is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and combined with increasing temperatures, have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions.

Ocean and Coastal Ecosystems and Resources. Sea-level rise, changing ocean conditions, and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea-level rise and more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities; they are also negatively impacting coastal recreational assets, such as beaches and tidal wetlands.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health, primarily through the potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves are likely to increase the risk of mortality due to heat-related illness, as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies.

Transportation. While the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of people and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Climate change could seriously impact the timing, form, and amount of precipitation; runoff patterns; and the frequency and severity of precipitation events. Higher temperatures reduce the proportion of precipitation falling as snow relative to rain and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation.

Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively impact groundwater reserves and result in increased overdraft and subsidence. More frequent or severe wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality.

In March 2016, the California Natural Resources Agency (CNRA) released *Safeguarding California: Implementation Action Plans*, a document that shows how California is acting to convert the recommendations contained in the 2014 *Safeguarding California* plan into action (CNRA 2016). Additionally, in January 2018, the CNRA released *Safeguarding California Plan: 2018 Update*, which provides a roadmap for state agencies to protect communities, infrastructure, services, and the natural environment from climate change impacts. The 2018 Update includes 69 recommendations across 11 sectors and more than 1,000 ongoing actions and next steps developed by scientific and policy experts across 38 state agencies (CNRA 2018). As with previous state adaptation plans, the 2018 Update addresses the following: acceleration of warming across the state; more intense and frequent heat waves; greater riverine flows; accelerating sea-level rise; more intense and frequent drought; more severe and frequent wildfires; more severe storms and extreme weather events; shrinking snowpack and less overall precipitation; and ocean acidification, hypoxia, and warming.

4.6.2 Regulatory Framework

4.6.2.1 Federal

Massachusetts v. EPA

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under section 202(a) of the federal Clean Air Act:

- The administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The administrator further found that the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the

GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for federal regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act (42 USC § 7401).

Energy Independence and Security Act of 2007

To aid in the reduction of national GHG emissions, the Energy Independence and Security Act of 2007 (Public Law 110-140), among other key measures, provides for the following:

- Increase 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.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards

In 2007, in response to the *Massachusetts v. EPA* U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 through 2016 (75 Fed. Reg. 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards projected to achieve 163 grams/mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 Fed. Reg. 62624–63200), and NHTSA intends to set standards for model years 2022 through 2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 through 2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines (76 Fed. Reg. 57106–57513).

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program applies to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018 (during the administration of President Trump), the EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards then in place, the 2018 proposal increased U.S. fuel consumption by about half a million barrels per day (2–3 percent of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of one degree Celsius by 2100 (EPA and NHTSA 2018).

In September 2019, the EPA and NHTSA published the final Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 FR 51310), which revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. The EPA and NHTSA subsequently issued the Part Two Rule in March 2020, which set less aggressive CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026.

On January 20, 2021, President Joe Biden issued an EO on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which called for review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021 (The White House 2021). After reviewing the public comments submitted on the NHTSA's April 2021 Notice of Proposed Rulemaking, the NHTSA concluded that the SAFE Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. The final rule adopted by the NHTSA ensures that the SAFE Rule will no longer form an improper barrier to States exploring creative solutions to address their local communities' environmental and public health challenges (NHTSA 2021).

Relatedly, in December 2021, the EPA finalized its revisions to the federal GHG emissions standards for passenger cars and light-duty trucks, as applied to model years 2023 through 2026. These standards have been described as the "strongest vehicle emissions standards ever established for the light-duty vehicle sector" and are expected to result in the avoidance of more than 3 billion tons of GHG emissions through 2050. At the same time, the EPA also announced its intent to initiate a separate rulemaking to establish multi-pollutant emissions standards for model years 2027 and later, which are anticipated to transition the passenger vehicle fleet to a zero-emissions fleet consistent with federal executive policy.

EO 14057

President Joe Biden signed EO 14057 on December 8, 2021 which sets a path for reducing GHG emissions across federal operations, investing in clean energy industries and manufacturing, and creating clean, healthy, and resilient communities to achieve carbon neutrality by 2050. The EO outlines five goals for the federal government:

- 100 percent carbon pollution-free electricity (CFE) by 2030, at least half of which will be locally supplied clean energy to meet 24/7 demand;
- 100 percent zero-emission vehicle (ZEV) acquisitions by 2035, including 100 percent zero-emission light-duty vehicle acquisitions by 2027;
- Net-zero emissions from federal procurement no later than 2050, including a Buy Clean policy to promote use of construction materials with lower embodied emissions;
- A net-zero emissions building portfolio by 2045, including a 50 percent emissions reduction by 2032; and
- Net-zero emissions from overall federal operations by 2050, including a 65 percent emissions reduction by 2030.

4.6.2.2 State

The statewide GHG emissions regulatory framework is summarized in this subsection by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, water, solid waste, and other state actions. The following text describes EOs, Assembly Bills (ABs), Senate Bills (SBs), and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

EO S-3-05. EO S-3-05 (June 2005) established California's initial round of GHG emissions-reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

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

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed in response to EO S-3-05, which subsequently issued reports to the Governor and Legislature from 2006 to 2010 (CAT 2016).

AB 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006 (Cal. Health & Safety Code § 38500-38599 *et seq.*). AB 32 provided initial direction on creating a comprehensive, multi-year program to reduce California's GHG emissions to 1990 levels by 2020, and initiate the transformations required to achieve the state's long-range climate objectives.

In 2007, and in accordance their AB 32-based responsibilities, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2e).

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions-reduction goal of EO B-30-15 (discussed further below) by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emission-reduction measures when updating the scoping plan.

CARB's Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Cal. Health and Safety Code, § 38561(a)), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan: *Climate Change Scoping Plan: A Framework for Change* (2008 Scoping Plan). The 2008 Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission-reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the 2008 Scoping Plan include the following (CARB 2008):

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
- Achieving a statewide renewable energy mix of 33 percent.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions.
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (Cal. Code Regs., tit. 17, § 95480 *et seq*.).
- Creating targeted fees, including a public goods charge on water use, fees on high-GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

The 2008 Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the 2008 Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15 percent from then levels (2008) by 2020. Many local governments developed community-scale local GHG-reduction plans based on this 2008 Scoping Plan recommendation.

In 2014, CARB approved the first update to the 2008 Scoping Plan. The *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012 (CARB 2014). The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent GWPs identified by the Intergovernmental Panel on Climate Change, from 427 MMT CO_2e to 431 MMT CO_2e.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth in S-3-05. The Governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32.

In December 2017, CARB adopted *California's 2017 Climate Change Scoping Plan Update* (2017 Scoping Plan) (CARB 2017a). The 2017 Scoping Plan builds on the successful framework established in the 2008 Scoping Plan and First Update, while identifying new technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' "known commitments" include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, the 2017 Scoping Plan also recommends continuing the Cap-and-Trade Program.

For local governments, the 2017 Scoping Plan replaced the 2008 Scoping Plan's 15 percent reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO_2e per capita by 2030 and no more than 2 MT CO_2e per capita by 2050, which are developed around the scientifically based levels necessary to limit global warming below 2°C. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through climate action plans (CAPs)) and provide more information regarding tools CARB is working on to support those efforts. It also recognizes the CEQA streamlining provisions for project-level review where there is a legally adequate CAP. The 2017 Scoping Plan was approved by CARB's Governing Board on December 14, 2017.

The 2017 Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs; it also establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and EOs if it would meet the general policies in reducing GHG emissions in order to facilitate the achievement of the state's goals and would not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each and every planning policy or goal to be consistent. A project would be consistent if it would further the objectives and not obstruct their attainment.

CARB presently is preparing the *2022 Scoping Plan Update*, which will assess progress towards achievement of the state's 2030 reduction target and lay out a path for the state's achievement of carbon neutrality by 2045. CARB has held a number of public workshops to provide information on the plan update and solicit feedback from stakeholders. A draft plan has not yet been released for public review and comment.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG-reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO_2e. The EO also called for state agencies to continue to develop and implement GHG emission-reduction programs in support of the reduction targets. Please see the discussion of "SB 32 and AB 197" above for related information.

SB 605 and SB 1383. SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants (SLCPs) in the state (Cal. Health and Safety Code § 39730); and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018 (Cal. Pub. Resources Code § 42652-43654). SB 1383 also established specific targets for the reduction of SLCPs (40 percent below 2013 levels by 2030 for CH_4 and HFCs, and 50 percent below 2013 levels by 2030 for anthropogenic black carbon) and provided direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its *Short-Lived Climate Pollutant Reduction Strategy* (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane and fluorinated gases (CARB 2017b).

EO B-55-18. EO B-55-18 (September 2018) establishes a statewide policy for the state to achieve carbon neutrality as soon as possible (no later than 2045) and to achieve and maintain net negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the state's GHG emissions. CARB will work with relevant state agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Building Energy

Title 24, Part 6. The California Building Standards Code was established in 1978 and serves to enhance and regulate California's building standards (Cal. Code Regs, tit. 24). While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC), and revised if necessary (Cal. Pub. Resources Code, § 25402(b)(1)). The regulations receive input from members of industry, as well as the public, in order to "reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (Cal. Pub. Resources Code, § 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (Cal. Pub. Resources Code, § 25402(d)) and cost effectiveness (Cal. Pub. Resources Code, § 25402(b)(2–3)). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 standards are the currently applicable building energy efficiency standards that became effective on January 1, 2020. The 2019 Title 24 Building Energy Efficiency Standards will further reduce energy used and associated GHG emissions compared to prior standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7 percent less energy due to energy efficiency measures than those built to the 2016 standards, once rooftop solar electricity generation is factored in. Non-residential buildings built to the 2019 standards are anticipated to use an estimated 30 percent less energy than those built to the 2016 standards (CEC 2018).

Note that the 2022 Title 24 standards are under development. The 2022 standards focus on four key areas in new construction: encouraging electric heat pump technology and use; establishing electric-ready requirements when natural gas is installed; expanding solar photovoltaic system and battery storage standards; and strengthening ventilation standards to improve indoor air quality. In August 2021, the CEC adopted the 2022 standards; but before those standards can become effective, they must be approved by the California Building Standards Commission. If approved, the 2022 Title 24 standards will go into effect on January 1, 2023.

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Cal. Code Regs., tit. 24, part 11) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality.

The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2019 standards, which are the current standards, became effective January 1, 2020.

For non-residential projects, some of the key mandatory CALGreen 2019 standards include the following (24 CCR Part 11):

- *Long-term bicycle parking.* For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- *Designated parking for clean air vehicles.* In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 of the CALGreen Code (5.106.5.2).
- *Electric vehicle (EV) charging stations.* Construction shall comply with Section 5.106.5.3.1 (single charging space requirements) or Section 106.5.3.2 (multiple charging space requirements) to facilitate future installation of electric vehicle supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. Table 5.106.5.3.3 of the CALGreen Code shall be used to determine if single or multiple charging space requirements apply for the future installation of electric vehicle supply equipment (5.106.5.3).[3]
- *Shade trees.* Shade trees shall be planted to comply with Sections 5.106.12.1 (surface parking areas), 5.106.12.2 (landscape areas), and 5.106.12.3 (hardscape areas). Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6. (5.106.12).
- *Water conserving plumbing fixtures and fittings.* Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - *Water Closets.* The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
  - *Urinals.* The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).

3 Table 5.106.5.3.3 of the CALGreen code establishes a range of EV charging space requirements based on the total number of parking places of a project. At the minimum, no EV charging spaces are required if the project has a total of 0 to 9 parking spaces. At the maximum, 6 percent of the total parking spaces are required to be EV charging spaces for projects with a total number of actual parking spaces of 201 and over.

- *Showerheads.* Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute (gpm) and 80 pounds per square inch (psi) (5.303.3.3.1). When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gpm at 80 psi (5.303.3.3.2).
- *Faucets and fountains.* Non-residential lavatory faucets shall have a maximum flow rate of not more than 0.5 gpm at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gpm of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gpm/20 [rim space (inches) at 60 psi] (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle/20 [rim space (inches) at 60 psi] (5.303.3.4.5).

- *Outdoor potable water use in landscaped areas.* Non-residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
- *Recycled water supply systems.* Recycled water supply systems shall be installed in accordance with Sections 5.305.1.1 (outdoor recycled water supply systems), 5.305.1.2 (technical requirements for outdoor recycled water supply systems), and the California Plumbing Code (5.305.1).
- *Construction waste management.* Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1 (construction waste management plan). 5.405.1.2 (waste management company), or 5.408.1.3 (waste stream reduction alternative); or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- *Outdoor Air Quality.* Installations of heating, ventilation, and air conditioning (HVAC), refrigeration, and fire suppression equipment shall comply with Section 5.508.1.1 (no CFCs) and Section 5.508.1.2 (no halons).

The CALGreen standards also include voluntary efficiency measures that are implemented at the discretion of local agencies and applicants.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency (Cal. Code Regs. tit. 20, § 1401-1410 *et seq.*). The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Renewable Energy and Energy Procurement

SB 1078, SBX1-2, SB 350, and SB 100. SB 1078 (2002) (Cal. Pub. Utilities Code § 399.11 *et seq.*) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1 percent of sales, with an aggregate goal of 20 percent by 2017.

SB X1-2 expanded the RPS by establishing a renewable energy target of 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, and 33 percent by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB 350 (2015) further expanded the RPS program by establishing a goal of 50 percent renewable electricity of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency.

SB 100 (2018) increased the standards set forth in SB 350, establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California. This bill requires that the achievement of 100 percent zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Mobile Sources

CARB's Mobile Source Strategy. On May 16, 2016, CARB released the 2016 Mobile Source Strategy that demonstrates how the state can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The actions contained in the 2016 Mobile Source Strategy will deliver broad environmental and public health benefits, as well as support much needed efforts to modernize and upgrade transportation infrastructure, enhance system-wide efficiency and mobility options, and promote clean economic growth in the mobile sector. The 2016 Mobile Source Strategy would also result in a 45 percent reduction in GHG emissions, and a 50 percent reduction in the consumption of petroleum-based fuels (CARB 2016).

On October 28, 2021, CARB received and heard the 2020 Mobile Source Strategy, which continues and builds upon the foundation established by the 2016 Mobile Source Strategy. The 2020 Mobile Source Strategy, if implemented, would achieve a 76 percent reduction in GHG emissions from 2020 levels from mobile sources by 2045, as largely attributable to transitioning towards a zero-emissions fleet. Moving forward, CARB anticipates that the programs and concepts in the 2020 Mobile Source Strategy will be incorporated into other aspects of CARB's regulatory and planning frameworks.

AB 1493. AB 1493 (2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions at the time of its drafting (Cal. Health and Safety Code § 43018.5 and § 42823 amendments). AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for non-commercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards were projected to result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30 percent.

Heavy-Duty Diesel. The Heavy-Duty Truck and Bus Regulation that went into effect January 2012, requires diesel particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. CARB adopted the proposed amendments to the Heavy-Duty Truck and Bus Regulation on December 31, 2014 to reduce diesel particulate matter, a major source of black carbon, and oxides of nitrogen emissions from heavy-duty diesel vehicles (Cal. Code Regs., tit 13, § 2025). The rule requires nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (Cal. Code Regs., tit. 13, § 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020 and 20 percent by 2030 (Cal. Code Regs., tit.17, § 95480 *et seq*.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel—including extraction/feedstock production, processing, transportation, and final consumption—per unit of energy delivered.

SB 375. SB 375 (Cal. Gov. Code § 65080) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG-reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan that will achieve the GHG-reduction targets set by CARB. If an MPO is unable to devise an SCS to achieve the GHG-reduction target, the MPO must prepare an Alternative Planning Strategy demonstrating how the GHG-reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

A SCS does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it (Cal Gov. Code, § 65080(b)(2)(K)). Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process. See Section 4.6.2.4 for information about the implementation of SB 375 in the Monterey Bay Area.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars (ACC) program (January 2012) is an emission-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2012). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025, cars will emit 75 percent less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce

GHG emissions by 34 percent in 2025. The zero-emission vehicle program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emission vehicles (ZEVs) and plug-in hybrid EVs (low-emission vehicles [LEVs]) in the 2018 to 2025 model years.

The ACC II program is currently in development to establish the next set of LEV and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2021c). The main objectives of ACC II are:

1. Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
2. Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

An ACC II rulemaking package, which will consider technological feasibility, environmental impacts, equity, economic impacts, and consumer impacts, is anticipated to be presented to CARB for consideration in June 2022. However, as detailed previously, EPA and NHTSA published the SAFE Vehicles Rule, which revokes California's authority to set its own GHG emissions standards and set ZEV mandates in California. Since California and 22 other states, as well as the District of Columbia and four cities, filed suit against the EPA and a petition for reconsideration of the SAFE Rule, the ACC II rulemaking's course may vary depending on the results of this ongoing litigation.

Advanced Clean Trucks Regulation. The Advanced Clean Trucks (ACT) Regulation was also approved by CARB in 2020. The purpose of the ACT Regulation is to accelerate the market for ZEVs in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road mobile sources (CARB 2021d). The regulation has two components including (1) a manufacturer sales requirement and (2) a reporting requirement:

- Zero-emission truck sales: Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b – 3 truck sales, 75 percent of Class 4 – 8 straight truck sales, and 40 percent of truck tractor sales.
- Company and fleet reporting: Large employers including retailers, manufacturers, brokers and others will be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

EO B-16-12. EO B-16-12 (March 2012) required that state entities under the Governor's direction and control support and facilitate the rapid commercialization of ZEVs. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

EO N-79-20. Governor Newsom's EO N-79-20 (September 2020) sets a course to end the sale of new internal combustion passenger vehicles by 2035. The primary mechanism to facilitate achievement of this executive specific target is the ACC II program under development that is discussed above. The EO also sets zero-emission vehicle penetration targets for medium- and heavy-duty vehicles, drayage trucks, as well as off-road vehicles and equipment.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

EO B-37-16. Issued May 2016, EO B-37-16 directed the State Water Resources Control Board (Water Board) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The Water Board must also develop a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25 percent reduction called for in EO B-29-15. The Water Board and Department of Water Resources also was tasked with developing new, permanent water use targets that build upon the existing state law requirements that the state achieve a 20 percent reduction in urban water usage by 2020. EO B-37-16 also specified that the Water Board will permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

EO B-40-17. EO B-40-17 (April 2017) lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinded EO B-29-15, but expressly stated that EO B-37-16 remains in effect and directs the Water Board to continue development of permanent prohibitions on wasteful water use.

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (Cal. Pub. Resources Code, § 40000 *et seq.*), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board (replaced in 2010 by the California Department of Resources Recycling and Recovery, or CalRecycle), which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25 percent by 1995 and 50 percent by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required CalRecycle to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that it believes would assist the state in reaching the 75 percent goal by 2020.

SB 1383. SB 1383 (2016) established the following target for the benefit of reducing GHG emissions from organic waste: reduce organic waste disposal 50% by 2020 and 75% by 2025. To facilitate achievement of this target, starting in 2022, all jurisdictions are required to (i) provide organic waste collection services to all residents and business, and (ii) recycle collected organic materials using recycling facilities, such as anaerobic digestion facilities and composting facilities.

Other State Actions

CEQA and Senate Bill 97. SB 97 (2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the State CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended State CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (Cal. Code Regs., tit. 14, § 15064.4(a)). The State CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (Cal. Code Regs., tit. 14, § 15064.4(b)). The State CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the State CEQA Guidelines section 15064.4(a) state that lead agencies "should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The State CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or performance based standards" (Cal. Code Regs., tit. 14, § 15064.4(a), (c)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (Cal. Code Regs., tit. 14, § 15064.4(b)).

In late 2018, the CNRA finalized amendments to the CEQA Guidelines, including changes to CEQA Guidelines section 15064.4, which addresses the analysis of GHG emissions. The amendments became effective on December 28, 2018. The revision of CEQA Guidelines section 15064.4 clarified several points, including in determining the significance of a project's impacts, the lead agency may consider a project's consistency with the state's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is consistent with those plans, goals, or strategies. (CEQA Guidelines, § 15064.4(b)(3).)

Amendments to the Small Off-Road Engine (SORE) Regulations: Transition to Zero Emissions. On December 9, 2021, CARB approved proposed amendments to the SORE Regulations, which would require most newly manufactured SORE such as those found in leaf blowers, lawn mowers and other equipment be zero emission starting in 2024. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028.

California State University

CSU Sustainability Policy

CSU has identified sustainability as a system-wide priority, as detailed in the CSU Sustainability Policy, which was adopted in 2014 and is currently in the process of being updated. The CSU Sustainability Policy focuses mainly on energy and GHG emissions, and largely aligns with the State of California's energy and GHG emissions reduction goals (CSU 2014). The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. Table 4.6-3 includes a summary of the CSU Sustainability Policy and associated goals.

Table 4.6-3
CSU Sustainability Policy

University Sustainability	
1.	The CSU will develop employee and student workforce skills in the green jobs industry, promote the development of sustainable products and services, and foster economic development.
2.	The CSU will seek to further integrate sustainability into the academic curriculum.
3.	The CSU will pursue sustainable practices in all areas of the university.
4.	Each CSU is encouraged to designate a sustainability officer responsible for campus sustainability programs.
Climate Action Plan	
1.	The CSU will strive to reduce systemwide facility greenhouse gas (GHG) emissions to 1990 levels, or below, by 2020 consistent with AB 32, California's Global Warming Solutions Act of 2006.
2.	The CSU will strive to reduce facility GHG emissions to 80 percent below 1990 levels by 2040.
3.	The CSU will encourage and promote the use of alternative transportation and/or alternative fuels.
Energy Independence and Procurement	
1.	The CSU shall pursue energy procurement and production. The CSU shall endeavor to increase its self-generated energy capacity from 44 to 80 megawatts (MW) by 2020.
2.	The CSU will endeavor to exceed the State of California and CPUC RPS sooner than the established goal of procuring 33 percent of its electricity needs from renewable sources by 2020.
Energy Conservation and Utility Management	
1.	All CSU buildings and facilities will be operated in the most energy efficient manner.
2.	All CSU campuses will continue to identify energy efficiency improvement measures to the greatest extent possible.
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.

Table 4.6-3
CSU Sustainability Policy

4.	Each CSU campus will designate an energy/utilities manager with the responsibility and the authority for carrying out energy conservation and utilities management programs.
5.	The CSU will monitor monthly energy and utility usage on all campuses and will prepare a systemwide annual report on energy utilization and greenhouse gas emissions.
6.	Each CSU campus is encouraged to develop and maintain an integrated strategic energy resource plan.
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 the use of reclaimed/recycled water.
Waste Management	
1.	Campuses shall seek to reduce the solid waste disposal rate by 50 percent by 2016, by 80 percent by 2020, and move to zero waste.
2.	The CSU will encourage the reduction of hazardous waste while supporting the academic program.
Sustainable Procurement	
1.	Campuses will promote use of suppliers and/or vendors who reduce waste and re-purpose recycled material.
2.	Campus practices should encourage use of products that minimize waste sent to landfills or incinerators and participation in the CalRecycle Buy-Recycled program or equivalent.
3.	Campuses shall continue to report on and track all recycled content product categories.
Sustainable Food Service	
1.	Campuses shall strive to increase their sustainable food purchases to 20 percent of total food budget by 2020.
2.	Campuses shall collaborate to provide information and/or training on sustainable food service operations.
Sustainable Building Practices	
1.	All future CSU new construction, remodeling, renovation, and repair projects will be designed with consideration of optimum energy utilization, low life cycle operating costs, and compliance with all applicable energy regulations.
2.	Capital Planning, Design and Construction in the Chancellor's Office shall monitor building sustainability/energy performance, based on Leadership in Energy and Environmental Design (LEED) principles.
3.	The CSU shall design and build all new buildings and major renovations to meet or exceed the minimum requirements equivalent to LEED "Silver."
Physical Plant Management	
1.	Each campus shall operate and maintain a comprehensive energy management system.
2.	To the extent possible, programs will be consolidated to achieve the highest building utilization.
3.	All CSU campuses will implement a utilities chargeback system to recover direct and indirect costs of utilities.

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).

Executive Order 0987

CSU Executive Order 0987 provides a policy statement on energy conservation, sustainable building practices, and physical plant management for the CSU. CSUMB 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.

Integrated California State University Administrative Manual (Section IX)

The Integrated California State University Administrative Manual (ICSUAM; Section IX) provides that all CSU buildings and facilities will be operated in the most energy efficient manner without endangering public health and safety. The policy also indicates that all future CSU new construction, remodeling, renovation and repair projects will be designed for optimum energy utilization, lowest life-cycle operating costs, and in compliance with all applicable energy codes (Enhanced Title 24 Energy Codes) and regulations. Incorporation of energy efficient design features in the project plans and specifications will receive a high priority.

CSUMB Campus Sustainability Plan

The 2020 CSUMB Campus Sustainability Plan builds upon and replaces the 2013 CSUMB Climate Action Plan. The Sustainability Tracking Assessment and Rating System Report provides data collection and consistent review of metrics that support efforts in every topic area identified. Key goals of the plan that are relevant to the analysis in this section include the following:

- Reduce GHG emissions and achieve carbon neutrality[4] by 2030 by making progress on the Carbon Neutrality Roadmap.
- Support individual and departmental behavior change to lower GHG emissions.
- Advance innovative opportunities and partnerships to support water conservation and sustainability goals.
- Reduce water use in all areas of campus operations.
- Promote food justice and access, as well as increase locally sourced food in all campus food service venues.
- Divert 75 percent diversion of non-demolition and construction waste by 2025. (Note that a "Core Goal" of the plan, which has a 2030 planning period, is to divert 90 percent of waste from the landfill.)

[4] Carbon neutrality means achieving a state in which the net amount of carbon dioxide or other carbon compounds emitted into the atmosphere is reduced to zero because it is balanced by actions to reduce or offset these emissions (CSUMB 2020).

- Reduce waste associated with move out by 25 percent.
- Establish a framework for implementing sustainable procurement practices.
- Plan for future projects to integrate Living Building Challenge certification options, in support of campus-scale efforts to meet Living Community Challenge goals.
- Integrate user-perspectives and occupant behavior before and after building construction.
- Support mode shift from Single Occupancy Vehicles; double percent of bicycle, walking, carpool and bus/shuttle commute trips each by 2030.
- Prioritize mobility access for those with limited physical abilities.
- Create a strong sense of place by connecting people to the natural environment by planting 2,030 trees.
- Promote wellness and encourage healthy behaviors alongside disaster preparedness to help communities face everyday challenges as well as major disruptions or disasters.
- Align Emergency Preparedness and the Office of Enterprise Risk Management and Environmental Health and Safety goals to prepare for potential operational impacts that result from climate effects.

The Carbon Neutrality Roadmap (Roadmap) is a technical appendix to the CSUMB Campus Sustainability Plan in support of achieving carbon neutrality by 2030. The Roadmap provides a detailed review of pathways that CSUMB can follow and describes existing and recommended carbon reduction measures that, if implemented, will enable CSUMB to achieve its carbon neutrality goal.

4.6.2.3 Regional

Association of Monterey Bay Area Governments

AMBAG is the designated MPO for the Monterey region. The AMBAG region includes Monterey, San Benito, and Santa Cruz counties.

CARB initially set SB 375 GHG-reduction targets for the Monterey Bay Area at 0 -percent increase from 2005 per capita emissions by 2020, and 5 percent below 2005 per capita emissions by 2035. Targets for the Monterey Bay Area beginning October 1, 2018 were set at 3 percent below 2005 per capita emissions by 2020 and 6 percent below 2005 per capita emissions by 2035.

In June 2014, AMBAG adopted the *Moving Forward 2035 Monterey Bay – Metropolitan Transportation Plan/Sustainable Communities Strategy* (2035 MTP/SCS) (AMBAG 2014). The 2035 MTP/SCS demonstrates that, if implemented, the region will achieve over a 3 percent per capita GHG reduction in passenger vehicle emissions in 2020, and an approximately 6 -percent reduction in 2035. These reductions meet the GHG targets for AMBAG, as discussed above.

In June 2018, AMBAG adopted an update to the 2035 MTP/SCS, *Moving Forward Monterey Bay 2040* (2040 MTP/SCS), the implementation of which is anticipated to achieve a 4 percent per capita reduction and nearly 7 percent per capita reduction in GHG emissions from passenger vehicles by 2020 and 2035, respectively (AMBAG 2018). The 2040 MTP/SCS outlines the region's proposed transportation network, emphasizing multimodal system enhancements, system preservation, and improved access to high quality transit, as well as land use development that complements this transportation network (AMBAG 2018).

Monterey Bay Air Resources District

California has 35 Air Pollution Control Districts and Air Quality Management Districts, many of which are currently addressing climate change issues by developing significance thresholds, performance standards, and mitigation measures. The Monterey Bay Air Resources District (MBARD) is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the North Central Coast Air Basin (NCCAB), where the Project is located. In February 2016, the MBARD adopted the staff-recommended significance threshold of 10,000 MT of CO_2e for stationary source projects (MBARD 2016), which does not directly apply to the Project (as the Project does not propose a singular stationary source, but rather a multi-faceted suite of residential, non-residential and academic development components for the CSUMB campus).

4.6.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to GHG emissions. The section identifies the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.6.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to GHG emissions are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to GHG emissions would occur if the Project would:

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

B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Other Relevant Background Information

Notably, global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established, generally applicable, quantitative thresholds adopted by an agency with subject matter expertise (like CARB) for assessing whether the GHG emissions of a project, such as the Project, would be considered a cumulatively considerable contribution to global climate change. However, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). The Governor's Office of Planning and Research's Technical Advisory, titled "Discussion Draft CEQA and Climate Change Advisory," states that

> "Neither the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for perming an impact analysis. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable. Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact." (OPR 2018)

Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

As described previously, the Project is located within the North Central Coast Air Basin under the jurisdiction of the MBARD, which, to date, has not adopted significance criteria or thresholds for project- or plan-level analyses. The MBARD-adopted significance threshold of 10,000 MT of

CO_2e for stationary source projects (MBARD 2016), does not apply to the Project for the reasons explained above. Nor has CSU adopted a threshold of significance for generally applicable use.

Campus-Specific Mass Emissions Threshold

In the absence of a numeric threshold adopted by either CARB, the MBARD or CSU, a campus-specific mass emissions threshold was derived based on the state's and CSUMB's most recent inventories. This approach is appropriate for the Project because it compares the Project's GHG emissions to statewide GHG reduction goals established for 2030 in SB 32 (i.e., 40 percent below 1990 levels), and for 2050 in EO S-3-05 (i.e., 80 percent below 1990 levels). The campus-specific mass emission threshold is discussed below.

The first step in the derivation of the campus-specific mass emissions threshold was to identify the percentage reduction that must be achieved statewide for attainment of the 2030 and 2050 GHG reduction goals. The state's 2018 inventory (316 MMT CO_2e) was used to derive a percent reduction that would be in line with the state's 2050 target (67 MMT CO_2e) from the 2018 GHG emission levels, applying a straight-line regression between the 2030 and 2050 emissions reduction targets. In 2035, the state's estimated emission target would be approximately 169 MMT CO_2e. When calculating the state's estimated emissions target, sources applicable to CSUMB were used; therefore, sources such as industrial and high GWP sources were not included. Based on that calculation, the state needs to achieve a percent reduction of approximately 47 percent from the 2018 inventory to be in line with the 2050 reduction target.

The second step was to apply the statewide percent reduction of 47 percent to CSUMB's 2018 GHG emissions inventory (13,399 MT CO_2e, as reported in the Sustainability Tracking, Assessment & Rating System [STARS] used by CSUMB) to determine the mass emissions level for 2035, the buildout horizon for the Project, that would be in line with the state's goals. This calculation identified a mass emissions level of 7,153 MT CO_2e. (This is a conservative approach because, in lieu of using an interpolated percent reduction specific to the Project's build-out year, the threshold derivation methodology utilizes the full 47 percent reduction necessary statewide for 2050 in the Project's interim build-out year of 2035.)

The third step involved dividing the campus-specific mass emissions level (7,153 MT CO_2e) by the campus' total anticipated service population, including all faculty/staff and students (i.e., 15,790 service population). This calculation resulted in a per capita emissions level of 0.45 MT CO_2e per year.

The fourth and final step involved multiplying the per capita emissions rate by CSUMB's net increase in service population (i.e., 7,359 service population) to obtain the campus-specific mass emission threshold of 3,334 MT CO_2e per year. (See Chapter 3, Project Description, Table 3-1 for existing and projected CSUMB population.) Therefore, the net operational emissions associated with CSUMB operations that meet this mass emissions threshold would be consistent with state targets and would have a less than cumulatively considerable contribution to climate change. The equation and calculations for the campus-specific mass emission threshold are provided in Table 4.6-4; detailed campus-specific mass emissions threshold calculations also are provided in Appendix D.

Table 4.6-4
Campus-Specific Mass Emissions Threshold

Equation	Calculation
CSUMB's 2018 GHG emissions inventory × % reduction to be in line with the 2050 reduction target = mass emissions level	13,399 MT CO_2e X 47% = 7,153 MT CO_2e
Mass emissions level ÷ by the total anticipated CSUMB service population, including all faculty/staff and students in 2035 = per capita emissions level per year	7,153 MT CO_2e ÷ 15,790 total service population = 0.45 MT CO_2e per year
Per capital emissions level per year × net increase in CSUMB service population by 2035 attributable to the Project = campus-specific mass emission threshold per year	0.45 MT CO_2e per year × 7,359 net service population = 3,334 MT CO_2e per year
Campus-Specific Mass Emissions Threshold	**3,334 MT CO_2e per year**

Source: Appendix D, STARS 2019.
Notes: MT CO_2e = metric tons of carbon dioxide equivalent.

Note that, because the GHG per capita emissions rate is based on the CSUMB GHG emissions inventory and anticipated service population (i.e., students and faculty/staff), the threshold is geographically and jurisdictionally specific to CSUMB. Furthermore, the per capita emissions limit is based on the state's established emissions reductions needed to achieve both the 2030 and 2050 GHG reduction targets.

4.6.3.2 Analytical Method

Program- and Project-Level Review

The GHG emissions impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3, Project Description. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the proposed Master Plan, as described in Chapter 3, Project Description. Both construction and operation of the Project are considered in the impact analysis, where relevant. In the event significant adverse environmental impacts would occur with the implementation of the Project even with incorporation of applicable regulations and proposed PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

There are a number of PDFs that are incorporated quantitatively into the trip generation rates contained in the Transportation Analysis (Appendix H), including PDF-MO-1, PDF-MO-2, PDF-MO-6(c), and PDF-MO-8, and therefore are quantitatively incorporated into the GHG analysis:

- *PDF-MO-1 and PDF-MO-2* provide that CSUMB will accommodate at least 60 percent of enrolled students and 65 percent of faculty and staff in on-campus housing. CSUMB will implement these PDFs to ensure that these campus housing goals are met, which will minimize vehicle commute travel to and from the campus. Appendix C, Student Housing and Parking Management Guidelines, and the CSUMB Housing Guidelines (CSUMB 2022) provide additional information about meeting the identified housing goals.
- *PDF-MO-6(c)* provides that CSUMB will implement strategies and measures to reduce parking demand, including that parking will be consolidated and relocated to select areas on the periphery of the campus core. While this PDF includes other measures (e.g., maintaining existing parking supply, prohibiting residential Freshmen and Sophomores from purchasing a parking permit, a "park once" policy), such measures are not assumed in the quantitative analysis.
- *PDF-MO-8* establishes restrictions to general vehicle travel through the campus core and locates vehicle circulation and parking on the campus periphery (see Chapter 3, Project Description, Figure 3-9). Specifically, vehicle access will be limited to CSUMB students, faculty, and staff vehicles on General Jim Moore Boulevard between Eighth Street and Fifth Street. Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles at: Inter-Garrison Road between General Jim Moore Boulevard and Sixth Avenue, Divarty Street between General Jim Moore Boulevard and Seventh Avenue, Fourth Avenue between Divarty Street and Inter-Garrison Road, Fifth Avenue between Divarty Street and Inter-Garrison, A Street between Divarty Street and Seventh Avenue, Sixth Avenue between B Street and north of Divarty Street, and Butler Street between Sixth Avenue and Seventh Avenue. Additionally, Seventh Avenue between Colonel Durham Street and Butler Street will be converted to one-way for vehicles traveling north from Colonel Durham Street to Inter-Garrison Road.

As indicated in Section 4.13, Transportation, to provide for a conservative analysis, other mobility PDFs are considered qualitatively, including PDF-MO-3 through PDF-MO-7, and PDF-MO-9 through PDF-MO-18. While these PDFs would serve to reduce vehicle travel and promote transit, bicycle and pedestrian mobility, their ability to reduce vehicle travel is not quantified in the Transportation Analysis (Appendix H) and therefore the GHG analysis conservatively does not include these PDFs in the operational emissions estimates identified below. These PDFs are described in detail in Chapter 3, Project Description.

Additionally, there are a number of other PDFs that are considered in the technical analysis, including the GHG assessment, as part of the Project but are not factored into the quantitative estimates of water, wastewater and energy, including the following water and energy PDFs (see Chapter 3, Project Description for the specific text of each applicable PDF):

- *PDF-W-1* indicates that development will be pursued within the campus's water allocation by: establishing water use thresholds below CALGreen Building Code standards; establishing water modeling for each capital project during the feasibility phase; establishing potable water conservation projects; retrofitting high-use campus fixtures; pursuing a heat recovery chilling system to reduce water needs; and studying expansion of non-potable water use including the establishment of an on-site water recycling facility.
- *PDF-E-1* calls for achieving carbon neutrality for scope 1&2 emissions, per the Carbon Neutrality Roadmap.
- *PDF-E-2* calls for the design and retrofit of infrastructure and buildings to minimize energy use by: establishing district-scale on-site energy production and distribution strategies; studying expansion of district-scale electrical, chilled and hot water distribution; achieving a minimum 15 percent energy performance improvement target goal over current Title 24 code in new construction; achieving a minimum 5 percent energy performance improvement target goal over existing usage in existing facilities; establishing passive heating and cooling and thermal-mass building designs; establishing standards for campus-scale energy conversion systems; and meeting minimum requirements equivalent to LEED "Silver," while aiming for the highest green building energy standards possible (i.e., LEED Platinum or equivalent).
- *PDF-E-3* provides for meeting future demand for energy in a safe, reliable, and cost-effective manner by: performing regular energy efficiency upgrades to reduce energy use; recommissioning major buildings every five years, as funding is available; establishing energy system efficiency retrofit projects; and establishing funding mechanisms and thresholds for existing energy systems as they near the end of their usable life.

Construction Emissions

Emissions from the construction phase of the Project were estimated using California Emissions Estimator Model (CalEEMod) Version 2020.4.0. Construction of the Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The analysis of GHG emissions used the same methodology and modeling inputs as the analysis of air quality impacts in Section 4.2, Air Quality, of this EIR. All details for construction criteria air pollutants discussed in Section 4.2.3.2, Analytical Method (Construction Emissions) are also applicable for the estimation of construction

GHG emissions. As such, see Section 4.2.3.2 for a discussion of construction emissions calculation methodology and modeling inputs used in the GHG emissions analysis.

Operational Emissions

Emissions from the operational phase of the Project were estimated using CalEEMod Version 2020.4.0, based on an operational year 2035, the estimated planning horizon for the Project. Emissions from the existing land uses on the campus were also estimated using CalEEMod to present the net change in GHG emissions. Operational year 2018 was used for the existing conditions.

Of note, CalEEMod provides conservative and representative default values (e.g., emission factors) for each emissions source type, so that the model may be used to estimate emissions once all Project-specific and existing land use characteristics and information have been input into the model. Default values in CalEEMod can be replaced with Project-specific/campus-specific information, where such information is readily available. In this instance, the GHG emissions inventories for the Project and existing campus conditions reflect the use of Project-specific/campus-specific and default inputs, as described further below. In this respect, the methodologies used in the emission calculations presented in this analysis differ from the campus reported inventory, which utilizes the Sustainability Tracking, Assessment & Rating System (STARS), a self-reporting framework for colleges and universities to gauge relative progress toward sustainability.

The total existing land uses within the CSUMB campus that are currently occupied and therefore evaluated comprise approximately 3,071,386 square feet (see Chapter 3, Project Description, Table 3-3). It should be noted that the emission calculations for both the Project and the existing land uses consider CSUMB Main Campus facilities. Emissions associated with the East Campus Housing were not estimated in CalEEMod for either the Project or existing conditions because the emissions associated with students moving to the Main Campus and being replaced by staff and faculty in those East Campus Housing units are expected to change minimally with buildout of the proposed Master Plan. Specifically, while faculty and staff will occupy the housing year round, while students typically do not, the occupancy per unit is expected to be reduced with the conversion to faculty and staff use thereby resulting in a minimal change in energy and water use and associated GHG emissions.

Existing and potential Project-generated operational GHG emissions were estimated for area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, and water and wastewater treatment. Emissions from each category are discussed in the following text with respect to the Project. For a discussion of operational emission calculation methodology and modeling inputs, specifically for area, energy (natural gas), and mobile sources, see Section 4.2.3.2, Analytical Method (Operational Emissions).

Area Sources

CalEEMod was used to estimate GHG emissions from the Project's area sources that would include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. Notably, emissions associated with landscape maintenance equipment are likely overestimated as such emissions are expected to be reduced over time with CARB's approval of amendments to the SORE regulations, which would require landscaping equipment be zero emission starting in 2024. See Section 4.2.3.2 for a discussion of landscaping equipment emissions calculations. Consumer product use and architectural coatings result in VOC emissions, which are analyzed in the air quality analysis only (see Section 4.2) and would generate little to no GHG emissions.

Energy Sources

The estimation of operational energy emissions was based on 2016-2017 consumption and future forecast data provided by CSUMB for both existing conditions and Project land uses.

Default values in CalEEMod were updated to reflect the energy use from existing and Project conditions (electricity usage and natural gas per year), which are based on the 2016-2017 consumption and future forecast data provided by CSUMB. In 2016-2017, CSUMB Main Campus facilities consumed approximately 11,468,472 kilowatt-hours (kWh) and 555,708 therms (55,571 Metric Million British Thermal Unit (MMBTU) of natural gas (CSUMB 2019). At Project buildout, the total electricity and natural gas consumption would be approximately 27,006,093 kWh of electricity and 1,106,827 therms (110,683 MMBTU) of natural gas. The total electricity and natural gas consumption includes reductions associated with demolished campus buildings (2,050,356 MWh of electricity and 97,627 therms [9,763 MMBTU] of natural gas) and additions associated with new development (17,587,977 kWh and 648,746 therms [64,875 MMBTU])(CSUMB 2019).

CalEEMod default energy intensity factors (CO_2, CH_4, and N_2O mass emissions per kilowatt-hour) for Pacific Gas and Electric Company (PG&E) are based on the value for PG&E's energy mix in 2008. As explained in Section 4.6.2.2, SB 100 increased the standards set forth by SB 350 calling for 52 percent of the total electricity sold to retail customers in California to come from renewable energy sources by 2027 and 60 percent by 2030. Therefore, the CO_2 emissions intensity factor for utility energy use in CalEEMod was adjusted based on the estimated PG&E CO_2 emissions rate of 167 pounds per megawatt-hour (MWh) in 2035.

Mobile Sources

All details for criteria air pollutants discussed in Section 4.2.3.2 are also applicable for the estimation of operational mobile source GHG emissions. Regulatory measures related to mobile sources include AB 1493, the ACC II program, and related federal standards. As previously discussed, AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for non-commercial personal transportation in the state. In addition, the NHTSA and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the Project's motor vehicles. The ACC II program is currently in development to establish the next set of LEV and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards. As indicated in Section 4.6.3.2, Analytical Method, PDFs that would reduce vehicle travel that were quantified in the Transportation Analysis and therefore incorporated into the GHG analysis include: PDF-MO-1, PDF-MO-2, PDF-MO-6(c), and PDF-MO-8. The effectiveness of fuel economy improvements was evaluated by using the CalEEMod emission factors for motor vehicles in 2035 for the Project and 2018 for existing conditions to the extent it was captured in EMFAC 2017, which is the CARB model incorporated into CalEEMod for purposes of estimating vehicle tailpipe emissions.

Solid Waste

Solid waste generation during existing conditions and as a result of the Project would generate solid waste and, therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste for existing conditions and for the Project. For the Project, it was estimated that there would be a 90 percent solid waste diversion rate for non-construction and demolition waste per the CSUMB Campus Sustainability Plan. Default solid waste generation rates from CalEEMod were assumed for the existing land uses.

Water and Wastewater Treatment

Supply, conveyance, treatment, and distribution of water require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the Project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. CalEEMod default values were adjusted based on the consumption and future forecast data provided by CSUMB. Based on campus data, total potable water use at CSUMB in 2018-2019 was approximately 316 acre-feet per year (AFY), of which 219 AFY was related to building use and 97 AFY was related to irrigation. Campus water use has declined over the years as a result of installation of water meters and implementation of water conservation measures. At buildout, the Project would result in 445 AFY, of which 291 AFY would be related to building use and 154 AFY would be related to irrigation. See Section 4.14, Utilities and Energy (Table 4.14-7) for existing and estimated CSUMB water demand.

Gain of Sequestered Carbon

The calculation methodology and default values provided in CalEEMod were used to estimate the one-time carbon-stock change from planting new trees. Trees sequester CO_2 while they are actively growing, and the amount of CO_2 sequestered depends on the type of tree. Thereafter, the accumulation of carbon in biomass slows with age and is assumed to be offset by losses from clipping, pruning, and occasional death. Active growing periods are subject to, among other things, species, climate regime, and planting density; however, for modeling purposes, CalEEMod assumes the IPCC active growing period of 20 years (CAPCOA 2021).

The sequestered carbon from new trees modeling does not include CO_2 emissions estimates associated with planting, care, and maintenance activities (e.g., tree planting and care vehicle travel and maintenance equipment operation). Landscape maintenance equipment emissions, which are anticipated to be minimal, were included in the area source emission estimates included in the operational GHG emissions calculations. Conservatively, this analysis does not consider carbon sequestration associated with land preservation or conservation.

CalEEMod calculates GHG sequestration that results from planting of new trees and has default carbon content values (in units of MT CO_2/tree/year) for ten different general tree species and a miscellaneous tree category.[5] The CSUMB Campus Sustainability Plan identifies a policy of planting approximately 2,030 trees on campus. Live oak trees would be planted within the Project site; a CO_2 sequestration rate of 0.0354 MT CO_2/tree/year was used in this analysis, which is an average of all CO_2 sequestration rates for the different tree categories, because the specific CO_2 sequestration rate for live oak tress is not included in CalEEMod. It is assumed that the 2,030 trees will grow for a minimum of 20 years. The gain in sequestered carbon resulting from planting 2,030 trees would be approximately 1,437 MT CO_2. To interpret an annual sequestration, the total sequestered CO_2 was divided by 30 years, resulting in 48 MT CO_2 annually.

5 Aspen (*Populus* sp.), soft maple (*Acer* sp.), mixed hardwood, hardwood maple (*Acer* sp.), juniper (*Juniperus* sp.), cedar/larch (Cupressaceae/*Larix* sp.), Douglas fir (*Pseudotsuga menziesii*), true fir/hemlock (*Abies* sp./*Tsuga* sp.), pine (Pinaceae), spruce (*Picea* sp.), and miscellaneous.

4.6.3.3 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of GHG emissions associated with the Project.

Impact GHG-1:	**Greenhouse Gas Emissions (Threshold A).** The Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. *(Potentially Significant)*

Master Plan

Construction Emissions

Construction of the Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment and on-road vehicles (haul trucks, vendor trucks, and worker vehicles). Construction GHG emissions were calculated, amortized over 30 years, and added to the total operational emissions for comparison with the campus-specific mass emissions threshold of 3,334 MT CO_2e per year. Therefore, the determination of significance is addressed in the operational emissions discussion below.

As discussed above, CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 4.2.3.2, Analytical Method (Construction Emissions). Table 4.6-5 presents construction emissions for the Project from on-site and off-site emission sources. Construction of the Project was estimated to last a total of approximately 15 years (through 2035). Construction emissions for the Project were determined based on the conservative estimate that up to approximately 300,000 GSF of buildings could be constructed concurrently over a two-year duration (2022 to 2023). The estimated annual average GHG emissions from the maximum concurrent development construction scenario would be approximately 329 MT CO_2e (659 MT CO_2e ÷ 2 years). The annual average construction emissions were then multiplied over the Master Plan's 15-year buildout in order to estimate the total GHG emissions due to the Project's construction. Over the 15-year construction period, it is estimated that Project construction would result in approximately 4,939 MT CO_2e (329 MT CO_2e x 15 years). As shown in Table 4.6-5, the estimated Project-generated construction emissions amortized over 30 years would be approximately 165 MT CO_2e per year. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Table 4.6-5
Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2022	576.36	0.09	0.02	585.86
2023	71.70	0.01	<0.01	72.69
Construction Emissions Total for Maximum Concurrent Development Construction Scenario				**658.55**
Annual Average				**329.28**
Total Construction Emissions Over 15-Year Buildout (= Annual Average X 15)				**4,939.20**
Amortized Construction Emissions (= Total Construction Emissions ÷ 30)				**164.64**

Source: Appendix D.
Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; <0.01 = reported value less than 0.01.

Operational Emissions

Operations attributable to Project-related campus development (both new development and redevelopment) and existing campus development that would remain with Project implementation, and operation under existing conditions would generate GHG emissions through motor vehicle trips; landscape maintenance equipment operation (area source); energy use (natural gas and electricity); solid waste disposal; water supply, treatment, and distribution; and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational parameters described in Section 4.6.3.2, Analytical Method (Operational Emissions).

As indicated in Section 4.6.3.2, Analytical Methods, PDF-MO-1, PDF-MO-2, PDF-MO-6(c), and PDF-MO-8 are incorporated quantitatively into the trip generation rates contained in the Transportation Analysis (Appendix H), and therefore are quantitatively incorporated into this operational GHG emissions analysis. Other mobility PDFs (PDF-MO-3 through PDF-MO-7, and PDF-MO-9 through PDF-MO-18) and water, wastewater and energy PDFs (PDF-W-1, PDF-E-1 through PDF-E-3) are considered qualitatively to provide for a conservative analysis. Likewise, comprehensive implementation of the CSU Sustainability Policy and CSUMB Campus Sustainability Plan and associated Carbon Neutrality Roadmap are also not quantitatively factored into the annual GHG emissions associated with Project operations. While not factored into the quantitative analysis, these PDFs and sustainability plans and polices would serve to reduce CSUMB GHG emissions over the planning horizon for the Project (2035).

The estimated operational Project-generated and existing GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation, and the net change in emissions (Project minus existing emissions) are shown in Table 4.6-6.

Table 4.6-6
Estimated Annual Operational GHG Emissions - Unmitigated

Emission Source	MT CO_2e per Year
Project Buildout	
Area	155.90
Energy	8,011.98
Mobile	2,765.53
Solid waste	422.79
Water supply and wastewater	182.52
Total Project Annual Emissions	**11,538.72**
Amortized Construction Emissions	164.64
Annual Gain from Sequestered Carbon/Tree Planting (Amortized Over 30 Years)	(47.97)
Total Annual Emissions	**11,655.39**
Existing Conditions	
Area	89.94
Energy	4,044.20
Mobile	1,854.01
Solid waste	1,685.96
Water supply and wastewater	68.44
Total Existing Annual Emissions	**7,742.55**
Net Operational Emissions (Project Minus Existing Conditions)	**3,912.84**
Mass Emissions Threshold	**3,334**
Exceed Threshold?	**Yes**

Source: Appendix D.
Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; Numbers in parentheses represent negative numbers.
Totals may not sum due to rounding.
The Project emissions reflect operational year 2035.
The existing conditions emissions reflect operational year 2018.
Estimates for Project buildout and existing conditions are based on mobile, energy, and water consumption data provided by CSUMB.

As shown in Table 4.6-6, approximately 7,743 MT CO_2e per year are estimated to be generated under existing conditions. Comparatively, estimated annual Project-generated GHG emissions would be approximately 11,539 MT CO_2e per year as a result of Project operations only. With amortized construction emissions and the planting of trees, the Project would result in GHG emissions of approximately 11,655 MT CO_2e per year. Overall, the Project would result in a net increase of approximately 3,913 MT CO_2e per year.

As previously discussed, the campus-specific mass emissions threshold of 3,334 MT CO_2e per year was developed to assess if the Project's GHG emissions would result in a significant, cumulatively considerable contribution to climate change. Based on the estimated emissions presented in Table 4.6-6, the Project would result in the exceedance of the campus-specific mass emission threshold of 3,334 MT CO_2e by approximately 579 MT CO_2e. Thus, the Project's GHG emissions prior to mitigation would be *potentially significant*.

Near-Term Development Components

Emissions from construction and operational activities associated with the Project's near-term development components were estimated using CalEEMod. Project construction emissions were based on a construction scenario where no more than approximately 300,000 GSF would be developed concurrently, which is greater than the GSF for any of the individual near-term development components, as follows: Academic IV (95,000 GSF), Academic IV (76,704 GSF), Recreation Center Phases I and II (70,000 GSF), Student Housing Phase IIB (160,000 GSF), and Student Housing Phase III (200,000 GSF). Predicted construction emissions are presented in Table 4.6-5 above and were evaluated over a 15-year buildout duration, amortized over 30 years and summed with the Project's operational emissions. As shown in Table 4.6-6 above, the net increase in GHG emissions associated with the Project, including the near-term development components, would exceed the mass emission threshold of 3,334 MT CO_2e per year. Because evaluation of the Project includes the near-term development components, impacts associated with construction and operational GHG emissions would also be *potentially significant*.

Mitigation Measures

MM-GHG-1: Building Decarbonization: Replace Natural Gas with Electricity in New and Existing Buildings. CSUMB shall replace natural gas energy use with electricity energy use in new and existing buildings to reduce natural gas consumption and associated greenhouse gas (GHG) emissions generated by CSUMB. Building electrification shall result in a minimum natural gas reduction of 174,590 therms (17,459 Metric Million British Thermal Unit [MMBTU]), which equates to an approximately 16 percent reduction in the 2035 Master Plan's estimated natural gas consumption (1,106,827 therms Master Plan buildout in 2035 – 174,590 therms reduction in natural gas = 932,237 therms in 2035 [110,683 MMBTU – 17,459 MMBTU = 93,224 MMBTU]). Replacing 174,590 therms of natural gas is estimated to require an increase in approximately 4,472 megawatt hours of electricity to achieve a reduction of approximately 600 metric tons per year of carbon dioxide equivalent per year (MT CO_2e) because electricity is a less GHG intensive energy source.

This building decarbonization requirement in new and existing buildings can be met using different combinations of building electrification in new and existing residential and non-residential buildings, provided that

174,590 therms of natural gas is replaced with 4,472 megawatt hours of electricity by 2035. To ensure that a minimum of 174,590 therms of natural gas is replaced by electricity-provided energy in new and existing buildings by 2035, building energy demand projections will be calculated and reported on during the building design phase for new and existing buildings to be retrofitted. Prior to the schematic design approval for each new building or existing building to be retrofitted, CSUMB shall provide a natural gas estimate with and without electrification, which shall be tracked internally. Annually, CSUMB shall review the amount of natural gas replaced by electricity in new buildings to ensure that substantial progress is being made towards meeting the 174,590 therms replacement requirement for new and existing buildings under the Master Plan by 2035.

CSUMB may pursue and implement other GHG-reducing strategies (e.g., additional solar PV, heat pump conversion) as a mechanism for achieving the required GHG reductions (approximately 600 MT CO_2e) by 2035. To ensure GHG emissions reductions from such strategies are properly accounted for, the GHG emissions reductions associated with such strategies shall be calculated and reported on during the design phase of these strategies. Annually, CSUMB shall review the amount of GHG emissions reductions associated with these other GHG-reducing strategies, along with the GHG reductions associated with building electrification, as indicated previously, to ensure that substantial progress is being made towards meeting the required GHG reductions under the Master Plan by 2035.

Significance After Mitigation

As discussed in Section 4.6.2, Regulatory Framework, CSU and CSUMB have adopted policies and plans in order to reduce the campus' overall GHG emissions, including the electrification of new and existing buildings, among many other measures. For purposes of this GHG analysis, it was conservatively assumed that new buildings would consume natural gas as discussed in Section 4.6.3.2, Analytical Method, because the extent of and the specific buildings to be electrified are unknown at this time. However, consistent with CSU and CSUMB goals, implementation of MM-GHG-1 would require building decarbonization via reductions in natural gas consumption in order to reduce significant GHG emission impacts associated with the Project, including the near-term development components, to less than significant.

The emission reductions associated with implementation of MM-GHG-1 have been quantified and are presented in Table 4.6-7. Implementation of MM-GHG-1 would reduce GHG emissions associated with Project operations by converting a portion of the Project's forecasted natural gas consumption to electricity. As shown in Table 4.6-7, the Project would be required to reduce natural gas usage of proposed Master Plan development by 174,590 therms (17,459 MMBTU), to achieve the campus-specific mass emissions threshold of 3,334 MT CO_2e per year. CSUMB can achieve MM-GHG-1 through variable levels of electrification in new and existing buildings (i.e., some buildings may attain 100 percent electrification and some buildings may maintain use of natural gas).

For simplicity in demonstrating the feasibility and effectiveness of MM-GHG-1, Table 4.6-7 assumes that each new residential and non-residential building would implement a 27 percent reduction in natural gas, which equates to a replacement 174,590 therms of natural gas per year with 4,472 MWh per year of electricity. Note that MM-GHG-1 can be achieved by decarbonizing existing buildings and/or new buildings; the effectiveness demonstration below for MM-GHG-1 focuses on new buildings only. Relatedly, recognizing that the type and use of each new campus building may afford different levels of electrification opportunities and natural gas needs, the exact replacement of natural gas with electricity at each building is anticipated to be variable, provided that CSUMB is required to attain the overall natural gas reduction and associated GHG emission reduction targets set forth in MM-GHG-1.

Table 4.6-7
Estimated Energy Use and Corresponding GHG Emissions - Unmitigated and Mitigated

Land Use Type	Energy Use - Unmitigated			Energy Use - Mitigated		
	Electricity (MWh/yr)	Natural Gas (MMBtu/yr)	Total Project Associated GHG Emissions (MT CO_2e/yr)	Electricity (MWh/yr)	Natural Gas (MMBtu/yr)	Total Project Associated GHG Emissions (MT CO_2e/yr)
New Non-residential Buildings	7,585.44	20,402.78	1,676.78	9,014.51	14,894.03	1,490.62
New Residential Buildings	10,002.54	44,471.80	3,154.13	13,006.91	32,464.41	2,739.90
Existing Buildings minus Demolished Buildings	9,418.11	45,808.15	3,181.07	9,456.62	45,865.33	3,181.07
Total	**27,006.09**	**110,682.73**	**8,011.98**	**31,478.04**	**93,223.77**	**7,411.59**

Source: Appendix D.
Notes: yr = year; MWh = megawatt hour; MMBtu = metric million British thermal unit; MT CO_2e = metric tons of carbon dioxide equivalent.

As shown in Table 4.6-7, replacing 17,459 MMBtu of natural gas per year (110,683 MMBtu – 93,224 MMBtu) with 4,472 MWh of electricity per year (27,006 MWh - 31,478 MWh) reduces total Project-generated energy source GHG emissions from approximately 8,012 MT CO_2e per year (see Table 4.6-6) to approximately 7,412 MT CO_2e per year, resulting in a reduction of approximately 600 MT CO_2e per year.

Table 4.6-8 shows the Project's GHG emissions after the implementation of MM-GHG-1. The Project would result in a net increase of approximately 3,312 MT CO_2e per year after implementation of MM-GHG-1, which would be less than the mass emission threshold of 3,334 MT CO_2e. The detailed emissions assumptions and model outputs are provided in Appendix D. Therefore, with the implementation of the MM-GHG-1, the Project's GHG emissions would be reduced to *less than significant*.

Table 4.6-8
Estimated Annual Operational GHG Emissions - Mitigated

Emission Source	MT CO_2e per Year
Project Buildout	
Area	155.90
Energy	7,411.59 (from Table 4.6-7)
Mobile	2,765.53
Solid waste	422.79
Water supply and wastewater	182.52
Total Project Annual Emissions	**10,938.32**
Amortized Construction Emissions	164.64
Annual Gain from Sequestered Carbon/2030 trees Planted (Amortized Over 30 Years)	(47.97)
Total Annual Emissions	**11,054.99**
Existing Conditions	
Area	89.94
Energy	4,044.20
Mobile	1,854.01
Solid waste	1,685.96
Water supply and wastewater	68.44
Total Existing Annual Emissions	**7,742.55**
Net Operational Emissions (Project Minus Existing Conditions)	**3,312.44**
Mass Emissions Threshold	**3,334**
Exceed Threshold?	**No**

Source: Appendix D.
Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; Numbers in parentheses represent negative numbers.
Totals may not sum due to rounding.
The Project emissions reflect operational year 2035.
The existing conditions emissions reflect operational year 2018.

Estimates for Project buildout and existing conditions are based on mobile, energy, and water consumption data provided by CSUMB.

Impact GHG-2:	**Conflict with an Applicable Greenhouse Gas Reduction Plan (Threshold B).** The Project may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Specifically, the Project may conflict with CARB's Scoping Plan and related GHG reduction targets for 2030 and 2050, but would not conflict with the CSU Sustainability Policy, the CSUMB Campus Sustainability Plan, or AMBAG's 2040 MTP/SCS. *(Potentially Significant)*

Master Plan

Consistency with the CSU Sustainability Policy

The CSU Sustainability Policy was adopted in 2014 and is currently in the process of being updated. The policy focuses mainly on energy and GHG emissions, and largely aligns with the State of California energy and GHG emissions reduction goals. The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The Project would comply with the CSU Sustainability Policy through meeting the State building code requirements, including use of energy-efficient HVAC systems, installing LED lighting, retrofitting campus water fixtures to low-flow plumbing equipment, and compliance with waste recycling requirements.

Consistency with the CSUMB Campus Sustainability Plan

As previously discussed, the CSUMB Campus Sustainability Plan (CSUMB 2020) includes a Carbon Neutrality Roadmap as a technical appendix in support of achieving carbon neutrality by 2030. The Roadmap includes 12 topic areas and associated goals in a variety of sectors including: water, energy, food, waste, procurement, build environment, transportation, habitat, resiliency, academic and curricular, student affairs and co-curricular, and community and engagement.

The Project would support progress towards meeting the carbon neutrality goal through implementation of PDF-MO-1 through PDF-MO-18, which would minimize the increase in consumption of petroleum by promoting alternative transportation methods such as bicycling and walking, and reducing overall campus vehicle trips. To support mode shift from single occupancy vehicles and encourage alternative transportation methods, the Project would develop a TDM Plan, per PDF-MO-6. The TDM Plan would include a variety of trip reduction strategies such as expanding upon existing alternative transportation programs; establishing an incentives-based commuter program to encourage students, faculty and staff commuters to carpool and take alternative modes of travel to campus; increase bicycle facilities; and prioritize carpool parking, etc.

The Project would also promote energy efficiency as provided by PDF-W-1, and PDF-E-1 through PDF-E-3. PDF-W-1 indicates that the campus would implement a range of water conservation measures for each new project, which would reduce energy use overall. PDF-E-1 calls for pursuing limited use of natural gas and sourcing heating needs instead from renewable or electric sources. PDF-E-2 calls for the design and retrofit of infrastructure and buildings to minimize energy use by: establishing district-scale on-site energy production and distribution strategies; studying expansion of district-scale electrical, chilled and hot water distribution; achieving a minimum 15 percent energy performance improvement target goal over current Title 24 code in new construction; achieving a minimum 5 percent energy performance improvement target goal over existing usage in existing facilities; establishing passive heating and cooling and thermal-mass building designs; establishing standards for campus-scale energy conversion systems; and meeting minimum requirements equivalent to LEED "Silver," while aiming for the highest green building energy standards possible (i.e., LEED Platinum or equivalent). PDF-E-3 would allow for the recommissioning of major buildings every five years, as funding is available and would also establish energy system efficiency retrofit projects. Overall, the Project would support progress towards meeting carbon neutrality, per the CSUMB Campus Sustainability Plan (CSUMB 2020) and the Carbon Neutrality Roadmap.

Consistency with the AMBAG's 2040 MTP/SCS

AMBAG's 2040 MTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks within the Monterey Bay Area. The 2040 MTP/SCS incorporates local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the MTP/SCS if the project does not exceed the underlying growth parameters within the MTP/SCS.

The proposed Master Plan would support an increase in on-campus student enrollment to 12,700 FTE students by 2035, from 6,634 FTE students in 2016-17. In addition, faculty and staff needed to support student growth would increase to 1,776 FTE faculty and staff, compared with 1,024 FTE faculty and staff in 2016-17. CSUMB's population growth associated with the proposed Master Plan is included in the total projected population in Monterey County[6] in 2035 (489,451 people) and would represent approximately 1.7 or 2.0 percent of the total, as described in Section 4.11, Population and Housing. Therefore, the Project would not result in significant population growth that would exceed AMBAG growth projections for the County. Furthermore, the major goals of the 2040 MTP/SCS are outlined in Table 4.6-9, along with the Project's consistency with them. As shown in Table 4.6-9, the Project would be consistent with the goals within AMBAG's 2040 MTP/SCS.

[6] This analysis refers to Monterey County because a substantial majority of the CSUMB population (nearly 90 percent of students, faculty, and staff) lives in Monterey County.

In particular, the Project would beneficially contribute to achievement of AMBAG's 2040 MTP/SCS GHG-reduction targets for passenger vehicles. As indicated in Section 4.13, Transportation, on a per service population basis, vehicle miles travelled (VMT) would decrease by approximately 10 percent between existing and Project conditions. This decrease in VMT would result due to the planned increase in on-campus housing and, to a lesser extent, due to modifications to the campus street and parking system, each of which is a component of the Project. Other VMT-reducing components of the Project include student life buildings, indoor recreation buildings and facilities, outdoor athletics and recreation support buildings, as shown in Table 3-3 in Chapter 3, Project Description, which also would contribute to reducing or eliminating the need for students to drive off-campus. Notwithstanding, due to the complexities of accurately assessing the additional VMT reduction that would result from implementation of these latter referenced Project components, such reductions were not considered as part of the analysis and, as such, the transportation analysis overstates total VMT associated with the Project.

Table 4.6-9
Project Consistency with the AMBAG 2040 MTP/SCS

MTP/SCS Goal	Project Consistency
Provide convenient, accessible, and reliable travel options while maximizing productivity for all people and goods in the region.	*Consistent.* The Project would provide for continued free or discounted access to campus, local and regional transit services; maintenance of connections to regional transit from Main Campus and East Campus Housing; improvement of the campus shuttle; expansion of the para-transportation services on campus; and implementation of transit design standards.
Raise the region's standard of living by enhancing the performance of the transportation system.	*Consistent.* The Project would provide for the expansion of the campus multi-modal transportation system infrastructure and programs by establishing two multimodal hubs to provide centralized arrival points on campus from the four campus entries with signs that lead to two key arrival areas.
Promote environmental sustainability and protect the natural environment.	*Consistent.* The Project would establish bicycle mobility as an important travel consideration, prioritized before internal vehicle travel in campus development and programs by implementing a range of measures, including but not limited to establishing at least one form of bicycle route facility on or adjacent to all campus roadways.
Protect the health of our residents; foster efficient development patterns that optimize travel, housing, and employment choices and encourage active transportation.	*Consistent.* The Project would provide for mixed-use campus development with amenities, a mix of on-campus student housing types and a compact campus core that support and improve campus life, reduce vehicle travel off campus and promote on-campus pedestrian and bicycle access.
Provide an equitable level of transportation services to all segments of the population.	*Consistent.* The Project would provide continued free or discounted access to campus, local and regional transit services; maintenance of connections to regional transit from Main Campus and East Campus Housing; improvement of the campus shuttle; expansion of the para-transportation services on campus; and implementation of transit design standards.

Table 4.6-9
Project Consistency with the AMBAG 2040 MTP/SCS

MTP/SCS Goal	Project Consistency
Preserve and ensure a sustainable and safe regional transportation system.	*Consistent.* The Project would establish restrictions to general vehicle travel through the campus core and locates vehicle circulation and parking on the campus periphery. Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles in certain locations.

Source: AMBAG 2018.

Consistency with CARB's Scoping Plan

The Scoping Plan, approved by CARB on December 12, 2008 and updated in 2014 and 2017, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the State CEQA Guidelines, the CNRA observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009a). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. To the extent that these regulations are applicable to the Project, the Project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law.

As demonstrated under Impact GHG-1, the Project would result in a net increase of approximately 3,913 MT CO_2e per year and would exceed the campus-specific mass emissions threshold of 3,334 MT CO_2e, which is based on the state's established emissions reductions needed to achieve both the 2030 and 2050 GHG reduction targets established under SB 32 (goal of reducing GHG emissions to 40 percent below 1990 levels by 2030) and EO S-3-05 (goal of reducing GHG emissions to 80 percent below 1990 levels by 2050). Notably, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the *First Update to the Climate Change Scoping Plan* that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80 percent below 1990 levels, the *First Update to the Climate Change Scoping Plan* states the following (CARB 2014):

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under Assembly Bill 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80 percent below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that California is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-3-05. This is confirmed in the 2017 Scoping Plan, which states, "This Plan draws from the experiences in developing and implementing previous plans to present a path to reaching California's 2030 GHG reduction target. The Plan is a package of economically viable and technologically feasible actions to not just keep California on track to achieve its 2030 target, but stay on track for a low- to zero-carbon economy by involving every part of the state" (CARB 2017a). The 2017 Scoping Plan also states that although "the Scoping Plan charts the path to achieving the 2030 GHG emissions reduction target, we also need momentum to propel us to the 2050 statewide GHG target (80 [percent] below 1990 levels). In developing this Scoping Plan, we considered what policies are needed to meet our mid-term and long-term goals" (CARB 2017a).

With regard to EO B-55-18 (statewide goal of carbon neutrality by no later than 2045), the EO notes that CARB will work with relevant state agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. With respect to future GHG targets under SB 32 and EO B-55-18, CARB has made clear its legal interpretation that it has the requisite authority to adopt whatever regulations are necessary to meet the long-term statewide goals; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets. However, the Project would exceed the campus-specific mass emissions threshold of 3,334 MT CO_2e per year, established for consistency with GHG reduction goals for 2030 in SB 32 and for 2050 in EO S-3-05. Therefore, the Project may conflict with implementation of any of the above-described GHG-reduction goals for 2030 and beyond.

Based on the above considerations, the Project may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This impact would be *potentially significant*.

Near-Term Development Components

The near-term development components include: 1) Student Housing Phase III (600 student housing beds); 2) Academic IV (95,000 GSF of classroom/instructional space); 3) Student Recreation Center (70,000 GSF of recreation space); 4) Student Housing Phase IIB (400 student housing beds); and 5) Academic V (76,700 GSF of classroom/instructional space). The near-term development components would comply with the CSU Sustainability Policy and the CSUMB Campus Sustainability Plan, through meeting the State building code requirements, including use of energy-efficient HVAC systems, installing LED lighting, retrofitting campus water fixtures to low-flow plumbing equipment, and compliance with waste recycling requirements. In addition, the near-term development components would also support progress towards meeting the carbon neutrality goal through implementation of PDF-W-1, PDF-E-1 through PDF-E-3, and PDF-MO-1 through PDF-MO-18, which will minimize electricity, natural gas, and petroleum consumption. Regarding consistency with the AMBAG's 2040 MTP/SCS, the near-term development components would not result in significant population growth that would exceed AMBAG growth projections for the County and would not conflict with goals of the 2040 MTP/SCS through implementation of the above mobility PDFs, including development of a TDM Plan, which would include a variety of trip reduction strategies such as expanding upon existing alternative transportation programs and establishing an incentives-based commuter program to encourage students, faculty and staff commuters to carpool and take alternative modes of travel to campus. However, as previously discussed under Impact GHG-1, the Project, including the near-term development components, was determined to result in GHG emissions that would exceed the mass emissions threshold of 3,334 MT CO_2e per year. Because the near-term development components were evaluated as a part of the buildout of the Project, the near-term development components may impede the state's trajectory toward the above-described statewide GHG reduction goals for 2030 and beyond and therefore the impact would be *potentially significant*.

Mitigation Measures

Implement MM-GHG-1 (see Impact GHG-1 above for a description of this mitigation measure).

Significance After Mitigation

Implementation of MM-GHG-1 would require CSUMB to limit natural gas infrastructure and electrify new and existing buildings to reduce energy consumption and associated GHG emissions. Shifting to electricity rather than natural gas would help CSUMB make progress towards the goal of carbon neutrality, since it would provide a pathway for offsetting electricity consumption emissions. Implementation of MM-GHG-1 would reduce the Project's GHG emissions to 3,312 MT CO_2e per year, which would be below the campus-specific mass emissions threshold of 3,334 MT CO_2e per year. As previously discussed, the campus-specific mass emission threshold was based on the state's established emissions reductions needed to achieve both the 2030 and 2050 GHG reduction targets. With implementation of MM-GHG-1, the Project, including the near-term development components, would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and impacts would be *less than significant*.

4.6.3.4 Cumulative Impacts and Mitigation Measures

This section provides an evaluation of GHG emissions impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and other cumulative development throughout the NCCAB region. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact GHG-3:	**Cumulative Greenhouse Gas Impacts (Thresholds A and B).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to GHG emissions, with the implementation of mitigation. *(Less than Significant)*

The geographic area for the analysis of cumulative impacts resulting from GHG emissions is global. Cumulative development throughout the NCCAB region would generate GHG emissions that could have a significant impact on the environment. Global climate change is an inherently cumulative impact issue, and there are currently no established thresholds for assessing whether the GHG emissions of a project would be considered a cumulatively considerable contribution to global climate change. However, statewide and regional GHG-reduction regulations or strategies would continue to improve and reduce cumulative GHG emissions.

As shown in Table 4.6-6 and Impact GHG-1, the Project would result in GHG emissions that would exceed the campus-specific mass emissions threshold of 3,334 MT CO_2e per year, resulting in a potentially significant impact related to GHG emissions. In addition, as described in Impact GHG-2 above, the Project may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in a potentially significant impact related to conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. However, with the implementation of MM-GHG-1, the Project's GHG emissions would be reduced below the campus-specific mass emissions threshold. Therefore, based on the assessment included herein, with the implementation of MM-GHG-1, the Project would not result in a considerable contribution to a significant cumulative GHG impact and cumulative impacts would be *less than significant*.

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4.7 HAZARDS, HAZARDOUS MATERIALS, AND WILDFIRE

This section of the EIR presents an analysis of the potential hazards, hazardous materials and wildfire impacts associated with development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate significant or potentially significant impacts, if any such impacts are identified.

Resources related to hazards and hazardous materials used to prepare this section include U.S. Army Corps of Engineers (ACOE) documents, U.S. Army Base Realignment and Closure (BRAC) documents, pre-demolition hazardous materials survey reports, a Phase I Environmental Site Assessment (ESA), previous CEQA documents, records on or near the campus listed in GeoTracker and EnviroStor (online databases maintained by the Regional Water Quality Control Board [RWQCB] and Department of Toxic Substances Control [DTSC], respectively), and fire hazards maps prepared by the California Department of Forestry and Fire Protection (CAL FIRE).

An agency comment related to wildfire was received during the public scoping period in response to the original Notice of Preparation (NOP), and requested that CSUMB identify whether the EIR should evaluate wildland fire maintenance and fire protection services. No additional public and agency comments related to hazards, hazardous materials and wildfire were received during the public scoping period in response to the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.7.1 Environmental Setting

4.7.1.1 Study Area

The study area for the evaluation of impacts related to hazards and hazardous materials includes the 1,396-acre CSUMB campus, located in the northwestern portion of the former 28,000-acre Fort Ord military base. A Phase I ESA has not been completed for the entire CSUMB campus; however, Phase I reports were completed in 2016 for the proposed Monterey Bay Charter School, located in the eastern portion of the Main Campus, and in 2012 for the Promontory Student Housing, located in the northern portion of the Main Campus. One-mile radius environmental database searches were completed in association with those Phase I reports, which includes all of the CSUMB Main Campus.

4.7.1.2 Campus Setting

Hazardous Materials

Definitions and Overview

As defined in the California Health and Safety Code § 25501, "hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant hazard to human health and safety, or to the environment, if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons, or harmful to the environment if released into the workplace or the environment. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated, or is being stored prior to proper disposal.

California Code of Regulations (Cal. Code Regs.), Title 22, Chapter 11, Article 2, § 66261.10 provides the following definition for hazardous waste:

> [A] waste that exhibits the characteristics may: (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed or otherwise managed.

Substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances (e.g., gasoline, hexane, and natural gas) are hazardous because of their flammable properties. Corrosive substances (e.g., strong acids and bases such as sulfuric (battery acid or lye) are chemically active and can damage other materials or cause severe burns upon contact. Reactive substances (e.g., explosives, pressurized canisters, and pure sodium metal, which react violently with water) may cause explosions or generate gases or fumes.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as "mixed wastes." Biohazardous materials and wastes include anything derived from living organisms, which may be contaminated with disease-causing agents, such as bacteria or viruses.

In some cases, past industrial or commercial activities on a site may have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Hazardous materials may also be present in building materials and released during building demolition activities. If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent include inhalation, ingestion, bodily contact, and injection. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials from previous spills or leaks.

Regulatory Records Review

California Government Code § 65962.5 requires the California Environmental Protection Agency (Cal-EPA) to compile a list of hazardous waste and substances sites (Cortese List). While the Cortese List is no longer maintained as a single list, the following databases provide information that meet the Cortese List requirements:

1. List of Hazardous Waste and Substances sites from the DTSC EnviroStor database (Cal. Health and Safety Codes §§ 25220, 25242, 25356, and 116395);
2. List of Leaking Underground Storage Tank (LUST) Sites by County and Fiscal Year from the State Water Resources Control Board (Water Board) GeoTracker database (Cal. Health and Safety Code § 25295);
3. List of solid waste disposal sites identified by the Water Board with waste constituents above hazardous waste levels outside the waste management unit (Cal. Water Code § 13273(e) and Cal. Code Regs., Title 14, § 18051);
4. List of "active" Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the Water Board (Cal. Water Code §§ 13301 and 13304); and
5. List of hazardous waste facilities subject to corrective action pursuant to Cal. Health and Safety Code § 25187.5, identified by DTSC.

A Phase I ESA has not been completed for the entire CSUMB campus; however, as previously discussed, Phase I reports were completed in 2016 for the proposed Monterey Bay Charter School, located in the eastern portion of the Main Campus, and in 2012 for the Promontory

Student Housing, located in the northern portion of the Main Campus. The objective of Phase I ESAs is to identify, to the extent feasible, recognized environmental conditions, which are defined by the American Society of Testing and Materials (ASTM Standard E 1527-13) as "the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: 1) due to any release to the environment, 2) under conditions indicative of a release to the environment, or 3) under conditions that pose a material threat of a future release to the environment. The Phase I reports include an environmental database search that provides a listing of sites within an approximately 1-mile radius of these development sites that are known to be chemical handlers, hazardous waste generators, or polluters. This 1-mile radius includes all of the CSUMB Main Campus (Denise Duffy & Associates, Inc. 2016; Andersen Environmental 2012).

In addition, Environmental Baseline Surveys (EBSs) were completed by the Department of Army (Army) for the CSUMB campus in association with the BRAC process for the former Fort Ord Army Base. An EBS is similar to a Phase I ESA, in that the potential for subsurface contamination is determined based on a site survey, prior site use, and available remedial investigations/feasibility studies completed in association with the former Fort Ord's Installation Restoration Program (IRP). The IRP addresses potential dangers posed by sites as the result of the past handling or disposal of hazardous materials by the Department of Defense (U.S. Army 1993). In the event that the EBS indicates that subsurface soil and/or groundwater contamination is present, Site Characterizations (i.e., soil and/or groundwater sampling and analysis) are completed and remediation completed, as necessary. This investigative process was conducted in association with the Findings of Suitability to Transfer (FOST) process, which was required of the Army to document that the CSUMB property is environmentally suitable for transfer under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Department of Defense (DOD) FOST Guidance (USACE 2018).

CSUMB is located on a portion of the approximately 28,000-acre former Fort Ord Army Base, of which 24,492 acres are listed on the DTSC's EnviroStor's Cortese Hazardous Waste and Substances Sites List.[1] Fort Ord was established in 1917, was used as training and staging facilities for troops, and was a basic training center from 1945 to 1975. Cavalry, field artillery, and infantry units used portions of the base for maneuvers, target ranges, and other purposes. The former Fort Ord was selected in 1991 for closure under the BRAC Act, and it was officially closed in 1994. At former Fort Ord, both soil and groundwater have been contaminated with hazardous substances and wastes. These include industrial solvents, heavy metals, pesticides, polycyclic aromatic hydrocarbons (PAHs), explosives residues, and Munitions and Explosives of Concern (MEC) (DTSC 2018).

1 The DTSC listing does not include 3,336 acres from an early transfer in the Fort Ord Reuse Authority Environmental Services Cooperative Agreement (ESCA) Remediation Program (DTSC 2018).

The former Fort Ord Army Base is listed as a Transfer, Storage, and Disposal Facility and a large-quantity generator of hazardous waste, from at least 1980 to 2006 (Denise Duffy & Associates, Inc. 2016; Andersen Environmental 2013). The former Army base is listed as an active cleanup site, with oversight being completed by the DTSC Site Cleanup Program, the Central Coast RWQCB (Region 3), and the U.S. Environmental Protection Agency (USEPA). The latter is the lead regulatory agency (DTSC 2018).

In 1990, Fort Ord was placed on the federal National Priorities List (NPL) as a result of soil and groundwater contamination. In 1990, a Federal Facility Agreement (FFA) was signed by the Army, USEPA, the DTSC, and the Central Coast RWQCB. Thirty-nine individual sites were initially investigated for soil and groundwater contamination under the Army IRP. In 2000, an agreement was signed between the Army, USEPA, and DTSC to evaluate munitions and MEC at the former Fort Ord and subject to the FFA. The Military Response Program addresses munitions sites that contain or potentially contain MEC (DTSC 2018).

The NPL listing and a federal facilities agreement required the Army to perform the Superfund cleanup process prior to the conveyance of any land. As previously stated, FOSTs have been prepared by the Army to document that the CSUMB property is environmentally suitable for transfer under CERCLA and DOD FOST Guidance. The DTSC issued letters of no further action for the property and the USEPA concurred that all necessary remedial action has been completed. In accordance with CERCLA, the FOSTs for the CSUMB campus property demonstrate that either the property is uncontaminated or that all necessary remediation has been completed or is in place and operating properly and successfully. The FOSTs include documentation of the presence of and/or removal of munitions and MEC. Per these FOSTs, in the event CSUMB grading and construction contractors discover any ordnance,[2] they would be required not to attempt to remove or destroy it, but rather to immediately notify the local Police Department and the Directorate of Law Enforcement at the Presidio of Monterey. Competent U.S. Army Explosive Ordnance personnel will be dispatched promptly to dispose of such ordnance properly at no expense to CSUMB.

Additional information about various sources of contamination or potential contamination is provided below.

Groundwater Contamination

In 1986, off-base groundwater was found to be contaminated with volatile organic compounds (VOCs), including tetrachloride, tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1,1-trichloroethane (TCA), and trans-1,2-dichloroethylene. A former Fort Ord landfill operated

2 “Ordnance” means military supplies including weapons, ammunition, combat vehicles, and equipment used in connection with such supplies.

north of the East Campus Open Space and west of East Campus Housing from 1956 to 1987 has contributed to the groundwater contamination. The landfill was used for residential and commercial waste, including dried sewage sludge; construction debris; and small amounts of chemical waste, such as paint, oil, pesticides, electrical equipment, ink, and epoxy adhesive (Denise Duffy & Associates, Inc. 2016; DTSC 2018).

In 1990, a network of groundwater monitoring wells was installed throughout the former Fort Ord. Based on groundwater monitoring reports for the former Fort Ord landfill, groundwater occurs at approximately 165 feet below ground surface and flows in a westerly direction, toward the Main Campus. The former landfill has contributed to VOC concentrations in groundwater underlying the northern portion of the Main Campus and the East Campus Housing area (Denise Duffy & Associates, Inc. 2016; DTSC 2018).

A groundwater deed restriction in the form of a groundwater Land Use Covenant (groundwater LUC) has been placed on properties overlying the groundwater contamination plume, including portions of the CSUMB Main Campus and the East Campus Open Space. The deed restriction prohibits the drilling of groundwater extraction or injection wells, or the creation of new groundwater recharge basins/surface water infiltration ponds without closely coordinating with the Army in the restricted area, but allows the Army (or its designated contractor) and the regulatory agencies to permit necessary groundwater monitoring and the installation of pump and treat remediation operations. A DTSC Land Use Covenant (LUC) Reporting Memorandum of Agreement was signed by the campus in 2008 and requires annual reporting on compliance with the groundwater LUC (DTSC et al. 2008). The deed restrictions also require that RWQCB, DTSC, Monterey County Environmental Health Agency, and the USEPA be notified of the discovery of any activities conducted on the site interfering with or adversely affecting any groundwater extraction, treatment, or monitoring installation (DTSC 2018; Denise Duffy & Associates, Inc. 2007, 2016; Andersen Environmental 2012).

The Central Coast RWQCB has concluded that there are no pathways for exposure to the groundwater contamination by property users, given that the groundwater is not used as a drinking water source, a deed restriction applies to the property, and the depth to groundwater is approximately 165 feet below ground surface (Andersen Environmental 2012).

Asbestos-Containing Materials (ACMs)

Because a substantial amount of construction occurred at Fort Ord from the 1940s to the 1960s, the majority of former Fort Ord buildings contain some type of asbestos. The objectives of the former Fort Ord's asbestos management program, which was managed by the U.S. Army Corps of Engineers, were to: 1) identify ACMs in Army-controlled buildings, 2) evaluate the friability, condition, and potential for damage of the ACMs, and 3) implement response actions appropriate to the findings. An asbestos survey of approximately 350 non-residential buildings (i.e., retail stores, office buildings, lavatories, dining halls, barracks, general purpose buildings, vehicle maintenance and storage, oil storage, bus/taxi stations, and ammunition bunkers) was performed in 1989 and 1990 and found both friable and nonfriable ACMs. Subsequently, from October 1991 to April 1993, a base-wide asbestos survey of an additional 2,689 non-residential and barracks structures was performed and both friable and nonfriable ACMs were found, including in 38 of the non-residential buildings transferred to CSUMB (Denise Duffy & Associates, Inc. 2007). Most residential units were constructed in 1986 and do not contain asbestos. Friable and nonfriable asbestos have been removed from all buildings renovated by the University, as applicable. Existing CSUMB policy is to remove all friable asbestos prior to renovation, deconstruction, or demolition of buildings (Denise Duffy & Associates, Inc. 2007).

In 2012, additional ACM surveys were completed in the former Hammerheads residential area, located in the eastern portion of the Main Campus (Vista Environmental Consulting 2012). ACMs were observed and detected (through sampling) throughout the housing development and may be present in subsurface insulated piping and/or cement utility piping in the five remaining Hammerhead buildings left on campus. This area was properly abated for ACM in advance of demolition of this area, as is required by the State University Administrative Manual (see Section 4.7.2.2 for additional information), and demolition of this area is now complete (Spear pers. com. 2019). Additionally, in 2019, limited asbestos surveys were performed on 50 occupied buildings on campus to determine the presence of ACMs in these buildings. Based on the results of these surveys, some existing buildings do have ACMs present. These buildings would be properly abated prior to any demolition or renovation, as indicated above.

Lead-Based Paint (LBP)

The former Fort Ord implemented an LBP management program, the objectives of which were: 1) to identify and control LBP and lead-contaminated dust in target facilities, and 2) eliminate LBP in reuse properties that include buildings constructed prior to 1978 and intended to be used for residential purposes. LBP surveys of pre-1978 housing areas were conducted by the U.S. Army Environmental Hygiene Agency. Based on the surveys, LBP is present in some campus buildings (Denise Duffy & Associates, Inc. 2007).

In 2012, additional LBP surveys were completed in the Hammerheads residential area, located in the eastern portion of the Main Campus (Vista Environmental Consulting 2012). LBP was detected (through an X-Ray Fluorescence direct read spectrum analyzer) throughout the housing development. This area was properly abated for LBP in advance of demolition of this area, as is required by the State University Administrative Manual (see Section 4.7.2.2 for additional information), and demolition of this area is now complete (Spear pers. com. 2019). Additionally, in 2019, limited lead surveys were performed on 50 occupied buildings on campus to determine the presence of lead. Based on the results of these surveys, some existing buildings do have lead present. These areas would be properly abated prior to any demolition or renovation, as indicated above.

Polychlorinated Biphenyls (PCBs) and Universal Waste

PCBs have been widely used as coolants and lubricants in transformers, capacitors, and other electrical equipment like fluorescent light ballasts. EPA considers PCBs to be probable cancer-causing chemicals in humans. PCBs and PCB-contaminated equipment that will be disposed of must be stored in a hazardous storage facility. Fluorescent light ballasts containing PCBs have historically been present in older buildings on the CSUMB campus.

Universal waste is hazardous waste that is present in common household products, such as non-incandescent lamps, batteries, mercury-containing devices, and electronic waste. In general, materials managed as universal waste can be stored for a year and are not required to be shipped with a manifest. In addition, universal wastes do not need to be counted toward a generator's category for the purpose of determining whether it is a very small generator, small quantity generator, or large quantity generator. However, the universal waste regulations do require that the materials be managed in a way to prevent releases to the environment.

In 2012, a hazardous materials survey was completed in the Hammerheads residential area, located in the eastern portion of the Main Campus (Vista Environmental Consulting 2012). Devices with potential hazardous materials were visually identified during the survey walk-through and their quantities were estimated and recorded. This area was properly abated for PCBs in advance of demolition of this area, as is required by the State University Administrative Manual (see Section 4.7.2.2 for additional information), and demolition of this area is now complete (Spear pers. com. 2019).

CSUMB Hazardous Materials Use

CSUMB uses various hazardous substances and petroleum products during daily operations, including substances typically used in science laboratories (e.g., acids, bases, solvents, and other reagents and reaction products); fine arts studios (e.g., paints and photo-developing chemicals); and maintenance of buildings, landscaping, and vehicles (e.g., gasoline and diesel fuel, oils and lubricants, antifreeze, cleaners [solvents, corrosives, and detergents], oil-based and latex paints and paint thinners; Freon (refrigerants); and pesticides/herbicides). Hazardous waste generated on campus is temporarily (i.e., less than 90 days) stored in hazardous waste separation and storage lockers, outside occupied buildings, pending off-site disposal at three sites across campus. The lockers are also used to store universal wastes such as fluorescent light tubes and batteries. In addition, campus-generated automotive waste is temporarily stored in a hazardous waste collection area within the vehicle maintenance area, pending off-site disposal. CSUMB also maintains emergency generators, which are fueled by diesel, propane, and natural gas, with capacities up to 500 gallons. Due to the nature of campus operations, the quantities and types of hazardous materials used on campus at any particular time change rapidly and unpredictably. A list of chemicals currently used at CSUMB is available through the office of Environmental Health, Safety, and Risk Management.

No use of biohazardous materials occurs at CSUMB that requires safety precautions at Biosafety Level 2 or greater.[3] CSUMB does not have a traditional animal research lab (for example, rats, mice bred as research models) with animals in their own animal room, however faculty do conduct outdoor mammalian field research.

At this time, the CSUMB College of Science currently has two gas chromatographs with a sealed radioactive source in Building 13 and an X-ray spectrometer on the 3rd floor of the Chapman Science Center. Small amounts of radioactive materials are also likely present in fire alarm devices around the campus and in the X-ray equipment located in the Health and Wellness Center. Unintentional radiologic hazards under existing conditions come from off-campus sources such as a transportation incident or portable equipment brought onto the campus by others. While either of these scenarios is possible, based on the history of radiologic incidents, the probability of a significant unintentional incident is low (CSUMB 2014).

Transportation of Hazardous Materials within and Adjacent to the Campus

Highway 1 is a major traffic corridor located near the campus. All classes of hazardous materials, excluding some high-level radioactive materials, poisons, and explosives, can be transported on major roadways and highways. Section 31303 of the California Vehicle Code and United States Department of Transportation (DOT) regulations provide restrictions on transportation of hazardous materials through residential areas, thoroughfares, or places where crowds are congregated. Local streets that do not fall into these categories may be used for the transportation of hazardous materials. Railways are also a major mode of transportation for hazardous materials. The closest railway is approximately 4 miles northeast of the East Campus Housing area.

[3] Depending on the potential hazard, one of four biosafety levels describes safety precautions necessary for work involving biological materials. Biosafety Level 1 is for the least hazardous biological agents, which pose minimal or no known potential hazard to laboratory personnel or the environment. Biosafety Level 2 is for agents that are associated with human disease and pose hazards of accidental inoculation, ingestion, or mucous membrane exposure. Biosafety Levels 3 and 4 are for agents that pose more serious risks.

Other Hazards

Former Munitions

Beginning in 1917, portions of the former Fort Ord were used by infantry units for maneuvers, target ranges, and other purposes. Ordnance and explosives (or military munitions) were fired into, fired upon, or used on the facility in the form of artillery and mortar projectiles, rockets/guided missiles, rifle/hand grenades, practice land mines, pyrotechnics, bombs, and demolition materials. As a result, a wide variety of military munitions have been encountered at sites throughout the former Fort Ord (Denise Duffy & Associates, Inc. 2007).

The former Army base is an active DTSC cleanup site with respect to non-munitions contaminated soil and groundwater. Approximately 3,336 acres that contain munitions were excluded from DTSC cleanup, and included in the Fort Ord Reuse Authority Environmental Services Cooperative Agreement (FORA ESCA) project, which is now managed by the City of Seaside, project (DTSC 2018). The FORA ESCA project addresses cleanup/remediation of Army MEC on these 3,336 acres and includes the 322 acres that made up CSUMB's East Campus Open Space. The ESCA grant enabled a non-military entity to complete the MEC cleanup of remnant hazardous safety issues resulting from previous Army munitions training operations.

The Main Campus and East Campus Housing areas are not areas of former munitions use and are suitable for residential and non-residential uses. The 50 westernmost acres of the East Campus Open Space are designated as faculty and staff housing reserve (see Figure 3-6 in Chapter 3, Project Description), and are cleaned to a standard that permits a residential land use (FORA 2017), although such a future use is not proposed nor analyzed as part of the Project.

The remainder of the East Campus Open Space, which was an area of munitions use, is cleaned to a lower standard that does not allow housing or other associated uses to be built. The entire parcel is also subject to a Land Use Controls Implementation Plan Operations and Maintenance Plan and deed restrictions related to groundwater and the movement of soil as a way to protect human health on a former munitions site.

Hazards Associated with Wildland Fires

Fire Hazard Severity Zones

Fire environments are dynamic systems and are influenced by many types of environmental factors and site characteristics. Fires can occur in any environment where conditions are conducive to ignition and fire movement. The three major components of fire environment are vegetation (fuels), climate, and topography. The state of each of these components and their interactions with each other determines the potential characteristics and behavior of a wildfire.

In addition, the type, location, and intensity of a wildfire can affect wildlife, vegetation, air quality, water quality, and slope stability to varying degrees, as discussed below.

A wildfire is a nonstructural fire that can occur in undeveloped areas and spread to urban areas where the landscape and buildings are receptive to ignition. The Urban-Wildland Interface area or WUI is a zone of transition between wildland (undeveloped/unoccupied/"natural" land) and urban development. Communities adjacent to or within WUI areas are at a higher risk for wildfire occurrence. The campus is located within WUI areas designated in the Monterey County Community Wildfire Protection Plan. See Section 4.7.2.4, Local, for additional information about this plan.

Responsibility for wildfire prevention and suppression is shared by Federal, State, and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas (FRAs). The State of California has determined that some unincorporated local county areas with watershed value are of statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by CAL FIRE. However, in general, incorporated and unincorporated lands are classified as Local Responsibility Areas (LRA) where the local government or underlying jurisdiction is responsible for wildfire protection. Such services are typically provided by city or county fire departments or fire protection districts but can also be provided by CAL FIRE under contract (CAL FIRE 2021). As indicated in Section 4.12, Public Services, mutual aid agreements also provide for CAL FIRE involvement in LRAs under certain circumstances.

CAL FIRE maps areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors, pursuant to Public Resources Code (PRC) 4201-4204 and Government Code 51175-51189. These areas are referred to as Fire Hazard Severity Zones (FHSZs) and are identified for areas where the state has financial responsibility for wildland fire protection (SRAs), and areas where local governments have financial responsibility for wildland fire protection (LRAs). There are three types of FHSZ mapped for SRAs (moderate, high, and very high), while only lands zoned as very high are identified in LRAs (CAL FIRE 2007). The speed and intensity of potential fires within the area, ability of embers to spread and multiply, loading of fuel, topographic conditions, and local climate all culminate to form the fire hazard severity for an area. Very High Fire Hazard Severity Zones (VHFHSZ) are areas lacking adequate wildland and structural fire protection.

The CSUMB campus, including the Main Campus, East Campus Housing, and East Campus Open Space, is not located within a VHFHSZ (see Figure 4.7-1). The closest LRA VHFHSZ is located approximately 1.6 miles or more to the southeast of East Campus Housing and approximately 3.3 miles to the east of the CSUMB Main Campus. The CSUMB campus is not located within an SRA; the closest SRA is located approximately 5 miles or more away from the campus. The Main Campus and East Campus Housing are located within a LRA (within the jurisdictions of the cities of Marina and Seaside and County of Monterey). Most of the Main Campus is in an undesignated

LRA (non-VHFHSZ); however, the eastern edge of the Main Campus, between Seventh and Eighth Avenues, and a portion of East Campus Housing are designated as a LRA High Fire Hazard Severity Zone under the jurisdiction of the Monterey County Regional Fire District. The East Campus Open Space is located within a Federal Responsibility Area or FRA High Fire Hazard Severity Zone (CAL FIRE 2008). The federal agency responsible for wildfire prevention and suppression in the East Campus Open Space is the Bureau of Land Management (BLM), specifically from the Fort Ord BLM land fire management unit. Now that the East Campus Open Space has transferred from federal to CSU ownership, the agency responsible for prevention and suppression of wildfires may shift; however, CAL FIRE mapping related to responsibility areas has not been modified as of August 2021.

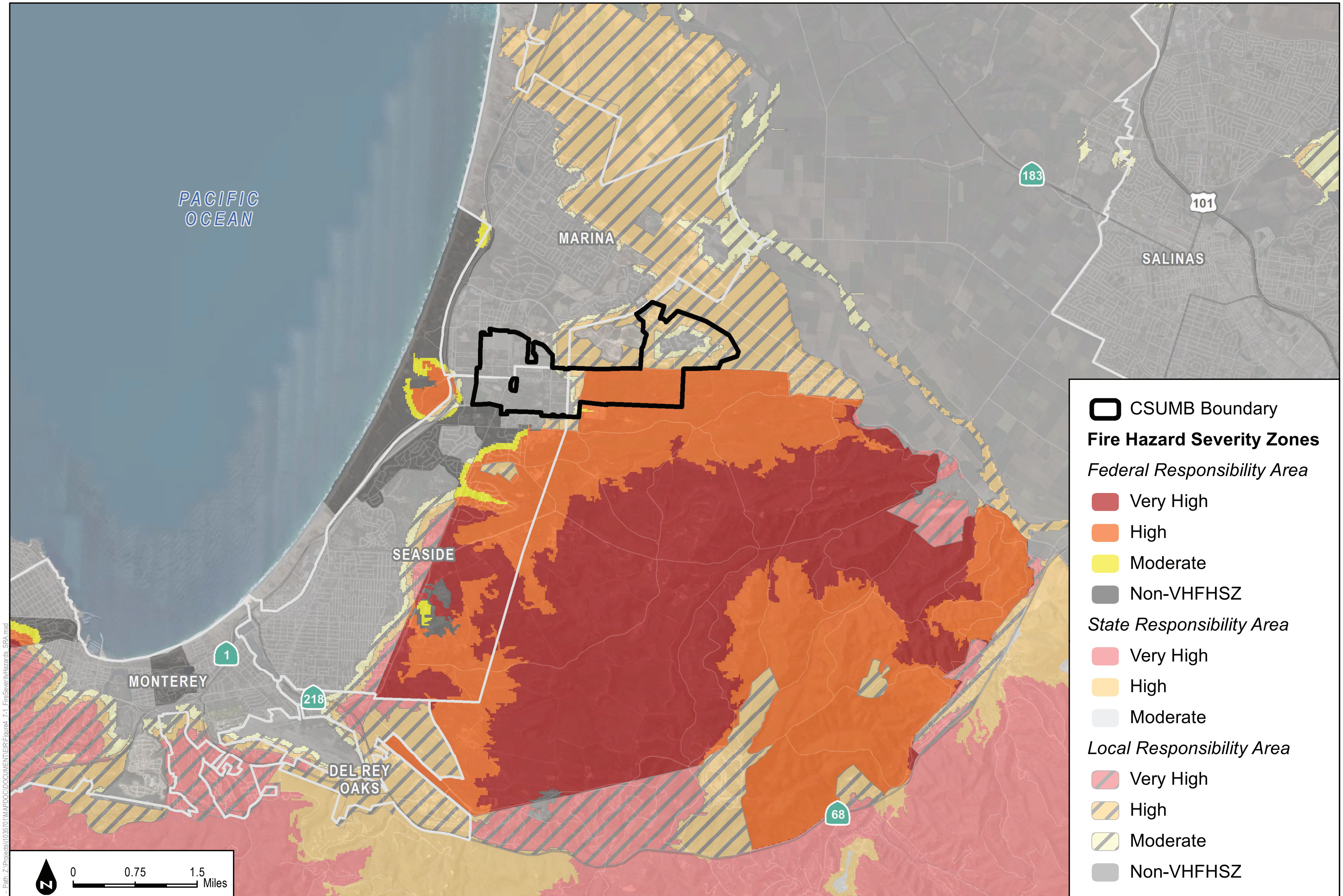
Vegetation

As described in Section 4.3, Biological Resources, the CSUMB campus contains five natural vegetation community/habitat types: coast live oak woodland, central maritime chaparral, central coastal scrub, non-native grassland, and ruderal/disturbed. Several areas of the campus contain a mixture of the five vegetation types. Additionally, some areas of the campus are developed with campus facilities. The vegetation communities and their approximate acreages found on the campus are shown on Figure 4.3-2 and listed in Table 4.7-1.

The Main Campus contains primarily developed and ruderal/disturbed with more limited areas of coast live oak woodland. East Campus Housing contains primarily developed and ruderal/disturbed in the developed areas and is surrounded by coast live oak woodland and other types of vegetation. East Campus Open Space is entirely vegetated and dominated by coast live oak woodland.

Table 4.7-1
Vegetation Types within the CSUMB Campus

Vegetation Type	Total Area (acres)
Developed	526.5
Coast Live Oak Woodland	336.4
Ruderal/Disturbed	327.6
Central Maritime Chaparral	74.9
Central Maritime Chaparral/Coast Live Oak Woodland Mix	46.3
Coast Live Oak Woodland/Non-Native Grassland Mix	23.5
Non-Native Grassland	33.9
Coast Live Oak Woodland/Central Coastal Scrub Mix	10.4
Central Coastal Scrub	8.6
Central Coastal Scrub/Non-Native Grassland Mix	4.6
Central Maritime Chaparral/Central Coastal Scrub Mix	3.1
Total	**1,395.8**



SOURCE: Cal Fire 2007/2008, Bing Maps 2019

FIGURE 4.7-1

Fire Hazard Severity Zones and Responsibility Areas

DUDEK

CSU Monterey Bay Master Plan EIR

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Topography

Topographical variations affect how wildfire can traverse an area. Fire spreads faster going up slopes. As indicated in Section 4.5, Geology, Soils and Paleontology, the CSUMB campus is characterized by vegetation-stabilized dunes, which represent older coastal dune sand. On the Main Campus, most of the original hummocky dune topography has been graded, resulting in relatively flat to gently sloping topography with slopes of 2 to 5 percent (see Figure 4.5-2), although open space in the southern portion of the campus has retained some of the natural topography. There are localized moderately steep slopes greater than 5 percent present in the northern portion of the campus, such as adjacent to the existing Promontory student housing at 8th Street and Imjin Road. The East Campus Housing area has been partially graded; however, much of the original dune topography remains. The East Campus Open Space Area has mostly retained its natural dune topography, with localized steep slopes. Section 4.5 also indicates that there are no known landslides on or near the campus. Based on the relatively flat to gently sloping topography across the Main Campus, the potential for slope instability is low.

As indicated in Section 4.8, Hydrology and Water Quality, the campus is not located in 100-year or 500-year floodplains. While campus areas located south of Divarty Street and West of General Jim Moore Boulevard are designated as Zone X due to minimal flood risk (<0.2% annual chance of flooding), no proposed structures or development sites are listed for flood risk.

Climate and Weather

Wind, temperature, and relative humidity are the most influential weather elements in fire behavior and susceptibility (National Park Service 2017). Fire moves faster under hot, dry, and windy conditions. Wind may also blow burning embers ahead of a fire, causing its spread. Drought conditions also lead to extended periods of excessively dry vegetation, increasing the fuel load and ignition potential. The Western Regional Climate Center maintains a weather monitoring station in the City of Monterey, just south of the City of Seaside. According to data collected at this weather station, most precipitation is received from November through March, with an average annual rainfall of approximately 20 inches (Western Regional Climate Center 2016). May through September is the driest part of the year and has historically been considered the fire season in California. However, increasingly persistent drought and climatic changes in California have resulted in drier winters, and fires during the autumn, winter, and spring months are becoming more common.

Climate change is expected to influence existing fire-related hazards and vulnerabilities. Changes in precipitation (rain and snowfall), humidity, and temperature have the cumulative effect of increasing conditions where wildfires could occur with greater frequency and severity. According to the Center for Climate and Energy Solutions, drier vegetation and drought conditions have contributed to a doubling of large fires in the western states between 1984 and 2015, with projections indicating that a 1 degree increase in temperature could result in a substantial increase in fires due to warmer temperatures and drier conditions that help fires spread and make them harder to extinguish (CES 2020).

According to Section 4.2, Air Quality, the semi-permanent high-pressure cell in the eastern Pacific is the basic controlling factor in the climate of the region. In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the entire California coast, which results in prevailing winds to the east and southeast. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The generally northwest–southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure that intensifies the onshore air flow. In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific high-pressure cell. During the winter, the Pacific High migrates southward and has less influence.

Infrastructure

Two major electrical transmission lines (a 60-kilovolt [kV] line to the Fort Ord area and a 115-kV line to the Monterey Peninsula) traverse the northern and central portions of the East Campus Open Space, as well as the eastern edge of the East Campus Housing area. An underground natural gas transmission pipeline owned by Pacific Gas & Electric (PG&E) also traverses the East Campus Open Space.

Aircraft Hazards

The airport closest to the CSUMB campus is the Marina Municipal Airport, located approximately 2 miles to the northeast. Based on review of the Marina Municipal Airport Land Use Compatibility Plan (ALUCP), the campus is located approximately 4,500 feet south and southwest of Marina Municipal Airport runway, at the closest point in the East Campus Housing area. The CSUMB campus is located outside of the airport safety zones, but a portion of the campus is located within the airport influence area (Zone 7) of the Marina Municipal Airport. Specifically, East Campus Housing and the northeast portion of the Main Campus are within the airport influence area. The airport accident risk level is considered low within this zone (Coffman Associates, Inc. 2019a).

The Monterey Regional Airport is located approximately 5 miles southwest of CSUMB. CSUMB is not located within a designated aircraft safety zone associated with the Monterey Regional Airport (Coffman Associates 2019b).

Sensitive Receptors

In addition to the campus being occupied by CSUMB's daytime and residential population, nearby schools include the Monterey College of Law, located immediately to the southwest; the Chartwell School, located approximately 0.6 mile to the southwest; George C. Marshall Elementary School, located approximately 0.7 mile to the southwest; the Dual Language Academy of the Monterey Peninsula, located approximately 0.7 mile to the southwest; Marina High School, located approximately 1.0 mile to the north; Crumpton Elementary School, located approximately 1.3 miles to the northeast; and Marina Vista Elementary School, located approximately 1.4 miles to the northeast. In addition, the proposed Monterey Bay Charter School would be located on the CSUMB campus.

4.7.1.3 Site Conditions for Near-Term Development Components

The existing hazards and hazardous materials setting for the near-term development component sites is generally described above. In particular, while the campus, including the near-term development component sites, is located on a Superfund site, the site is either uncontaminated or all necessary remediation has been completed or measures are in place to protect human health and are operating properly and successfully. Additional information is provided below related to specific development conditions on each site. Chapter 3, Project Description provides additional information about the location of each development site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site is mostly paved with an existing surface parking lot and an unused paved area. The existing surface parking lot is actively used by the campus. The unused paved area, which is the potential staging area, dates back to the former Fort Ord. Vegetation and paved pathways border the development component site on the west and south.

Academic IV

The approximately 4.0-acre Academic IV site is mostly paved or developed. Existing Building 13 (Science Research Lab Annex) and parking lot areas13 and 19 are located on the site. Vegetation and paved pathways border the development site on all sides. The potential staging area on the west is a paved parking lot and the staging area on the east is mostly unpaved and previously contained one of the Hammerheads residential area buildings that was demolished, as previously described.

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center Phases I and II site is partially paved or developed. Existing Building 21 (Beach Hall) and Building 23 (Tide Hall), and portions of parking lots 23 and 508 are located on the site. These buildings are used for various campus administration uses. Vegetation and paved pathways border the development site on the north and west sides of the site. The potential staging area to the south is mostly unpaved and vegetated.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site and potential staging area are mostly paved. This unused paved area dates back to the former Fort Ord. Vegetation borders a portion of the entire site on the north, west and south.

Academic V

The approximately 2.7-acre Academic V site is partially paved or developed. Existing Buildings 1, 2, and 3 (Administration, Playa, and Del Mar buildings) and parking lot 18 are located on this site. These buildings are used for administration and academic uses. Vegetation and paved pathways border the development site on all sides. Construction staging for this development component would potentially use the same staging area as that identified for the Student Recreation Center Phases I and II.

4.7.2 Regulatory Framework

Hazardous materials and wastes are identified and defined by federal and state regulations for the purpose of protecting public health and the environment. Hazardous materials contain certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous wastes are defined in the Code of Federal Regulations (C.F.R.) Title 40, Volume 25, Parts 260–265 and in the California Code of Regulations (Cal. Code Reg.), Title 22 Div. 4.5, Chapter 11, Article 1, § 66261. Over the years, the laws and regulations have evolved to deal with different aspects of the handling, treatment, storage, and disposal of hazardous substances.

4.7.2.1 Federal

The following federal regulations pertaining to hazards and hazardous materials would apply to the Project.

Toxic Substances Control Act (1976)

The Toxic Substances Control Act of 1976 (40 U.S.C. Parts 260-265) provides U.S. Environmental Protection Agency (EPA) with authority to require reporting, record-keeping, and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from the Toxic Substances Control Act, including food, drugs, cosmetics, and pesticides.

Comprehensive Environmental Response, Compensation, and Liability Act(1980)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," was enacted by Congress on December 11, 1980 (40 C.F.R. Part 302). CERCLA provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous waste sites, as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, EPA was given power to seek out those parties responsible for any release and ensure their cooperation in the cleanup.

Emergency Planning and Community Right-To-Know Act

Authorized by Title III of the Superfund Amendments and Reauthorization Act (SARA), the Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety (40 U.S.C. Parts 350-372). This law is designed to help local communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress requires each state to appoint a State Emergency Response Commission (SERC). The SERCs are required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district. The project site is located in Administrative, Mutual Aid, and Local Emergency Planning Committee Region II – Coastal (California Governor's Office of Emergency Services 2014). Broad representation by fire fighters, health officials, government and media representatives, community groups, industrial facilities, and emergency managers ensures that all necessary elements of the planning process are represented.

Hazardous Materials Transportation Act

Transportation of hazardous materials is regulated by the U.S. Department of Transportation's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 C.F.R. Parts 100–185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive required training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections, use of vehicle controls and equipment including emergency equipment, procedures for safe operation of the transport vehicle, training on the properties of the hazardous material being transported, and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 C.F.R. Part 383. Vehicles transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

Transportation by rail is regulated per 49 C.F.R. Part 174, Subpart C covers the requirements for marking and placarding of rail cars and the segregation of hazardous materials. Subpart D covers the requirements for handling of placarded rail cars, including position in the train and maximum allowable speed (50 miles per hour for most hazards substances). Subparts E, F, G, J, and K include requirements for transportation of explosives, gases, flammable liquids, poisonous materials, and radioactive materials, respectively. Safety requirements include inspections at every stop, specific training, and train crew knowledge of the rail car contents and location.

Occupational and Safety Health Act

The Occupational Safety and Health Administration (OSHA) is responsible at the federal level for ensuring worker safety. OSHA sets federal standards for implementing workplace training, exposure limits, and safety procedures for the handling of hazardous substances and hazardous materials (as well as other hazards). OSHA also establishes criteria by which each state can implement its own health and safety program.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from "cradle-to-grave" (40 C.F.R. Parts 239-282). This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The Federal Hazardous and Solid Waste Amendments are the 1984 amendments to RCRA that focused on waste minimization and phasing out land disposal of hazardous waste, as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive UST program.

Healthy Forests Restoration Act

In 2003, Congress enacted the Healthy Forests Restoration Act of 2003 (HFRA). The HFRA improves the ability of the United States Secretary of Agriculture and Secretary of Interior to conduct hazardous fuel reduction projects on National Forest System lands and BLM lands, to protect communities, watersheds, and infrastructure from catastrophic wildfire. The provisions of the HFRA include the following: (1) a streamlined National Environmental Policy Act (NEPA) process for hazardous fuel treatments and other activities that would reduce hazardous fuels on Federal land and, (2) incentives for local communities to prepare Community Wildfire Protection Plans (CWPP) that prioritize where hazardous fuel reduction should take place on Federal lands, and where federal fuel reduction funds should be expended on private lands (e.g., fuel reduction grants).

The Monterey County Community Wildfire Protection Plan (MCCWPP) was prepared pursuant to provisions of the HFRA, recognizing that certain large federal land holdings influence wildfire risk to nearby state, county and private lands, and local communities. See Section 4.7.2.4, Local, for a description of the MCCWPP.

4.7.2.2 State

The following state regulations pertaining to hazards and hazardous materials would apply to the Project.

California Building Code and California Fire Code

The state regulations related to hazardous materials are contained in the California Building Code (Cal. Code Regs. tit. 24, part 2) and state regulations related to fire-safe construction and materials are contained in the California Fire Code (Cal. Code Regs. tit. 24, part 2 9). The California Building Code and California Fire Code standards address, among other elements, proper storage and secondary containment for hazardous materials and fire-safe construction and materials. Use of appropriate design features would help reduce the potential for accidental releases of hazardous materials that could affect occupants or require emergency response services. CSU building officials are responsible for reviewing plans for facilities proposing to use hazardous materials to ensure compliance with applicable California Building Code standards and the State Fire Marshal is responsible for reviewing plans to ensure compliance with applicable California Fire Code standards (CSU 2004).

Certified Unified Program

The California Environmental Protection Agency (CalEPA) implements and enforces a statewide hazardous materials program known as the Certified Unified Program, established by Senate Bill 1802 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental and emergency management programs for hazardous materials (Cal. Code Regs. tit. 27, §§15100-15620; Cal. Health and Safety Code §§ 25404-25404.9):

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention Program
- Underground Storage Tank Program

- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control, and Countermeasure Plans
- Hazardous Waste Generator and On-Site Hazardous Waste Treatment Programs
- California Uniform Fire Code, Hazardous Materials Management Plans, and Hazardous Material Inventory Statements

In order to ensure consistency in the administrative requirements, permits, inspections, and enforcement related to the handling and storage of hazardous wastes and materials, CalEPA oversees the Certified Unified Program and certifies local government agencies as Certified Unified Program Agencies (CUPAs) to implement hazardous waste and materials standards. The designated local CUPA in Monterey County is the Monterey County Environmental Health Bureau, which administers state and federal hazardous waste laws locally, including as they relate to CSUMB.

California Hazardous Waste Control Law

California Health and Safety Code Division 20, Chapter 6.5 establishes regulations to protect the public health and environment by assisting generators of hazardous waste in meeting the responsibility for the safe disposal of hazardous waste. The California Hazardous Waste Control Law is administered by the CalEPA and pertains to administering a state hazardous waste program in lieu of the federal RCRA program, pursuant to 42 U.S.C. 6926, as amended. Although the Hazardous Waste Control Law is generally more stringent than RCRA, until EPA approves the California hazardous waste control program (which is charged with regulating the generation, treatment, storage, and disposal of hazardous waste), both the state and federal laws apply in California. The Hazardous Waste Control Law lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

California Accidental Release Prevention Program

Similar to the Federal Risk Management Program, the California Accidental Release Prevention Program includes additional state requirements and an additional list of regulated substances and thresholds (Cal. Code Regs. tit. 19, §§ 2735.1–2785.1). The intent of the California Accidental Release Prevention Program is to provide first responders with basic information necessary to prevent or mitigate damage to public health, safety, and the environment from the release or threatened release of hazardous materials.

California DTSC and California Highway Patrol Hazard Transportation Program

DTSC administers the transportation of hazardous materials throughout the state. Regulations applicable to the transportation of hazardous waste include California Code of Regulations Title 22, Division 4.5, Chapter 13 and Chapter 29, as well as Division 20, Chapter 6.5, Articles 6.5, 6.6, and 13 of the California Health and Safety Code. The DTSC requires that drivers transporting hazardous wastes obtain a certificate of driver training that shows the driver has met the minimum requirements concerning the transport of hazardous materials, including proper labeling and marking procedures, loading/handling processes, incident reporting and emergency procedures, and appropriate driving and parking rules. The California Highway Patrol also requires shippers and carriers to complete hazardous materials employee training before transporting hazardous materials.

California Health and Safety Code

The handling and storage of hazardous materials is regulated by the California Health and Safety Code Division 20, Chapter 6.95. Under §§ 25500–25543.3, facilities handling hazardous materials are required to prepare a Hazardous Materials Business Plan, which contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state.

Health and Safety Code Chapter 6.95 establishes minimum statewide standards for Hazardous Materials Business Plans. Each business shall prepare a Hazardous Materials Business Plan if that business uses, handles, or stores a hazardous material (including hazardous waste) or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas
- A hazardous compressed gas in any amount (highly toxic with a Threshold Limit Value of 10 parts per million or less)
- Extremely hazardous substances in threshold planning quantities

In addition, in the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by California Health and Safety Code, such facilities are also required to prepare a Risk Management Plan and California Accidental Release Plan. The Risk Management Plan and Accidental Release Plan provide information on the potential impact zone of a worst-case release and require plans and programs designed to minimize the probability of a release and mitigate potential impacts.

California OSHA Hazard Handling Procedures

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (Cal. Code Regs. tit. 8, parts 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

Metallic Discards Act

The Metallic Discards Act (Cal. Pub. Resources §§ 42160–42185), is a state program for the disposal of major appliances, vehicles, and other metallic discards that contain enough metal to be economically feasible to salvage. The Metallic Discards Act was established by the Integrated Waste Management Act (Cal. Pub. Resources § 40000 *et seq.*).

State of California Emergency Plan

On October 1, 2017, Governor Edmund G. Brown Jr. promulgated the 2017 edition of the State of California Emergency Plan, which outlines a state-level strategy to support local government efforts during a large-scale emergency and describes how response to natural or human-caused emergencies occurs in California. In accordance with the California Emergency Services Act (Cal. Govt. Code §§ 8550-8669.7), the State Emergency Plan describes methods for carrying out emergency operations; process for rendering mutual aid; emergency services of governmental agencies; methods of resource mobilization; emergency public information; continuity of government; standardized emergency management system; State of California Emergency Plan and Emergency Functions; and National Incident Management System.

The foundation of California's emergency planning and response is a statewide mutual aid system which is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation. The California Disaster and Civil Defense Master Mutual Aid Agreement (Cal. Govt. Code §§ 8555–8561) requires signatories to the agreement to prepare operational plans to use within their jurisdiction, and outside their area. These plans include fire and non-fire emergencies related to natural, technological, and war contingencies. The State of California, all State agencies, all political subdivisions, and all fire districts signed this agreement in 1950. See Section 4.7.2.3, CSUMB Plans, for the CSUMB's Emergency Operations Plan.

California Strategic Fire Plan and Unit Strategic Plans

The 2019 Strategic Fire Plan for California (California Fire Plan), prepared by the California Department of Forestry and Fire Protection (CAL FIRE), provides appropriate guidance to provide adequate statewide fire protection of state responsibility areas (CAL FIRE 2019). The Plan provides guidance to local jurisdictions in meeting State goals.

The Unit Strategic Plan San Benito-Monterey is designed to meet the goals set by the California Fire Plan (CAL FIRE 2020). Pre-fire fuel reduction management projects in the plan are designed to reduce costs and losses, especially during periods of severe fire weather, and are identified to address target risk areas. There are no pre-fire projects planned at or near CSUMB, with the closest projects being located along the Highway 68 corridor (CAL FIRE 2020).

Senate Bill 1241 (Kehoe) of 2012

Senate Bill 1241 (Cal. Govt. Code §§ 65040.20 and 66474.02; Cal. Pub. Resources § 21083.01) requires cities and counties to address fire risk in SRAs and Very High Fire Hazard Severity Zones in the safety element of their general plans. The bill also resulted in amendments to the CEQA Guidelines Initial Study checklist to include questions related to fire hazard impacts for projects located in or near lands classified as SRAs and Very High Fire Hazard Severity Zones. In adopting these Guidelines amendments, OPR recognized that generally, low-density, leapfrog development may create higher wildfire risks than high-density, infill development.

California State University Policies

The California State University (CSU) has several systemwide policies related to health and safety, as described below. See Section 4.7.2.3, CSUMB Plans, for relevant plans developed in part under these policies.

Executive Order 1039

The executive order (EO) 1039 is issued pursuant to the Standing Orders of the Board of Trustees of the California State University. Through adoption of the following statement of policy, the CSU recognizes Occupational Health & Safety (e.g., Environmental Health & Safety or EH&S) as an integral function throughout the CSU system.

EH&S includes policies and practices designed to mitigate the risk of injury and illness to CSU employees and to promote campus health and safety programs. These injuries and/or illnesses may arise from work related activities in the form of accidents, or exposure to potentially harmful practices, conditions, substances, and equipment. Certain types of student activities are also addressed.

The CSU, its officers, and employees are responsible for developing and maintaining injury and illness prevention programs and ensuring that activities and tasks are performed in a manner that reasonably control hazards that can cause injuries or illnesses.

Executive Order 1056

EO 1056 requires each campus to develop and maintain an emergency management program that can be activated when a hazardous condition, natural or man-made disaster reaches, or has the potential for reaching, proportions beyond the capacity of routine campus operations. The President of each campus is delegated the responsibility for the development, implementation, and maintenance of an emergency management program on campus and for ensuring the stated management activities are accomplished in support of the campus emergency management program.

Executive Order 1107

EO 1107 provides direction on implementing Jeanne Clery Disclosure of Campus Safety Security Policy and Campus Crime Statistics Act, commonly referred to as the Clery Act (20 U.S.C. § 1092(f)). The EO indicates that the CSU is committed to promoting the safety and security of its campus communities to provide a supportive and accessible living, learning, and working environment. It is further committed to identifying conditions or circumstances that may pose risks to the safety and security of the university and preparing the university to respond effectively to emergencies. Accordingly, each CSU campus is required to comply with the requirements of the Clery Act. Related to environmental hazards, the policy outlines the procedures campuses are required to use to immediately notify the campus community upon the confirmation of a significant emergency or dangerous situation on the campus involving an immediate threat to the health or safety of students or employees (e.g., hazardous chemical spill, fire, earthquake, building collapse).

State University Administrative Manual

The State University Administrative Manual (SUAM) establishes procedures required to be used during planning, design and construction of buildings and other facilities on CSU campuses (CSU 2004). The SUAM indicates that a hazardous materials report is to be prepared during the schematic design phase of a project. Based on the results of this report, hazardous materials abatement documents will be prepared to address known or suspected conditions related to existing contamination on a project site or within an existing building that may be subject to demolition or reconstruction. Hazardous materials and abatement reports are then included in construction bid documents so that construction contractors can provide for proper abatement of known or suspected conditions during project construction.

4.7.2.3 CSUMB Plans

This subsection describes the suite of CSUMB plans in place to comply with federal and state hazardous materials and emergency response requirements. A Hazardous Materials Business Plan per the California Health and Safety Code is not required, as CSUMB does not use, handle, or store hazardous materials (including hazardous waste) or an extremely hazardous material in quantities greater than those previously noted (see California Health and Safety Code above).

Spill Prevention, Control, and Countermeasure Plan

The CSUMB Spill Prevention Control and Countermeasures (SPCC) Plan meets the requirements of the EPA, which has published guidelines in the Federal Register Volume 28, No. 237, dated 11 December 1973, amended and codified under 40 C.F.R. Part 112 Oil Pollution Prevention. In general, these regulations apply to facilities that could possibly discharge oil into navigable waters. However, none of CSUMB's storm water or drainage system is connected to any navigable waters. Additionally, petroleum storage facilities in the State of California are subject to the statutes of California Health and Safety Code § 25270. In accordance with the requirements of the Federal regulations, this plan must also meet State regulations requirements. The plan provides an inventory of diesel fuel tanks, electrical transformers, waste oil and antifreeze on campus and provides spill prevention control and countermeasures to address potential spills of hazardous materials. According to the plan, CSUMB has no history of reportable releases.

Hazard Communication Program

The CSUMB Hazard Communication Program is intended to provide workers with the information necessary to recognize hazardous materials in the workplace, and to train them to avoid exposure and to respond appropriately if an accident occurs (CSUMB 2018a). The program is prepared under the Cal/OSHA Hazard Communication regulations and CSU EO 1107 and is administered by CSUMB's Environmental Health, Safety and Risk Management office. The plan requires chemical labeling, chemical inventories, materials safety data sheets, and worker training.

Injury and Illness Prevention Program

The CSUMB Injury and Illness Prevention Program was established in accordance with California Code of Regulations (Cal. Code Regs. tit. 8, § 3203) and CSU Chancellor's Office Executive Order 1039. The program seeks to prevent illnesses and injuries in the workplace by ensuring that workplace hazards are effectively communicated to employees, workplace inspections occur, hazards are identified, accidents are reported, actions are taken to correct hazards, appropriate training occurs, and program implementation is documented. The program is administered by the CSUMB Environmental Health, Safety and Risk Management office (CSUMB 2018b).

Chemical Hygiene Plan

The Chemical Hygiene Plan is required under the California Code of Regulations (Cal. Code Regs. tit. 8, § 5191); and CSU Environmental Health and Safety Program Development and Administrative Guide, Section 4.0. The plan is directed at controlling exposure to hazardous chemicals in laboratories and sets forth procedures, equipment, and practices to protect employees from chemical hazards and to keep chemical exposure below regulatory limits. The plan describes standard operating procedures, and training and record keeping requirements (CSUMB 2018c). The plan is administered by the CSUMB Environmental Health, Safety and Risk Management office.

Hazardous Waste Management Program

The CSUMB Hazardous Waste Management Program specifies campus procedures for handling and storage of hazardous chemical waste. It addresses appropriate waste handling procedures, waste storage containers and packaging, container labeling, and waste accumulation time and quantity limits. It also describes procedures for inspecting hazardous waste collection areas, arranging hazardous waste pick-ups and disposal, and annual hazardous waste management training for campus personnel (CSUMB 2017).

Emergency Operations Plan

The CSUMB Emergency Operations Plan, implemented under CSU EO 1056, provides a management tool to facilitate timely, effective, and coordinated emergency response and recovery activities. This plan is intended to integrate CSUMB emergency resources and procedures, including the CSUMB Academic Environmental Health, Safety and Risk Management program, with those of other local response agencies and organizations. The plan provides a framework and procedural guidance for all-hazard emergency management efforts and evacuations. The plan provides a scalable approach to incident management, enabling its use in both large and small incidents and events. It is also flexible, allowing for adaptation as needed to address the unique needs of the specific emergency incident. The Emergency Operations Plan also includes evacuation plans. Specifically, Emergency Support Function 17 guides the coordinated and orderly evacuation of the CSUMB campus in the event of an emergency. The Emergency Operations Plan is designed to integrate with plans of CSUMB's response partners and is consistent with Federal Emergency Management Agency and California Office of Emergency Services mandates (CSUMB 2014).

CSUMB has established Memoranda of Agreement with the cities of Seaside, Marina and Sand City establishing the CSUMB Emergency Operations Center (EOC) as the Monterey Peninsula Regional Emergency Coordination Center and providing for incident management team support from the partner jurisdictions for both localized and regional incidents (CSUMB 2014).

Fort Ord Reuse Authority Act

The Fort Ord Reuse Authority Act was implemented by the State of California to facilitate the transfer and reuse of the Fort Ord military base, and established FORA as the entity responsible for planning, financing, and carrying out the transfer and reuse of the base in a cooperative, coordinated, balanced, and decisive manner (Cal. Gov. Code § 67650 *et seq.)*. Founded in 1994 after the official closure of Fort Ord, the Fort Ord Reuse Authority (FORA) was responsible for the oversight of Monterey Bay area economic recovery from the closure of and reuse planning of the former Fort Ord military base. Pursuant to the Act, FORA must dissolve when eighty percent of the base has been developed or reused in a manner consistent with the *Fort Ord Reuse Plan* (Reuse Plan), or on June 30, 2020, whichever comes first. Pursuant to the Fort Ord Reuse Authority Act, FORA's legislatively defined mission was complete as of June 30, 2020 and FORA has now been dissolved.

Prior to its dissolution, the Fort Ord Reuse Authority (FORA) adopted the Reuse Plan in June 1997, and a revised version was published in digital format in September 2001 and March 2018, incorporating various corrections and errata. As stated in the Reuse Plan, wildfire hazards exist at the former Fort Ord primarily in open space and habitat areas, especially those containing grassland with many steeper areas containing brushland and wooded slopes. These areas are located primarily in the eastern half of the Fort Ord planning area, mostly in unincorporated Monterey County.

4.7.2.4 Local

As a state entity, CSUMB is not subject to local government permitting or regulations, polices, or ordinances for the cities of Marina and Seaside and the County of Monterey. Accordingly, because neither local general plans or any other local land use plans or ordinances are applicable to CSUMB, such local plans and ordinances are not summarized here or further analyzed in this chapter. However, as indicated above, Monterey County Environmental Health Bureau is the local CUPA that administers state and federal hazardous waste laws locally. Additionally, the Monterey County Community Wildfire Protection Plan pertains to fire management on the former Fort Ord and is summarized below.

Monterey County Community Wildfire Protection Plan

The Monterey County Community Wildfire Protection Plan (MCCWPP) was developed by the Monterey Fire Safe Council (MFSC), including the Monterey County Wildfire Working Group (MC2WG) which is serving as its MCCWPP committee, with input from CAL FIRE, the United States Forest Service (USFS), the BLM and other stakeholders. The MCCWPP makes the connection between strategic fuelbreaks, defensible space, defensible polygons, and incident management, providing communities and agencies guidance to wildfire prevention and protection.

Recommendations include hazardous fuel mitigation activities and methods for reducing structural ignitability.

The MCCWPP identifies CSUMB and having "medium" risk of wildfire occurrence with an overall "high" priority rating for fuel reduction work. The MCCWPP also indicates that CSUMB and surrounding areas (e.g., Seaside and Marine) meet the definition of an at-risk community in the Healthy Forests Restoration Act (i.e., a group of homes and other structures with basic infrastructure and services, that are at risk of wildfire, and are within or adjacent to Federal land).

The MCCWPP (Appendix H) indicates that during severe weather conditions, wildfire in the undeveloped maritime chaparral on the former Fort Ord is expected to produce high spread rates, moderate to high intensity, and typically close range and long-range spotting of up to one mile. The plan indicates that due to the distribution of flammable maritime chaparral and sage fire fuel types and rapidly fluctuating winds and relative humidity in combination with solar preheating, the former Fort Ord presents a unique and challenging fire threat. As indicated in Appendix I of the MCCWPP, the undeveloped former Fort Ord lands may represent the single greatest hazardous fuel and fire threat to the WUI in Monterey County. The undeveloped former Fort Ord lands are primarily in FRAs managed by the BLM (i.e., about 7,200 acres) and by the U.S. Army (i.e., about 6,500 acres) until such time as they are transferred to the BLM. Lands managed and controlled by the Army will likely continue to be managed by the Army until 2020-2025 while the Army conducts MEC remediation of these former range areas.

The highest fire threat in the area consists of the 6,500 acres of maritime chaparral within the former Fort Ord Multi Range Area (MRA) where the presence of MEC hampers tactical firefighting effectiveness and presents additional life threat to firefighters and the public, especially at Del Rey Oaks and Seaside. Within the MRA, the Army maintains a system of fuelbreak roads that facilitate prescribed burning as part of the steps to remove brush for MEC remediation. The Army intends to prescribe burn up to 800 acres per year in the MRA to facilitate the MEC remediation.

The MCCWPP provides recommended high priority hazard fuel reduction treatments and other projects in Appendix D of the plan. These projects include fuel reduction, fuelbreaks and defensible space on the East Campus Housing area of the CSUMB campus. There are also many BLM and Army treatments and projects in the former Fort Ord area including projects related to defensible space, fuelbreaks, fuel reduction, mowing, sheep and goat grazing, and pile burning.

4.7.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to hazards and hazardous materials. The section includes the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.7.3.1 Thresholds of Significance

The significance criteria used to evaluate the impacts of the Project related to hazards and hazardous materials are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to hazards and hazardous materials would occur if the Project would:

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

B. Create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment.

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

D. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would create a significant hazard to the public or the environment.

E. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.

F. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

G. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

H. If located in or near state responsibility areas or lands classified as very high fire hazards severity zones, the project would:

    i) Substantially impair an adopted emergency response plan or emergency evacuation plan.

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

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

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

4.7.3.2 Analytical Method

Program- and Project-Level Review

The hazards and hazardous materials impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3, Project Description. The analysis also includes a project-level analysis under CEQA of the five near-term development components that would be implemented under the proposed Master Plan. Both construction and operation of the Project are considered, where relevant. The impact analysis assumes that Project development, including the five near-term development components, would be constructed and operated in compliance with the most current policies and regulations related to hazards and hazardous materials, as described in Section 4.7.2, Regulatory Framework. A review of applicable regulatory records was conducted to characterize the existing environmental setting in the study area, as described in Section 4.7.1, and to identify any existing hazardous waste and substances sites on or near the campus that could affect Project construction or operation. In the event significant adverse environmental impacts would occur with the Project even with incorporation of applicable regulations and proposed PDFs, impacts would be potentially significant and mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

There are several PDFs that are incorporated into the technical analysis of hazards, hazardous materials, and wildfire, as summarized below (see Chapter 3, Project Description for specific text of each applicable PDF):

- *PDF-W-3* provides for the protection of stormwater quality through the implementation of best management practices that include using principles of integrated pest management, minimizing the use of pesticides and quick release fertilizers, using non-chemical controls to treat pest problems, and maintaining compliance with existing standards for special handling, removal, and disposal of hazardous materials to an approved location.

- *PDF-MO-8* establishes restrictions to general vehicle travel through the campus core and locates vehicle circulation and parking on the campus periphery. Specifically, vehicle access will be limited to CSUMB students, faculty, and staff vehicles on General Jim Moore Boulevard between Eighth Street and Fifth Street. Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles at:

Inter-Garrison Road between General Jim Moore Boulevard and Sixth Avenue, Divarty Street between General Jim Moore Boulevard and Seventh Avenue, Fourth Avenue between Divarty Street and Inter-Garrison Road, Fifth Avenue between Divarty Street and Inter-Garrison, A Street between Divarty Street and Seventh Avenue, Sixth Avenue between B Street and north of Divarty Street, and Butler Street between Sixth Avenue and Seventh Avenue. Additionally, Seventh Avenue between Colonel Durham Street and Butler Street will be converted to one-way for vehicles traveling north from Colonel Durham Street to Inter-Garrison Road.

- *PDF-OS-11* provides for the preparation and implementation of a defensible space plan per California Public Resources Code § 4291 and California Government Code § 51182 to address landscape requirements for structures located: (1) along the eastern edge of the Main Campus; (2) adjacent to the Southern Oak Woodlands; (3) along the undeveloped portions of Inter-Garrison Road; and (4) at the East Campus Housing area. The practice also provides for the review and enhancement of the existing University evacuation plans, as part of the defensible space plan, to incorporate preplanned evacuation routes and safe refuge areas for the entire campus community in the event or threat of a wildfire.

4.7.3.3 Issues Not Evaluated Further

The Project would have no impact with respect to the following threshold of significance and therefore this topic is not further evaluated:

- Airport Safety Hazards (Threshold E). As described in Section 4.7.1, Environmental Setting, the Project would not result in an aircraft safety hazard for people residing or working in the project area. Specifically, the CSUMB campus is located outside of the airport safety zones, but a portion of the campus is located within the airport influence area (Zone 7) of the Marina Municipal Airport. The airport accident risk level is considered low within this zone (Coffman Associates, Inc. 2019a).

4.7.3.4 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of hazards, hazardous materials and wildfire impacts associated with the Project.

Impact HAZ-1:	**Routine Transport, Use, or Disposal of Hazardous Materials (Threshold A).** The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. *(Less than Significant)*

Master Plan

Construction

The proposed Master Plan would result in construction of approximately 2.6 million gross square feet (GSF) of net new academic and support facilities, including housing, administration, student life, recreational, and institutional partnership buildings (see Chapter 3, Project Description, Table 3-4 and Figures 3-5 and 3-6). Relatively small amounts of commonly used hazardous substances, such as gasoline, diesel fuel, lubricating oil, grease, and solvents would be utilized during construction. Incidental spills and leaks of such substances associated with routine use during construction represent a potential hazard to human health and the environment if not properly stored and handled. Accident prevention and containment are the responsibility of the construction contractors, and provisions to properly manage hazardous substances and wastes are included in standard CSU construction specifications, as indicated in the SUAM (CSU 2004).

All contractors are required to comply with applicable laws and regulations regarding hazardous materials and hazardous waste management and disposal. These materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. In addition, individual developments under the proposed Master Plan would be required to comply with the State Water Resources Board Construction General Permit, which requires a stormwater pollution prevention plan (SWPPP) and development of best management practices (BMPs) for all phases of construction on sites greater than 1 acre (see Section 4.8, Hydrology and Water Quality for additional information about this requirement). Implementation of a SWPPP would avoid or minimize release of hazardous materials from construction sites by including water quality BMPs designed to prevent pollutants from becoming mobilized by stormwater runoff. Therefore, use of hazardous materials during construction would not pose a significant risk to the public or environment due to the routine transport, use, or disposal of hazardous materials and the impact would be *less than significant*.

Operations

During operations and maintenance of the proposed Master Plan, hazardous materials (as defined under federal and state environmental laws) would continue to be used and stored on the campus. The Project would result in an incremental increase in the use, storage, and handling of such materials. Hazardous materials used on site would continue to include cleaning products, landscaping chemicals and fertilizers, and other substances associated with the maintenance of vehicles, ornamental landscaped areas and recreational fields and the operation of academic and instructional programs. The transport, storage, use, or disposal of hazardous materials would be limited to common hazardous materials and materials necessary for academic and instructional programs. Chemistry and biology laboratories would also store potentially hazardous laboratory materials. However, as indicated in Section 4.7.1, Environmental Setting, radioactive materials, and biohazardous materials involving serious risks are used only on a limited basis on campus in x-ray equipment and alarm devices and the use of such materials as a result of the proposed Project would be expected to be from similar equipment.

Hazardous materials would continue to be used, stored, and transported on the campus in accordance with all applicable state and federal regulations. Continued implementation of CSUMB's Hazard Communication Plan, Injury and Illness Prevention Program and Chemical Hygiene Plan would provide CSUMB affiliates with the information necessary to avoid exposure to hazardous materials and to respond appropriately if an accident happens. Proposed PDF W-3 would implement a storm water maintenance program that limits use of chemicals and provides special handling of hazardous materials. Additionally, review of future building designs by CSU building officials and the State Fire Marshal would ensure compliance with the California Building Code regulations related to the use, storage, and handling of hazardous materials (CSU 2004).

Any hazardous waste on campus would be collected and stored in designated locations in accordance with the CSUMB Hazardous Waste Management Program until a licensed hazardous waste contractor prepares the waste for segregation, packaging, and transport to an authorized hazardous waste disposal site. While the Project would result in an incremental increase in the routine transport, use, and disposal of hazardous wastes generated by routine campus operations, all hazardous materials would be managed in accordance with the California Hazardous Waste Control Law and the Hazardous Waste Control Regulations, as described in Section 4.7.2, Regulatory Framework.

With continued compliance with applicable regulations and implementation of the various CSUMB plans and programs related to the use, storage, and disposal of hazardous materials the Project would not pose a significant hazard to the public or the environment and impacts would be *less than significant.*

Near-Term Development Components

Construction of near-term development components would involve the use of relatively small amounts of commonly used hazardous substances, such as gasoline, diesel fuel, lubricating oil, grease, and solvents. Accident prevention and containment of these materials are the responsibility of the construction contractors, and provisions to properly manage hazardous substances and wastes are included in standard CSU construction specifications, as indicated in the SUAM (CSU 2004). Additionally, CSUMB would be required to implement spill prevention and containment measures stipulated in SWPPPs for each near-term development site, given that the sites are greater than 1 acre.

While the near-term development components may result in an incremental increase in the routine transport, use, and disposal of hazardous materials and/or wastes generated by routine campus operations, all hazardous materials would be managed in accordance with all applicable state and federal regulations. Continued implementation of CSUMB's various hazard-related plans and programs would provide CSUMB affiliates with the information necessary to avoid exposure to hazardous materials and to respond appropriately if an accident happens. Additionally, the design of Academic IV, a planned science building, would be reviewed by CSU building officials and the State Fire Marshal to ensure compliance with the California Building Code regulations related to the use, storage, and handling of hazardous materials (SUAM 2004).

Therefore, use of hazardous materials during construction and operation of the near-term development components would not pose a significant risk to the public or environment due to the routine transport, use, or disposal of hazardous materials and the impact would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact HAZ-2:	**Upset and Release of Hazardous Materials (Thresholds B and D).** The Project would not potentially create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment from known or potential areas of contamination, including due the presence of hazardous materials sites. *(Less than Significant)*

Master Plan

Demolition

The proposed Master Plan projects that up to 24 buildings, totaling approximately 256,366 GSF, would be demolished to accommodate new development projects (see Chapter 3, Project Description, Table 3-4). As indicated in Section 4.7.1, Environmental Setting, inspections and testing indicates that ACMs, LBP, PCBs, and universal waste is present in many of these buildings to be demolished. ACMs may also be present in subsurface insulated piping and/or cement utility piping. Improper handling and disposal of these materials could potentially create a significant hazard to demolition personnel or the environment due to accidental release of these materials. However, the SUAM provides procedures required to be used during planning, design and construction of buildings and other facilities on CSU campuses. The SUAM indicates that a hazardous materials report will be prepared during the schematic design phase of a project. Based on the results of this report, hazardous materials abatement documents would be prepared to address known or suspected conditions related to existing contamination on a project site or within an existing building that may be subject to demolition or reconstruction. Hazardous materials and abatement reports are included in construction bid documents so that construction contractors can provide for proper abatement of known or suspected conditions during project construction. Given the above, demolition of existing structures under the proposed Master Plan would not result in accidental release of hazardous materials into the environment as a result of known or potential areas of contamination and the impact would be *less than significant*.

Construction and Operation

As indicated in Section 4.7.1, Environmental Setting, CSUMB is located on a portion of the 28,000-acre former Fort Ord Army Base, of which 24,492 acres are listed on the DTSC's EnviroStor's Cortese Hazardous Waste and Substances Sites List. In 1990, Fort Ord was placed on the federal NPL as a result of soil and groundwater contamination. The NPL listing and a federal facilities agreement required the Army to perform the Superfund cleanup process prior to the conveyance of any land.

In 1986, on-base (i.e., northern Main Campus area) and off-base groundwater was found to be contaminated with VOCs, including PCE, TCE, TCA, and trans-1,2-dichloroethylene. A former Fort Ord landfill, operated from 1956 to 1987 and located north of the East Campus Open Space and west of East Campus Housing, has contributed to the groundwater contamination. In 1990, a network of groundwater monitoring wells was installed throughout the former Fort Ord. A groundwater deed restriction in the form of a groundwater Land Use Covenant has been placed on properties overlying the groundwater contamination plume, including portions of the CSUMB Main Campus and East Campus Open Space. The deed restriction prohibits the drilling of groundwater extraction or injection wells, or the creation of new groundwater recharge basins/surface water infiltration ponds without closely coordinating with the Army in the restricted area, but allows the Army (or its designated contractor) and the regulatory agencies to permit necessary groundwater monitoring and the installation of pump and treat remediation operations. The Central Coast RWQCB has concluded that there are no pathways for exposure to the groundwater contamination by property users, given that the groundwater is not used as a drinking water source, a deed restriction applies to the property, and the depth to groundwater is approximately 165 feet below ground surface.

FOSTs have been prepared by the Army to document that the CSUMB property is environmentally suitable for transfer under CERCLA and DOD FOST Guidance. The DTSC issued letters of no further action for the property and the USEPA concurred that all necessary remedial action has been completed. In accordance with CERCLA, the FOSTs for the CSUMB Main Campus and East Campus Housing demonstrate that either the property is uncontaminated or that all necessary remediation has been completed or is in place and operating properly and successfully.

The FOSTs include documentation of the presence of and/or removal of munitions and MEC. The Main Campus and East Campus Housing areas are not areas of former munitions use and are suitable for residential and non-residential uses. The FOSTs include documentation of the presence of and/or removal of munitions and MEC. Per these FOSTs, in the event CSUMB grading and construction contractors discover any ordnance, they would be required not to attempt to remove or destroy it, but rather to immediately notify the CSUMB Police Department and the Directorate of Law Enforcement at the Presidio of Monterey. Qualified U.S. Army Explosive Ordnance personnel would be dispatched promptly to dispose of such ordnance properly at no expense to CSUMB.

The East Campus Open Space is an area of former munitions use and the proposed Master Plan designates most of it as open space. The westernmost 50 acres is cleaned to the highest "residential standard", and has been designated as a faculty and staff housing reserve (see Chapter 3, Project Description, Figure 3-5) suitable for future residential land use, but is not proposed for development as a part of this Project. The East Campus Open Space has deed restrictions to protect human health.

However, regardless of the condition of each development site on campus, the SUAM requires a hazardous materials report and hazardous materials abatement documents, if necessary, for all construction projects, as described above, which would result in the abatement or remediation of any identified contamination prior to construction. Given the above, construction and operation of the Project would not result in accidental release of hazardous materials into the environment because of known or potential areas of contamination and the impact is *less than significant*.

Near-Term Development Components

Construction of near-term development components would involve the demolition of existing buildings on the Academic IV, Student Recreation Center and the Academic V development sites. Hazardous materials reports will be prepared during the schematic design phase of these projects and hazardous materials abatement documents would be prepared and incorporated into construction contracts, if needed, such that proper abatement of hazardous conditions would occur during demolition or construction (CSU 2004).

The CSUMB campus subject to development under the proposed Master Plan, including the near-term development sites, is located on land that is either uncontaminated or for which all necessary remediation has been completed. Further, there are no pathways for exposure to existing groundwater contamination given the depth to ground water and deed restrictions. In the event CSUMB grading and construction contractors on the near-term development component sites discover any ordnance, they would be required to immediately notify the CSUMB Police Department and the Directorate of Law Enforcement at the Presidio of Monterey and U.S. Army Explosive Ordnance personnel would be dispatched promptly to dispose of such ordnance properly. Given the above, the near-term development components would not result in accidental release of hazardous materials into the environment as a result of known or potential areas of contamination and the impact is *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact HAZ-3:	**Hazardous Materials Near Schools (Threshold C).** The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. *(Less than Significant)*

Master Plan

Construction

Nearby schools include the Monterey College of Law, located immediately to the southwest; the Chartwell School, located approximately 0.6 mile to the southwest; George C. Marshall Elementary School, located approximately 0.7 mile to the southwest; the Dual Language Academy of the Monterey Peninsula, located approximately 0.7 mile to the southwest; Marina High School, located approximately 1.0 mile to the north; Crumpton Elementary School, located approximately 1.3 miles to the northeast; and Marina Vista Elementary School, located approximately 1.4 miles to the northeast. In addition, the proposed Monterey Bay Charter School would ultimately be located on the CSUMB campus. All development under the proposed Master Plan would occur within the CSUMB campus. As previously discussed in Impact HAZ-1, future construction under the proposed Master Plan would result in the handling of relatively small amounts of hazardous materials during construction, including lubricants, solvents, and fuel, used in construction equipment and vehicles. These materials would be handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. In addition, individual developments under the proposed Master Plan would be required to comply with the State Water Resources Board Construction General Permit, which requires a SWPPP and development of BMPs for all phases of construction and potential pollutants generated by the construction activities on sites greater than 1 acre (see Section 4.8, Hydrology and Water Quality, for additional information about this requirement). Implementation of a SWPPP would avoid or minimize release of hazardous materials from construction sites by including water quality BMPs designed to prevent pollutants from becoming mobilized by stormwater runoff. Therefore, the impact of construction under the proposed Master Plan related to handling hazardous materials near schools would be *less than significant*.

Operations

As previously discussed in Impact HAZ-1, day-to-day operation of development under the proposed Master Plan would involve the routine use of hazardous materials. All hazardous materials and/or wastes used or generated on site would be required to be managed in accordance with applicable state and federal regulations. Therefore, the impact of the operation of the proposed Master Plan related to handling hazardous materials near schools would be *less than significant*. (See Impact HAZ-1 for additional information.)

Near-Term Development Components

Construction of near-term development components would also involve the use of relatively small amounts of commonly used hazardous substances during construction, as described above. These materials would be handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Additionally, CSUMB would be required to implement spill prevention and containment measures stipulated in SWPPPs for each near-term development component site, given that the sites are all greater than 1 acre. All hazardous materials used during operations would be managed in accordance with applicable state and federal regulations. Therefore, the impact of construction and operation of the near-term development components related to handling hazardous materials near schools would be *less than significant*. (See Impact HAZ-1 for additional discussion.)

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact HAZ-4:	**Impair Emergency Response (Threshold F).** The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. *(Less than Significant)*

Master Plan

All development under the proposed Master Plan would be designed, constructed, and maintained to comply with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation. The Division of the State Architect and the State Fire Marshal would perform an access compliance review and a fire and life safety review, respectively, prior to approval of individual project drawings and specification documents (CSU 2004).

The CSUMB Emergency Operations Plan provides a management tool to facilitate timely, effective, and coordinated emergency response and recovery activities. This plan is intended to integrate CSUMB emergency resources and procedures, including the CSUMB Academic Environmental Health & Safety Program, with those of other local response agencies and organizations. The plan provides a framework and procedural guidance for all-hazard emergency management efforts including evacuation. The plan provides a scalable approach to incident management, enabling its use in both large and small incidents and events. It is also flexible, allowing for adaptation as needed to address the unique needs of the specific emergency incident. The plan is designed to integrate with plans of CSUMB's response partners and is consistent with Federal Emergency Management Agency and California Office of Emergency Services mandates.

While PDF-MO-8 establishes restrictions to general vehicle travel through the campus core, access for emergency vehicles, service vehicles, transit vehicles and service vehicles through the campus core would be retained with the Project. Implementation of this PDF would also locate vehicle circulation and parking on the campus periphery, which would facilitate evacuation from the campus in the event of an emergency requiring such evacuation.

Overall, the Project would not impair implementation of or physically interfere with the CSUMB Emergency Operations Plan, as it would not have any effect on the plan's framework or procedural guidance or otherwise affect plans for campus evacuation. Therefore, the proposed Master Plan would not interfere with an adopted emergency response plan and the impact would be *less than significant*.

Near-Term Development Components

The near-term development components would be designed, constructed, and maintained to comply with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation plans. As indicated above, the Division of the State Architect and the State Fire Marshal will perform an access compliance review and a fire and life safety review, respectively, prior to approval of individual project drawings and specification documents for the near-term development components.

Additionally, as is the case for the proposed Master Plan, the near-term development components would not impair implementation of or physically interfere with the CSUMB Emergency Operations Plan, as they would not have any effect on the plan's framework or procedural guidance. Therefore, the proposed near-term development components would not interfere with an adopted emergency response plan and the impact would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact HAZ-5:	**Wildfire Hazards (Thresholds G and H).** The Project would not substantially impair an adopted emergency response or evacuation plan, exacerbate wildfire risk, require the installation or maintenance of infrastructure that would exacerbate wildfire risk, cause a significant risk of loss, injury, or death, involving wildland fires, or expose people or structures to significant post-fire risks. *(Less than Significant)*

Master Plan

As shown in Figure 4.7-1, the campus is not located in an SRA or on lands classified as Very High Fire Hazard Severity Zones. The closest Very High Fire Hazard Severity Zones are located approximately 1 mile or more away from the developed portions of the CSUMB campus in the undeveloped portions of the former Fort Ord. The closest SRA is located approximately 5 miles or more away from the campus. The eastern edge of the Main Campus, between Seventh and Eighth Avenues, and a portion of East Campus Housing are designated as a LRA High Fire Hazard Severity Zone under the jurisdiction of the Monterey County Regional Fire District. Similarly, East Campus Open Space is designated as an FRA High Fire Hazard Severity Zone under the jurisdiction of the BLM. Additionally, FRA Very High and High Fire Hazard Severity Zones under the jurisdiction of BLM and the U.S. Army are located to the east and southeast of the campus on the undeveloped portions of the former Fort Ord.

The proposed Master Plan would result in construction of approximately 2.6 million gross square feet (GSF) of net new academic and support facilities, including housing, administration, student life, recreational, and institutional partnership buildings (see Chapter 3, Project Description, Table 3-4 and Figures 3-5 and 3-6). The development under the proposed Master Plan would consist of infill development on parking lots or previously disturbed areas of the Main Campus including redevelopment of existing low-density building sites with higher-density buildings to accommodate the proposed enrollment cap increase and related population growth. No new buildings are proposed for construction in the East Campus Open Space or in East Campus Housing. Activities in these two areas are limited to conversion of existing student and Community Housing Partner housing at East Campus Housing for use by faculty and staff and possible trail/path construction.

The Project includes implementation of PDF-OS-11, which provides for the preparation and implementation of a defensible space plan per California Public Resources Code § 4291 and California Government Code § 51182 to address landscape requirements for structures located: (1) along the eastern edge of the Main Campus; (2) adjacent to the Southern Oak Woodlands; (3) along the undeveloped portions of Inter-Garrison Road; and (4) at the East Campus Housing area. The practice also provides for the review and enhancement of the existing University evacuation plans, as part of the defensible space plan, to incorporate preplanned evacuation routes and safe refuge areas for the entire campus community in the event or threat of a wildfire. The implementation of this PDF would reduce fuels on campus in areas designated as LRA High Fire Hazard Severity Zones and other LRA areas and would result in the review and enhancement of existing campus evacuation plans. To date, CSUMB has begun to implement this PDF by preparing a draft of the plan, which is currently under review.

As indicated in Impact HAZ-4, all development under the proposed Master Plan would be designed, constructed, and maintained to comply with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation. The Division of the State Architect and the State Fire Marshal would perform an access compliance review and a fire and life safety review, respectively, prior to approval of individual project drawings and specification documents. Further, as indicated in Impact HAZ-4, the Project would not impair implementation of or physically interfere with the CSUMB Emergency Operations Plan.

The Project would not exacerbate wildfire risks for several reasons. New building would consist of infill development on parking lots or previously disturbed areas of the Main Campus (i.e., developed and/or ruderal/disturbed in Figure 4.3-2 [Section 4.3, Biological Resources]). This would increase the density of development within the Main Campus with new buildings and infrastructure constructed in accordance with modern fire code and safety standards. New buildings would be located on gently sloping topography on the Main Campus with slopes 2 to 5 percent and would avoid areas with steep slopes and associated fire risks. Additionally, new infrastructure connections for new buildings (e.g., electrical, natural gas) would be underground and therefore would not exacerbate fire risks. Further, new Project buildings would not be located in proximity to the two major electrical transmission lines that traverse the East Campus Open Space, as well as the eastern edge of the East Campus Housing area and would also not be in proximity to the underground natural gas transmission pipeline that also traverses the East Campus Open Space. Lastly, as described in Section 4.7.1, Environmental Setting, prevailing winds during the summer and fall move to the east and southeast across the campus and vicinity and would move any wildfire occurring in the mapped Very High Fire Hazard Severity Zones located east and southeast of the campus in an easterly/southeasterly direction away from the campus.

Additionally, the Project would not increase post-fire hazards such as flooding and landslides. If a wildfire were to occur on the open space portion of the Main Campus, or in East Campus Housing, the risk of flooding or landslides post-fire would generally be negligible because of the gently sloping topography and the low risk of landslides that predominates on the campus. If there were a fire in East Campus Open Space where there is steeper topography, or further east in the undeveloped portions of the former Fort Ord, the Main Campus and East Campus Housing would not be subject to post-risk flooding and landslide risks, as these areas are not directly downslope of East Campus Open Space and the undeveloped portions of the former Fort Ord.

As a result of the information provided above and in Impact HAZ-4, the Project would not substantially impair an adopted emergency response or evacuation plan, exacerbate wildfire risk, require the installation or maintenance of infrastructure that would exacerbate wildfire risk, cause a significant risk of loss, injury, or death, involving wildland fires, or expose people or structures to significant post-fire risks. Therefore, the impact would be *less than significant.*

Near-Term Development Components

The near-term development components would be located on the Main Campus and the conditions described above for the proposed Master Plan would also apply to these components. As such, the near-term development components would not substantially impair an adopted emergency response or evacuation plan, exacerbate wildfire risk, require the installation or maintenance of infrastructure that would exacerbate wildfire risk, cause a significant risk of loss, injury, or death, involving wildland fires, or expose people or structures to significant post-fire risks. Therefore, the impact would be *less than significant.*

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

4.7.3.5 Cumulative Impacts

This section provides an evaluation of hazards, hazardous materials and wildfire impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and as relevant to this topic. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact HAZ-6	**Cumulative Hazardous Materials, Emergency Response, and Wildfire Impacts (Thresholds A, B, C, F, and G).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to hazardous materials, emergency response, and wildfire. *(Less than Significant)*

Hazardous Materials

Impacts related to hazards and hazardous materials depend on the specific conditions on the particular project site and its immediate vicinity, such as the presence of soil contamination. Thus, these site-specific impacts would not combine with one another to create cumulative impacts, unless the cumulative development sites overlapped or were immediately adjacent to one another. Therefore, the geographic area considered for potential cumulative hazards and hazardous materials impacts consists of the CSUMB campus and areas immediately adjacent to the campus.

Construction

Based on review of Table 4.0-1 and Figure 4.0-1, the building sites identified in the proposed Master Plan would not physically overlap with other cumulative development sites located on the campus or adjacent the campus to the south and west. The cumulative projects that could be constructed on the campus during the period of Master Plan buildout include the Monterey Bay Charter School, the Second Avenue Development Project and the Freeman Stadium Facilities Renovation Project. The cumulative projects that would be constructed near the campus include the Campus Town Specific Plan to the south of the campus along Colonel Durham Street and the Dunes on Monterey Bay, the Projects at Main Gate Specific Plan and the Concourse Auto Dealership to the southwest of the campus along Second Avenue. Based on the timing of construction of these cumulative projects and the Project there is a possibility that the construction periods for these projects could overlap.

Significant cumulative impacts related to hazards and hazardous materials could occur if the impacts of the Project combined with the impacts of one or more cumulative projects to result in a substantial increase in the risk that people or the environment would be exposed to hazardous materials through routine use or accidental release of such materials (as described in Impacts HAZ-1 through Impact HAZ-3). However, such significant cumulative impacts would not be expected to occur as the various cumulative project sites do not overlap and are not immediately adjacent to one another. While the construction periods for the cumulative projects and development under the Project could overlap, potential hazards and hazardous materials impacts would be localized to the particular development site. Further, development under the proposed Project and all cumulative construction projects would be required comply with all applicable local, state and federal regulations, which require proper management of hazardous substances and wastes on construction sites and compliance with the State Water Resources Board Construction General Permit, which requires a SWPPP and development of best management practices (BMPs) for all phases of construction on sites greater than 1 acre. This would avoid or minimize release of hazardous materials from construction sites by including water quality BMPs designed to prevent pollutants from becoming mobilized by stormwater runoff. Proper abatement of hazardous building materials (LBP, ACMs, PCBs, and universal waste) would also be required prior to demolition of any existing buildings on the campus, as described in Impact HAZ-2. Similar requirements would be implemented at other cumulative development sites.

Additionally, as indicated in Impact HAZ-2, the Army FOSTs determined that the CSUMB property (including areas encompassing the Main Campus and East Campus Housing) is environmentally suitable for transfer and demonstrated that the CSUMB campus property was either uncontaminated or that all necessary remediation has been completed or is in place and operating properly and successfully.. Similar processes were conducted for other lands in the former Fort Ord prior to transfer by the Army, and therefore such lands would also be either uncontaminated or properly remediated. CSUMB hazardous materials reports and hazardous materials abatement documents, if necessary, would be prepared for construction projects on campus, as described in Impact HAZ-2, which would result in the abatement or remediation of any identified contamination prior to construction on campus. Likewise, standard due diligence reviews would be conducted prior to land sales or transfers or prior to development to identify known or potential areas of contamination that would need to be abated or remediated prior to construction on non-CSU cumulative development sites. Additional requirements would also be implemented for these non-CSU cumulative projects, through compliance with federal and state requirements related to the abatement or remediation of site contamination.

Given the above, construction of the Project and other cumulative development would not result in a substantial increase in the risk that people or the environment would be exposed to hazardous materials through routine use or accidental release of such materials. Therefore, the cumulative impacts related to hazards and hazardous materials during construction would be *less than significant*.

Operation

Significant cumulative impacts related to operational hazards and hazardous materials could occur if the incremental impacts of the Project combined with those of one or more of the cumulative projects would cause a substantial increase in risk that people or the environment would be exposed to hazardous materials through routine use or accidental release of such materials (as described in Impacts HAZ-1 and HAZ-3).

As indicated in Impacts HAZ-1 and HAZ-3, the campus would continue to routinely use, store and transport hazardous materials on campus with growth under the Project. Many of the cumulative projects identified in Table 4.0-1 would also require the transport, use, and storage of hazardous chemicals. However, none of the cumulative projects would be expected to store or handle large quantities of hazardous materials on or immediately adjacent to the campus, except perhaps the Concourse Auto Dealership. If large quantities would be handled by one or more of the cumulative projects, such projects would be required to implement a Hazardous Materials Business Plan and comply with applicable regulations, including those governing containment, site layout, and emergency response and notification procedures in the event of a spill or release. Transportation and disposal of wastes, such as spent cleaning solutions, would also be subject to regulations for the safe handling, transportation, and disposal of chemicals and wastes (see Section 4.7.2, Regulatory Framework and Impacts HAZ-1 and HAZ-3). As such, operation of the Project and other cumulative development would not result in a substantial increase in the risk that people or the environment would be exposed to hazardous materials through routine use or accidental release of such materials. Therefore, the cumulative impacts related to hazards and hazardous materials during operations would be *less than significant*.

Emergency Response and Wildfire Risks

The geographic scope for cumulative emergency response and wildfire impacts is Monterey County given wildfires can cause impacts to large areas. As indicated in Impact HAZ-5, the closest Very High Hazard Severity Zones are located approximately 1.6 miles or more to the southeast of East Campus Housing and approximately 3.3 miles to the east of other developed portions of the CSUMB campus in the undeveloped portions of the former Fort Ord and the closest SRA area is located approximately 5 miles or more away from the campus (see Figure 4.7-1). Wildfire-related impacts in Monterey County could be significant if development is in rural or very high fire hazard areas that could exacerbate wildfire risks. While new development and infrastructure would be subject to statewide standards for fire safety in the California Fire Code it is still possible that cumulative development projects could exacerbate wildfire risks such that cumulative impacts would potentially significant. In the immediate vicinity of the campus, this cumulative risk would be lower, given exiting urbanization and the distance to designated Very High Hazard Severity Zones and SRAs.

Given that the Project would not substantially impair an adopted emergency response or evacuation plan, exacerbate wildfire risk, require the installation or maintenance of infrastructure that would exacerbate wildfire risk, cause a significant risk of loss, injury, or death, involving wildland fires, or expose people or structures to significant post-fire risks, as indicated in Impacts HAZ-4 and HAZ-5, the Project would not have a considerable contribution to a significant cumulative impact. Therefore, the cumulative impact would be *less than significant.*

4.7.4 References

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4.8 HYDROLOGY AND WATER QUALITY

This section of the EIR presents an analysis of the potential hydrology and water quality impacts associated with development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate significant impacts or potentially significant impacts, if any are identified.

Agency comments related to hydrology and water quality were received during the public scoping period in response to the original Notice of Preparation (NOP). These comments address the use of sustainable water sources (i.e., water conservation programs, graywater treatment/recycling, stormwater reuse, low-flow water fixtures, and developing a separate water works system); methods to reduce impacts of stormwater runoff (i.e., Low-Impact Development [LID] measures, on-site water management and sharing facilities with neighboring property owners); and whether CSUMB has identified locations for potential bio swale treatment areas.

No additional public or agency comments related to hydrology and water quality were received during the public scoping period in response to the Revision to Previously Released NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.8.1 Environmental Setting

4.8.1.1 Study Area

The study area for the evaluation of impacts related to hydrology and water quality includes the 1,396-acre CSUMB campus, located in the northwestern portion of the former U.S. Department of Army (Army) Fort Ord military base (former Fort Ord). The CSUMB campus falls within the jurisdiction of the Central Coast Regional Water Quality Control Board (Central Coast RWCQB), which administers water quality programs within the coastal watersheds of Santa Cruz, San Benito, Monterey, San Luis Obispo, and Santa Barbara Counties, as well as portions of San Mateo, Kern and Ventura Counties, a 11,274 square-mile area.

The campus consists of three distinct areas: Main Campus, East Campus Housing and East Campus Open Space (see Figure 3-2, Chapter 3, Project Description).[1] All university facilities, with the exception of the East Campus Housing, are located west of Eighth Avenue in the Main Campus. East Campus Open Space, a large, undeveloped natural open space, is bordered by Eighth Avenue on the west, Inter-Garrison Road to the north, and the campus boundary to the south and east. The East Campus Open Space is dominated by oak woodland and has an informal system of developed trails.

1 CSUMB received title to the East Campus Open Space property with deed restrictions related to munitions cleanup from the Fort Ord Reuse Authority in 2020.

The East Campus Housing area is located north of Inter-Garrison Road and consists of two residential subdivisions, Schoonover and Frederick Park. The developments are situated along the ridges of gently sloping topography and are intermixed with several small neighborhood parks and undeveloped oak woodlands, chaparral, and pockets of grassland.

4.8.1.2 Regional Characteristics

Topography

The Salinas Valley is bounded by the Gabilan Mountains to the east and the Santa Lucia Mountains to the west. The former Fort Ord and the Project site lie to the west of the Salinas Valley and north of the Monterey Peninsula. The topography of former Fort Ord consists of rolling hills and canyons to the east and stabilized sand dunes to the west (DDA 2007). In the northwestern portion of former Fort Ord, the Project site slopes gently toward Monterey Bay, and consists of sand dunes and graded areas that were established for buildings and roads during the development of Fort Ord. In the northeastern portion of the Project site, the topography gently slopes to the northeast towards the Salinas River. The campus includes both developed and open space areas, with elevations ranging from 350 ft to 110 ft above mean sea level (Schaff & Wheeler 2006).

Climate

The region has a moderate, Mediterranean-type climate and is drought-prone (DDA 2007; Page 2020). Inland areas of the region experience warm, dry summers and cool, moist winters. Coastal areas have similar weather in winter, but summers are cooler with strong winds and fog. Average annual precipitation is approximately 14 inches at the former Fort Ord, concentrated mostly between October and April (Schaff & Wheeler 2006).

Hydrology

<u>Watershed Characteristics</u>

The former Fort Ord lies within the northwest portion of the Salinas River Watershed. The Salinas River flows southeast to northwest, from the Santa Margarita Reservoir in San Luis Obispo County to its outlet at Monterey Bay near Moss Landing (Monterey County 2008). Well-defined natural channels are minimal on former Fort Ord, but in the eastern portion there are small channels that have intermittent flow, and in the western portion the soils are highly permeable and rainfall is primarily absorbed directly rather than conveyed as surface flow (DDA 2007; Schaff & Wheeler 2006). The Project site is located south and west of the Salinas River (see Figure 4.8-1). The Salinas River Watershed drains to the northwest, entering the Salinas River Lagoon before entering Monterey Bay and the Pacific Ocean. According to the Central Coast RWQCB Basin Plan, there are a total of 9 defined subareas known as Hydrologic Areas within the Salinas Hydrologic Unit (No. 309.00) and the Project site lies within the Monterey Peninsula Hydrologic Area (No. 309.50), which drains toward Monterey Bay, however there are no natural drainage channels that lead to the Bay (Schaff & Wheeler 2006 and Central Coast RWQCB 2017a). See Section 4.8.1.3 for additional information about drainage on the CSUMB campus.

Table 4.8-1 shows the Hydrologic Areas that encompass the Project site as designated in the Central Coast RWQCB Basin Plan (also depicted in Figure 4.8-1)(Central Coast RWQCB 2017a). The Central Coast RWQCB Basin Plan identifies watersheds in a hierarchical system that represent watershed-based geographic boundaries and constitute the geographic basis around which many surface water quality problems and goals/objectives are defined in the Basin Plan.

Table 4.8-1
Watershed Designations by Agency/Source

Agency/Source	HUC/ Basin No.	Analysis Scale	Name	Size (Sq. Mi.)
Central Coast RWQCB Basin Plan	300	RWQCB Region	Central Coast	11,274
	309	Hydrologic Unit (HU)	Salinas	3,482
	309.50	Hydrologic Area (HA)	Monterey Peninsula	118
	309.10		Lower Salinas Valley	123

Sources: USGS 2019; Central Coast RWQCB 2017a.
Notes: HUC = hydrologic unit code; sq. mi = square miles

Beneficial uses, as designated in the Regional Basin Plan, for the surface waters and coastal waters receiving discharge from the Project site are listed in Table 4.8-2.

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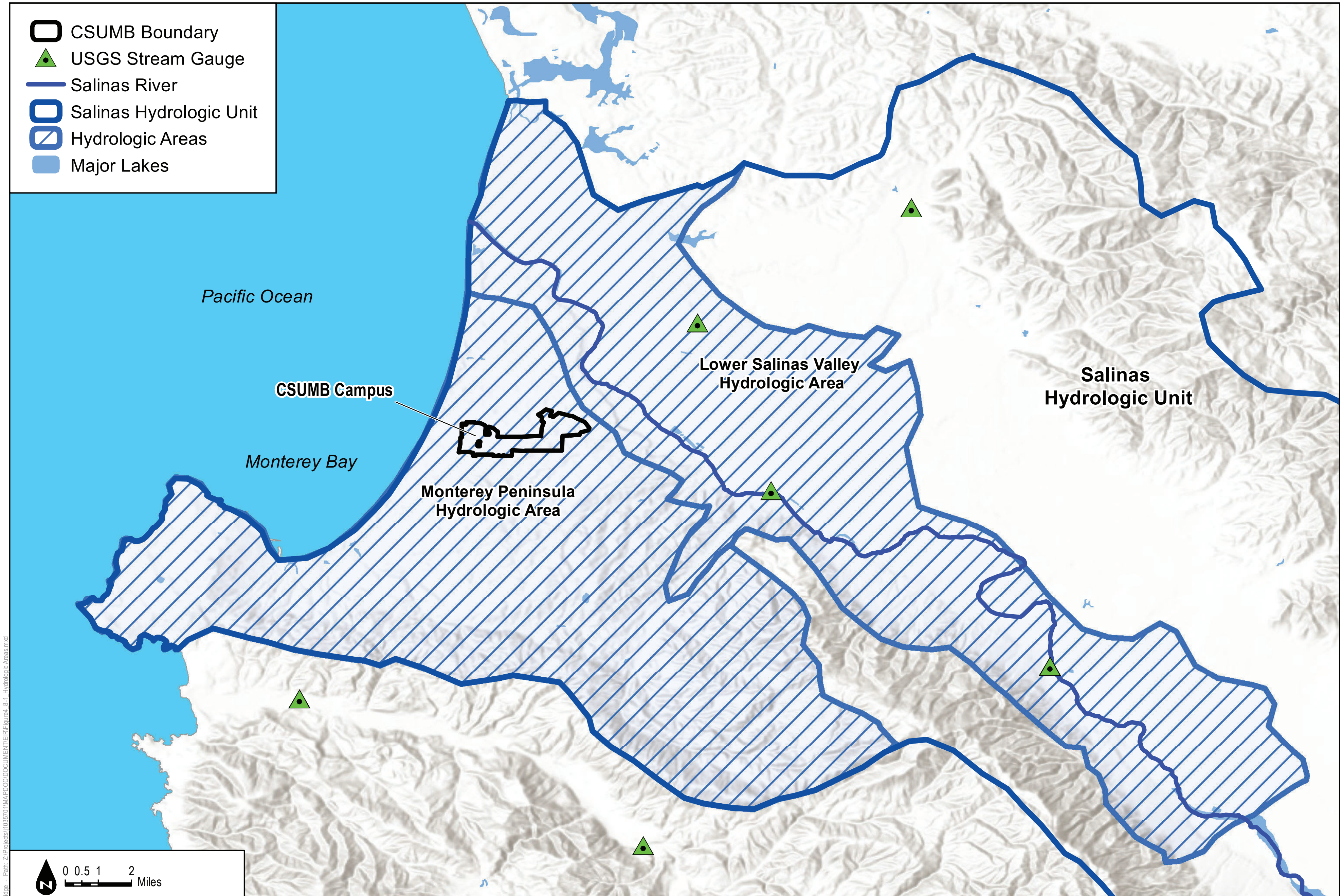

SOURCE: USGS; SANGIS

DUDEK

FIGURE 4.8-1

Hydrologic Areas

CSU Monterey Bay Master Plan EIR

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Table 4.8-2
Beneficial Uses for Surface and Coastal Waters

Surface of Coastal Water Body	Hydrologic Unit Basin Number	Beneficial Uses													
		MUN	AGR	REC1	REC2	WILD	COLD	WARM	MIGR	FRSH	COMM	IND	NAV	MAR	SHELL
Salinas River (Downstream of Spreckels Gage)	309.10	●	●	●	●	●	●	●	●	●	●				
Central Coast RWQCB Basin Plan	___			●	●	●					●	●	●	●	●

Sources: Central Coast RWQCB 2017a.
Definitions:
Municipal and Domestic Supply (MUN) – Includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
Agricultural Supply (AGR) – Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Contact Water Recreation (REC-1) – Includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs.
Non-contact Water Recreation (REC-2) – Includes the uses of water for recreational activities involving proximity to water, but not where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Wildlife Habitat (WILD) – Includes uses of water that support terrestrial or wetland ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Cold Freshwater Habitat (COLD) – Includes uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.
Warm Freshwater Habitat (WRM) – Includes uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates. Includes support for reproduction and early development of warm water fish.
Migration of Aquatic Organisms (MIGR) – Includes uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.
Fresh Water Replenishment (FRSH) – Includes uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity) which includes a waterbody that supplies water to a different type of waterbody, such as streams that supply reservoirs and lakes, or estuaries; or reservoirs and lakes that supply streams. This includes only immediate upstream water bodies and not their tributaries.
Commercial and Sport Fishing (COMM) – Includes the uses of water for commercial or recreational collection of fish, shellfish, or other organisms intended for human consumption or bait purposes.
Industrial Service Supply (IND) – Includes uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
Navigation (NAV) – Includes uses of water for shipping, travel, or other transportation by private, military, or commercial vessels. Any stream, lake, arm of the sea, or other natural body of water that is actually navigable and that, by itself, or by its connections with other waters, for a period long enough to be of commercial value, is of sufficient capacity to float watercraft for the purposes of commerce, trade, transportation, and including pleasure; or any waters that have been declared navigable by the Congress of the United States and/or the California State Lands Commission.
Marine Habitat (MAR) – Includes the use of waters that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
Shellfish Harvesting (SHELL) – Includes uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters and mussels) for human consumption, commercial, or sport purposes.

Drainage Infrastructure

The developed portions of former Fort Ord are served by a storm drain system that the U.S. Army constructed between the years 1940 to 2000 (Schaaf & Wheeler 2006). The system discharged into the Monterey Bay, which was designated as a National Marine Sanctuary in 1991. Portions of the system have been decommissioned, maintained or upgraded, as needed. In particular, regional storm drainage systems that discharged to separate ocean outfalls were diverted in 2002 to percolation ponds between the ocean and Highway 1 (Creegan & D'Angelo 2005; FORA 2018). The diversion project was the implementation of Phase I of the Master Plan for Improvements to the Regional Storm Drainage System prepared for the City of Seaside and the Fort Ord Reuse Authority (FORA). The percolation basins were considered temporary with the long-term objective to percolate all storm water on the east side of Highway 1 as part of the redevelopment of the former Fort Ord.

The FORA Stormwater Master Plan (2005) was prepared pursuant to the 1997 Base Reuse Plan that required all ocean storm water discharge from development on Fort Ord be eliminated and all stormwater to be infiltrated east of Highway 1. The FORA Stormwater Master Plan provides specific guidelines for meeting these obligations outlined in the 1997 Base Reuse Plan, including acceptable types and design of infiltration facilities. Specifically, the Storm Water Master Plan states that infiltration basins are required to have the storage capacity to accommodate a 100-year storm event.

CSUMB now owns and operates the portion of the storm drainage system that serves the Project site (Schaaf & Wheeler 2006). See Section 4.8.1.3, Campus Setting, for additional information about drainage on the CSUMB campus.

Surface Water Quality

Overview

The quality of surface water is primarily a function of land uses in the Project vicinity. Pollutants and sediments are transported in watersheds by stormwater runoff that reaches streams, rivers, storm drains, and coastal estuaries. Local land uses influence the quality of the surface water through point source discharges (i.e., discrete discharge from a wastewater treatment plant) and nonpoint source discharges (e.g., storm runoff). The prominent water quality problems in the Project area are related to non-point source pollutants in urban runoff (i.e., municipal storm drain system discharges), agricultural activities (contributing elevated levels of pesticides, nutrients, and salinity in storm runoff and irrigation drainage), and hydromodification. Hydromodification is the primary contributor to problems related to excessive sediment and altered stream flow dynamics (e.g., flow volumes and velocities), primarily due to impervious surfaces, mass grading, and/or poor road designs (both urban and rural/unpaved).

In general, surface water quality in the former Fort Ord varies seasonally; the first heavy rains of the season tend to flush the highest concentration of pollutants into the stormwater system. This runoff from urbanized areas typically contains elevated levels of suspended solids, coliform bacteria, oil and grease, fertilizers and pesticides, and heavy metals; many of these pollutants are associated with the operation of motor vehicles. Storms later in the season tend to contribute to erosion and gullying in some areas, particularly drainages in the eastern half of the former Fort Ord. The system does not provide any water quality control measures, other than incidental improvements provided by natural depressions and catch basins that can settle out litter and debris (DDA 2007).

Impaired Water Bodies

Several water bodies within and adjacent to the Salinas River watershed are designated as "water quality-limited" for water quality impairments under the federal Clean Water Act's (CWA's) Section 303(d) (see Table 4.8-3). Being "water quality-limited" or "impaired" means that a water body is "not reasonably expected to attain or maintain water quality standards" without additional regulation. The law requires that the U.S. Environmental Protection Agency (USEPA) develop total maximum daily loads (TMDLs) for each impaired water body in the nation. The TMDLs specify the maximum amount of a pollutant a water body can receive and still meet water quality standards. A TMDL may also include a plan for bringing an impaired water body back within standards. The most recently approved Section 303(d) List of Water Quality Limited Segments, as listed in the 2014-2016 Integrated Report, lists the lower Salinas River, Salinas River Lagoon (North), and Salinas River Refuge Lagoon (South) as impaired water bodies under Section 303(d) of the CWA (SWRCB 2018).

The impairments in Table 4.8-3 are provided for information purposes because of the location of the associated impaired water bodies and the campus. However, there are no 303(d) impaired water bodies on the campus and the stormwater captured on the developed portion of the campus does not discharge to any 303(d)impaired water bodies (Schaaf & Wheeler 2006). Specifically, while the East Campus Housing portion of the campus is located within the Salinas River watershed, which has impaired water bodies (see Table 4.8-3), the developed East Campus Housing area drains to percolation ponds that surround the housing and does not discharge to the Salinas River.

Table 4.8-3
CWA Section 303(d) Impairments

Name	Pollutant/ Stressor	Potential Sources	TMDL Status	Year
Salinas River (lower, estuary to near Gonzales Rd. crossing, watersheds 309.10 and 309.20)	Benthic Community Effects	Channelization, Flow alteration/ regulation/ modification, hydromodification	Programmed	2027
	Chlordane	Unknown	Programmed	2027
	Chloride	Unknown	Programmed	2027
	Chlorpyrifos	Agriculture	Approved	2011
	DDE	Unknown	Programmed	2027
	DDT	Unknown	Programmed	2027
	Diazinon	Agriculture	Approved	2011
	Dieldrin	Unknown	Programmed	2027
	Enterococcus	Unknown	Programmed	2027
	Escherichia coli (E. coli)	Domestic Animals/ Livestock, Illegal dumping, Urban runoff/ storm sewers	Approved	2013
	Fecal Coliform	Domestic Animals/ Livestock, Illegal dumping, Urban runoff/ storm sewers	Approved	2012
	Nitrate	Domestic Animals/ Livestock, Illegal dumping, Urban runoff/ storm sewers	Approved	2015
	PCBs	Unknown	Programmed	2027
	pH	Unknown	Programmed	2027
	Sodium	Unknown	Programmed	2027
	Total Dissolved Solids	Unknown	Programmed	2027
	Toxaphene	Unknown	Programmed	2027
	Toxicity	Agriculture	Approved	2011
	Turbidity	Unknown	Programmed	2018
Salinas River Lagoon (North)	Chlorpyrifos	Agriculture	Approved	2011
	DDE	Unknown	Programmed	2018
	Nutrients	Agriculture	Approved	2015
	pH	Unknown	Programmed	2027
	Temperature, water	Unknown	Programmed	2023
	Toxicity	Agriculture	Approved	2011
Salinas River Refuge Lagoon (South)	pH	Unknown	Programmed	2027
	Turbidity	Unknown	Programmed	2023

Source: SWRCB 2018.
Notes: CWA = Clean Water Act; TMDL = Total Maximum Daily Load

The Main Campus is located in the Fort Ord Watershed, which is a small sub-watershed that drains toward, but does not discharge into, the Monterey Bay (Schaaf & Wheeler 2006). While the Monterey Bay is not identified as impaired, runoff into the bay is a factor in ocean water quality. Monterey Bay is a bay of the Pacific Ocean on California's Central Coast within Monterey Bay National Marine Sanctuary (MBNMS). The bay extends between the City of Santa Cruz and the Monterey Peninsula. MBNMS was designated in 1992 as a federally protected marine area off of California's Central Coast. It stretches from Marin to Cambria, encompasses a shoreline length of 276 miles and 4,601 square nautical miles of ocean, and extends an average distance of 30 miles from shore (MBNMS 2019). The shoreline of Monterey Bay is composed primarily of less resistant sand dune and sedimentary deposits that form the ancient sand dune terraces and provide the opportunity for farmland around the communities of Watsonville, Castroville, Marina, Sand City, and Seaside. The primary freshwater inputs to Monterey Bay are through the San Lorenzo, Pajaro, Salinas and Carmel Rivers. While the Project site is located approximately 1.5 miles inland of the Monterey Bay, runoff from the Project site does not enter the bay due to the diversion project described previously that decommissioned ocean outfalls associated with the former Fort Ord.

Overall, stormwater runoff from the developed portions of the campus percolates on and off campus and does not drain to any surface water body, based on implementation of the CSUMB Stormwater Master Plan (Schaaf & Wheeler 2006). See Section 4.8.1.3, Campus Setting for additional information.

Groundwater

Overview

The Salinas Valley Groundwater Basin (Basin), which extends from the Monterey Bay inland, is the source of all potable water supply for the former Fort Ord, and for the CSUMB campus (see Figure 4.8-2). Based on DWR Bulletin 118, the Basin consists of nine subbasins including the 180/400-Foot Aquifer Subbasin (3-004.01), East Side Aquifer Subbasin (3-004.02), Forebay Aquifer Subbasin (3-004.04), Upper Valley Aquifer Subbasin (3-004.05), Langley Area Subbasin (3-004.0), Monterey Subbasin (3-004.10), Seaside Subbasin (3-004.08), Paso Robles Subbasin (3-004.06), and the Atascadero Subbasin (3-004.11) (MCWD 2021; DWR 2016).

As indicated in Section 4.14, Utilities and Energy, water service to CSUMB is currently provided by Marina Coast Water District (MCWD) in the Ord Community service area, which uses groundwater from the Salinas Valley Groundwater Basin. Specifically, MCWD's groundwater wells are located in the Monterey Subbasin. The Salinas Valley Groundwater Basin has been in an overdraft condition with seawater intruding at an estimated rate of 11,000 to 18,000 acre-feet per year (AFY) into the 180/400 Foot Aquifer Subbasin (MCWD 2021). The 180/400 Foot Aquifer

Subbasin has been declared by the State to be a high priority basin subject to "critical conditions of overdraft" (DWR 2016). Ongoing monitoring by Monterey County Water Resources Agency (MCWRA) indicates that the seawater intrusion continues to migrate inland, particularly in the 180-Foot Aquifer, but groundwater conditions appear to be improving in some areas south of the Salinas River (MCWD 2021).

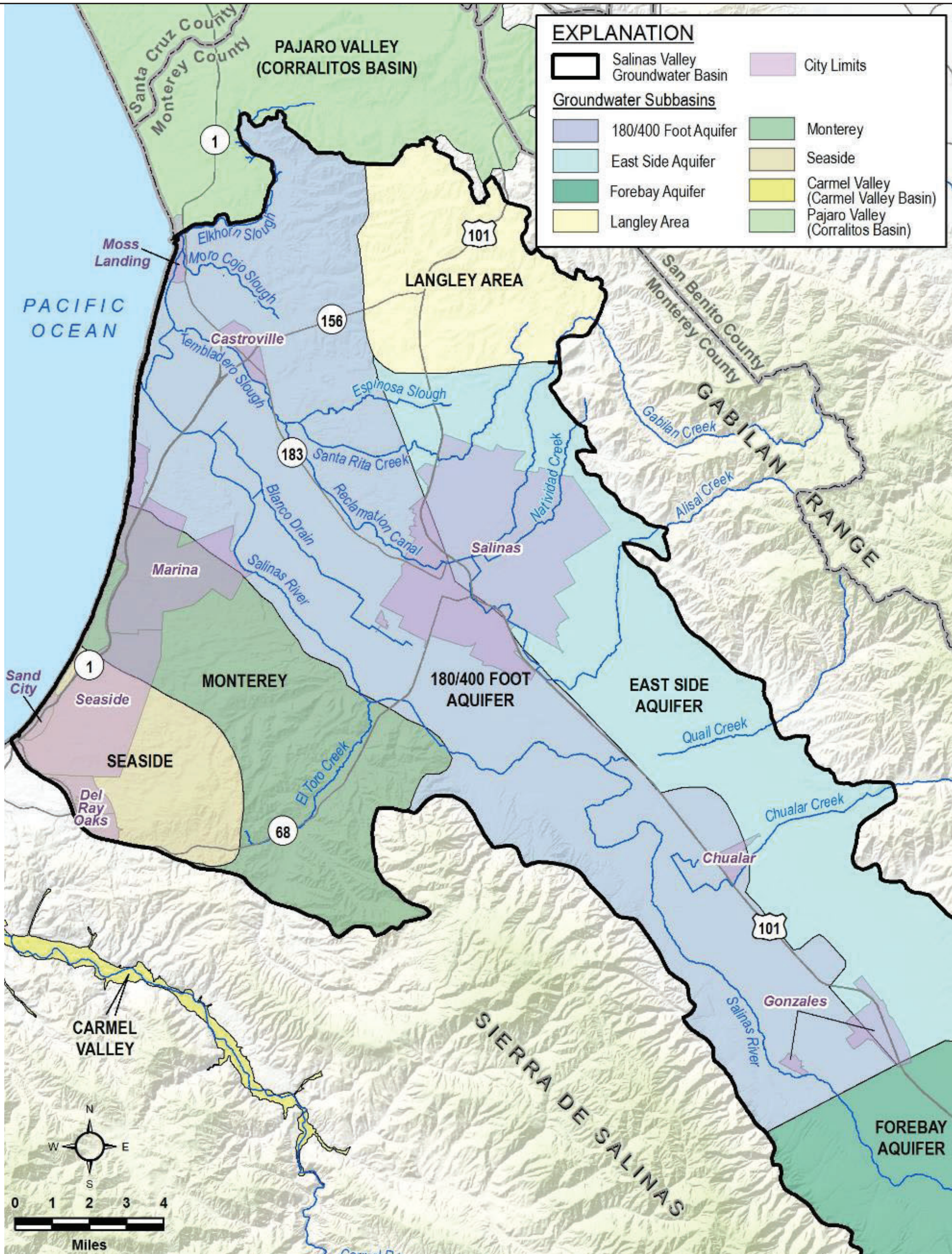
MCWD's groundwater withdrawals from the Monterey Subbasin, a medium priority subbasin of the Salinas Valley Groundwater Basin, are about 3,300 AFY or less than 1.0 percent of total annual Basin withdrawals of about 475,300 AFY (MCWD 2021). Within the Monterey Subbasin, MCWD production wells tap the Deep Aquifer and the 400-Foot Aquifer, which are further described below. Other than MCWD, only a small number of wells tap the Deep Aquifer, some of which also draw from the 400-Foot Aquifer.

Pursuant to state law, MCWD has prepared an Urban Water Management Plan (UWMP) and adopted an updated 2020 UWMP in 2021. The 2020 UWMP projects a water demand of 6,610 AFY in the Ord Community service area over the next 20 years, to the year 2040. The Ord Community service area is projected to slightly exceed its current Salinas Valley groundwater allocation by the year 2040, but would not exceed its allocation by 2035, the horizon year for the Project. By 2040, the total Ord Community allocated groundwater supply of 6,600 AFY is projected to fall short of the estimated demand of 6,610 AFY by 10 AFY. However, by 2035, the allocated supply would be sufficient to meet the estimated demand of 6,108 AFY. While sufficient production capacity exists to meet the projected demand within MCWD's service area, there is concern that seawater intrusion may eventually degrade water quality in the Marina-Ord Area of the Monterey Subbasin where MCWD's wells are located (MCWD 2021).

MCWRA and MCWD have taken actions to address and eliminate basin overdraft and seawater intrusion. MCWD also is exploring new alternative water sources to augment groundwater supplies, including recycled water, as described in Section 4.14, Utilities and Energy. Additionally, 180/400 Foot Aquifer Subbasin Groundwater Sustainability Plan (GSP) and the Monterey Subbasin GSP include additional strategies for reaching sustainability in these subbasins by 2040.

Marina and the former Fort Ord overlie three subbasins of the Salinas Valley Groundwater Basin: the 180/400 Foot Aquifer Subbasin, Monterey Subbasin, and Seaside Subbasin. Portions of MCWD's Ord Community service area extends into the Seaside Subbasin, which is an adjudicated aquifer,[2] but all of MCWD's current wells are located within the Monterey Subbasin (MCWD 2021). Conditions in both the 180/400-Foot Aquifer Subbasin and the Monterey Subbasin are described below given that these two subbasins are connected (MCWD 2021).

2 Adjudication refers to an action filed in the superior or federal district court to determine the rights to extract groundwater from a basin or store water within a basin.



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SOURCE: SVBGSA 2020

FIGURE 4.8-2
Salinas Valley Groundwater Basin

CSU Monterey Bay Master Plan EIR

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180/400-Foot Aquifer Subbasin

The 180/400 Foot Aquifer Subbasin is delineated vertically into three distinct aquifer zones, consisting of aerially extensive, largely horizontally continuous, deposits of sand and gravel that exist at various depths below ground surface in the subbasin. These three aquifers are commonly referred to as the 180-Foot, 400-Foot and Deep Aquifers. The 180-Foot and 400-Foot Aquifers derive their names from the average depth below the valley floor at which the water bearing sand and gravel deposits are encountered. The Deep Aquifer consists of an aggregation of all sand and gravel deposits that exist below the 400-Foot Aquifer including aquifers in the Aromas Sand, the Paso Robles Formation and Purisima Formation, not all of which are hydraulically connected. The shallowest alluvial aquifer in the subbasin is the A-Aquifer, which is perched on top of the Salinas Valley Aquitard, above the 180-Foot Aquifer, and overlies most of the 180/400 Foot Aquifer Subbasin. Toward the coast, the A-Aquifer, also known as the Dune Sand Aquifer, is comprised of mostly dune sand deposits, which are largely unconfined in the coastal area of the basin. Natural recharge into the Dune Sand Aquifer recharges the 180-Foot Aquifer in some locations (MCWD 2021).

The 180-Foot Aquifer extends from Monterey Bay to Chualar beneath the Salinas Valley and westward from the valley under northern Ord Community and Central Marina. The 400-Foot Aquifer is comprised of geological materials assigned to older alluvium deposits and Aromas Sand. The aquifer system is present beneath the northern Salina Valley and also extends westward beneath the northern portions of the former Fort Ord and Central Marina. Both the 180-Foot Aquifer and 400-Foot Aquifer receive recharge from the Salinas River through the overlying recent alluvial deposits (MCWD 2021).

The Deep Aquifer system consists of two geologic formations, the Paso Robles and the underlying Purisima Formations. The Deep Aquifer system is commonly believed to begin at depths of approximately 600 feet below sea level and extend to depths of up to 2,000 feet or more in some locations. Non-water bearing Monterey Shale that constitutes the bottom of the Salinas Groundwater Basin underlies the Deep Aquifer system (MCWD 2021).

Because the overlying clay layers isolate the aquifer system in the 180/400 Foot Aquifer Subbasin from potential surface water recharge, most importantly the Salinas River, the primary mechanism for recharge is from lateral flow from the adjacent subareas. This means that most recharge for the aquifer systems in the 180/400 Foot Aquifer Subbasin comes from lateral flow from the Monterey, Eastside or Forebay Subbasins. Additionally, the Deep Aquifers are believed to be recharged in whole or in part by water that has moved through the overlying aquifers. Most the recharge from the 180/400 Foot Aquifer Subbasin derives from the Forebay Subbasin due to natural recharge from the Salinas River, which is augmented by MCWRA's active management of Nacimiento and San Antonio reservoir releases to maximize river recharge (MCWD 2021).

In a balanced condition, Salinas Valley Groundwater Basin groundwater would move through the basin and into the Monterey Bay through sea floor freshwater aquifer outcrop areas. As a result of basin-wide pumping, water levels in the 180/400 Foot Aquifer and East Side Subbasins have declined over time, contributing to a decrease in the amount of groundwater moving toward and into Monterey Bay and developing a trough or depression in groundwater levels in the East Side Subbasin. The basin currently experiences a landward groundwater gradient causing seawater intrusion, where seawater has contaminated coastal aquifers and wells. While historic groundwater pumping throughout the basin contributes to the overdraft, only the basin's coastal areas adjacent or near to the Monterey Bay experience seawater intrusion (MCWD 2021).

Groundwater conditions in the 180/400-Foot Aquifer Subbasin are further described below by the California Department of Water Resources' (DWR) six sustainability indicators (groundwater elevations, groundwater storage, seawater intrusion, groundwater quality, subsidence, and interconnected surface water), as presented in the 180/400-Foot Aquifer Subbasin GSP (SVBGSA 2020). See Section 4.8.2, Regulatory Framework, for additional information about this GSP.

Groundwater Elevations

Groundwater hydrographs show a general decline over time in groundwater elevations in the 180/400-Foot Aquifer Subbasin, with a fairly steady decline since 1998. Groundwater elevations have been chronically lowered due to pumping and are lowest during higher irrigation seasons. The lowered groundwater elevations are the cause of seawater intrusion in both the 180-Foot and the 400-Foot Aquifers.

Change in Groundwater Storage

Change in usable groundwater storage is defined in the GSP as the annual average increase or decrease in groundwater that can be safely used for domestic, industrial, or agricultural purposes. Change in usable groundwater storage is the sum of change in storage determined from groundwater elevation changes and the change in storage due to seawater intrusion. For the 180/400-Foot Aquifer Subbasin, the historical average annual loss of storage is approximately 11,700 acre-feet per year (AFY).

Seawater Intrusion

The 180-Foot and 400-Foot Aquifers have been subject to seawater intrusion for more than 70 years. MCWRA and others have implemented projects to slow seawater intrusion; however, it remains an ongoing threat. Seawater intrusion is less extensive in the 400-Foot Aquifer than in the 180-Foot Aquifer; however, between 2013 and 2017, the area impacted by intrusion in the 400-Foot Aquifer increased from approximately 12,500 acres to 18,000 acres. To date, seawater intrusion has not been reported in the Deep Aquifers.

Groundwater Quality

Elevated nitrate concentrations in groundwater were locally present in the 1960s and significantly increased in 1970s and 1980s. In 2005, nitrate levels exceeding the primary maximum contaminant level (MCL) were found in 32 percent of public water supply samples in the Salinas Valley Groundwater Basin. In 2018, nitrate levels exceeded the primary MCL in 26 percent of on-farm domestic wells and 21 percent of irrigation supply wells in the Subbasin, a majority of which originated from irrigated agricultural waste discharges. Other constituents found at levels of concern for either potable or irrigation uses include 1,2,3-trichloropropane, arsenic, cadmium, chloride, fluoride, hexavalent chromium, iron, manganese, methyl tert-butyl ether, perchlorate, total dissolved solids, and thallium.

Subsidence

Land subsidence, or the lowering of ground surface, can be caused by excessive groundwater withdrawals. No measurable subsidence has been recorded anywhere in the Subbasin between June 2015 and June 2018.

Interconnected Surface Water

Surface water that is connected to the groundwater flow system is referred to as interconnected surface water. If the groundwater elevation in an aquifer that is hydraulically connected to a stream (or other surface water body) is higher than the water level in the stream, the stream is said to be a gaining stream because it gains water from the surrounding underlying groundwater. If the groundwater elevation is lower than the water level in the stream, it is termed a losing stream because it loses water to the surrounding groundwater flow system. If the groundwater elevation is well below the streambed elevation and there is an unsaturated zone between the stream and the groundwater, the stream and groundwater are considered to be disconnected.

Although the Salinas Valley Aquitard inhibits hydraulic connectivity between the 180/400-Foot Aquifer and Salinas River, interconnection may exist in the two limited areas where groundwater is less than 20 feet below ground surface: near the southern boundary where the Salinas River enters the Subbasin and northern boundary where the River discharges into Monterey Bay. While this analysis is based on best available data, it contains significant uncertainty and data gaps that will be filled during GSP implementation.

Monterey Subbasin

As described in the Monterey Subbasin GSP (MCWD GSA 2021), the Monterey Subbasin is located at the northwestern end of the Salinas Valley Groundwater Basin, an approximately 90-mile-long alluvial basin underlying the elongated, intermountain valley of the Salinas River. The

Subbasin includes the portions of the Monterey Bay coastal plain, south of the approximate location of the Reliz Fault, as well as upland areas to the southeast of the coastal plain. The Subbasin is bordered by the 180/400-Foot Aquifer Subbasin to the northeast and by the adjudicated Seaside Subbasin to the southwest. The GSP establishes two management areas within the Monterey Subbasin including the Marina-Ord Area and the Corral de Tierra Area. The Marina-Ord Area consists of the lands within the City of Marina and the former Fort Ord, which are generally located north of State Route 68. This area is the focus of the information provided in this EIR given that MCWD's wells that serve the Ord Community service area are located in this area.

Within the Monterey Subbasin, the water-bearing strata includes river and sand dune deposits, the Aromas Sand and Paso Robles Formation, the Purisima Formation, and the Santa Margarita Formation. The Monterey Formation represents the relatively non-water-bearing bedrock that underlies the Subbasin. The deepest groundwater production wells in the Subbasin generally extend to depths within the Purisima or Santa Margarita Formations above the Monterey Formation, and are found closer to the coast. Along the northeastern boundary of the Subbasin, where the Monterey Formation is overlain by the Purisima Formation, the deepest groundwater extractions are from MCWD wells.

The principal aquifers defined in the Monterey Subbasin in the Marina-Ord Area include the same aquifers identified above for the 180/400-Foot Aquifer Subbasin including the Dune Sand Aquifer, 180-Foot Aquifer, 400-Foot Aquifer, and Deep Aquifers.

Groundwater conditions in the Monterey Subbasin are further described below by DWR's six sustainability indicators (groundwater elevations, groundwater storage, seawater intrusion, groundwater quality, subsidence, and interconnected surface water), as presented in the Monterey Subbasin GSP (MCWD GSA 2021). See Section 4.8.2, Regulatory Framework, for additional information about this GSP.

Groundwater Elevations

Groundwater elevations in the Dune Sand Aquifer have been generally stable for over three decades and do not show large seasonal variations. Most wells in this aquifer show slightly decreasing trends during the past 15 years following a prior period of increasing water levels. Groundwater elevations in the 180-Foot Aquifer have been stable in the past thirty years in wells in the Marina-Ord Area. Groundwater elevations in the 400-Foot Aquifer have also been stable in the past thirty years in wells in the northern Marina-Ord Area. However, two wells in the southwestern portion of the Marina-Ord Area show consistent decreasing trends over the past 15 years. Groundwater elevations in the Deep Aquifers have shown a consistent decline since the mid-2000s.

Change in Groundwater Storage

For the Monterey Subbasin, the average annual loss of storage is approximately 4,434 AFY during water years 2004 to 2018. The cumulative loss of storage over this 15-year period was estimated to be 66,517 AF.

Seawater Intrusion

As indicated previously, the 180-Foot and 400-Foot Aquifers have been subject to seawater intrusion for more than 70 years. MCWRA and others have implemented projects to slow seawater intrusion; however, it remains an ongoing threat. Within the Monterey Subbasin, seawater intrusion has been documented in the northern portion of the lower 180-Foot and 400-Foot Aquifers. There is no observed seawater intrusion in the upper portion of the 180-Foot Aquifer. Additionally, seawater intrusion has not been reported in the Deep Aquifers.

Depressed groundwater elevations in the 180/400 Foot Aquifer Subbasin are creating inland groundwater gradients that are contributing to seawater intrusion in the Monterey Subbasin. This observed inland gradient is generally parallel to the current seawater intrusion front. While seawater intrusion has not been reported in the Deep Aquifers, there is significant risk that seawater intrusion will occur in this aquifer since the groundwater elevations in the Deep Aquifers are lower than sea level. However, the locations and mechanisms of the Deep Aquifers recharge are not well understood. Therefore, the likelihood of and potential timeframe for seawater intrusion in the Deep Aquifers is unknown.

Groundwater Quality

The known groundwater quality concerns in the Marina-Ord Area aquifers are elevated chloride and total dissolved solids (TDS) concentrations and point-source contaminants such as Volatile Organic Carbons (VOCs) and per- and polyfluoroalkyl substances (PFAS). There are a number of active point-source contamination sites within the Subbasin, which are primarily located within the former Fort Ord and are a part of the Fort Ord's environmental cleanup program. Groundwater remedial action objectives and aquifer cleanup goals at Fort Ord are established within the Records of Decision (ROD) and subsequent Explanations of Significant Difference (ESD) prepared for each operable unit where groundwater impacts have been detected. These documents are part of the administrative record and have been endorsed by state and federal agencies. The ROD documents selected remedy and cleanup levels that complies with the federal and state requirements that are applicable or relevant and appropriate (ARAS) to the site, such as drinking water MCLs and Central Coast RWQCB Basin Plan Water Quality Objectives.

A well prohibition area has been established over the contamination plumes that have historically been identified in groundwater within former Fort Ord. These contamination plumes are primarily located within the Dune Sand and 180-Foot Aquifers. No contamination has been detected in the 400-Foot Aquifer and the Deep Aquifers. To date, no point-source contaminants have been detected above MCLs in domestic supply wells within the Subbasin.

Subsidence

No measurable subsidence has been recorded anywhere in the Subbasin between June 2015 and September 2019.

Interconnected Surface Water

Surface water streams within the Subbasin are generally small intermittent streams that flow only after storm events, and are unlikely to be connected to groundwater, except for the lower reaches of El Toro Creek and two potential locations along the Salinas River near the Monterey-180/400-Foot Aquifer Subbasin boundary where the Salinas River intercepts the Subbasin. Another type of surface water that exists within the Subbasin includes ponds and lakes located within the City of Marina and within the Fort Ord federal land area. These surface water features are known as vernal ponds and some of these features are known to contain open water well into the dry season. Groundwater elevations in the Dune Sand Aquifer in the vicinity of the City of Marina are within 20 feet of ground surface and are at similar levels in nearby Dune Sand Aquifer wells. Therefore, the ponds in the vicinity of City of Marina may be supported by groundwater in the Dune Sand Aquifer.

4.8.1.3 Campus Setting

Stormwater Drainage

The soils on the Project site are highly permeable and allow for infiltration rather than surface flow under normal rainfall conditions (Schaaf & Wheeler 2006). Surface flow occurs primarily in impervious areas and is transported through CSUMB-owned stormwater systems to existing on- and off-campus stormwater systems and infiltration facilities that lie both within and outside of the Project site (DDA 2007; Page 2020).

According to the Stormwater Master Plan for the campus, the East Campus Housing and East Campus Open Space are located in the Salinas River Watershed, while the Main Campus lies within the Fort Ord Watershed, a small sub-watershed, that drains toward, but not into, the Monterey Bay (Schaaf & Wheeler 2006). Eighth Avenue is considered the general dividing line between the Salinas River Watershed and the sub watersheds draining toward Monterey Bay (Schaaf & Wheeler 2006). East Campus Housing has a stormwater system that was built in the 1980s. Surface flow enters the East Campus Housing stormwater system, discharges to multiple percolation ponds located throughout the housing area. The percolation ponds have capacity for current conditions, and the storm drain system has been considered functional except for maintenance issues including sedimentation and missing grates (DDA 2007).

Most of Main Campus surface flow that does not infiltrate on campus drains through existing regional Systems C (54" outfall) and D (48" outfall), which have the capacity to transport the two-year storm event (DDA 2007; Page 2020). Larger storms may discharge and percolate in open space areas or ponds in low lying areas of former Fort Ord development (DDA 2007). The Stormwater Master Plan identified discharge paths on the Main Campus in greater detail using the following sub areas, which have been somewhat refined, as the Stormwater Master Plan has been implemented over time (Schaaf & Wheeler 2006; Page 2020) (see Figure 4.8-3):

- *Sub-area C3* - This area is in the northwestern portion of the Main Campus, which drains to regional System C via an 18" storm drain. Excess runoff drains to a low elevation area on the southeast corner of Second Avenue and Eighth Street, or westward across Second Avenue. This sub-area drains to regional System C.
- *Sub-areas DA3, DA4, and DA5* - These areas span the midsection of the Main Campus, and drain west across Second Avenue via regional System D.
- *Sub-areas DC1 and DC2* - These areas span the southern section of the Main Campus and drain west across General Jim Moore Boulevard before discharging into regional System D.
- *Sub-areas DD1 and DD2* - DD1 is in the center of the Main Campus and DD2 is at the northeast edge of this portion of the campus. Both drain to an existing City of Marina percolation pond that lies outside of the Project site.
- *East of DA5 and East of DC2* - These areas are located in the eastern portion of the Main Campus and drain to open space owned by Monterey County on the east side of Inter-Garrison Road.

CSUMB's inherited stormwater infrastructure from Fort Ord and regional systems C and D are functional although ongoing maintenance and upgrades are necessary. The CSUMB Stormwater Master Plan specifies that campus redevelopment will allow infiltration of 100 percent of runoff from a hundred-year storm on the Project site, reducing CSUMB's reliance on the offsite regional stormwater facilities (Schaaf & Wheeler 2006). This infiltration requirement is consistent with FORA's plans for the land west of Highway 1, which abandoned the regional storm drainage system and now percolates all or most of the stormwater generated in the area locally (Creegan & D'Angelo 2005). The CSUMB Stormwater Master Plan infiltration requirement is being implemented as new construction projects on the campus are implemented. For example, recent campus developments, including the Library; Science & Academic Center; the Business Information and Technology Building (Academic II); Parking Lot 59; Academic III; and Student Union have been built on existing parking lots or paved areas and included on-campus infiltration facilities, which have employed low impact development (LID)[3] approaches, as well as more conventional infiltration basins. The campus has also constructed several stand-alone percolation ponds (see Figure 4.8-3). These developments and features have contributed to reducing campus stormwater flows in the existing storm drain system and in the existing off-campus stormwater systems and percolation ponds.

Flooding/Tsunami Inundation

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) identify flood zones and areas that are susceptible to 100-year (one percent annual chance of occurrence) and 500-year floods (0.2 percent annual chance of occurrence). These areas are referred to as Special Flood Hazard Areas (SFHAs) and Moderate Flood Hazard Areas, respectively. While campus areas located south of Divarty Street and West of General Jim Moore Boulevard are designated as Zone X due to minimal flood risk (<0.2 percent annual chance of flooding), no proposed structures nor development sites are listed for flood risk (FEMA 2018). Additionally, campus elevations, from 110 feet to 350 feet above mean sea level, place the campus outside of a tsunami risk area.

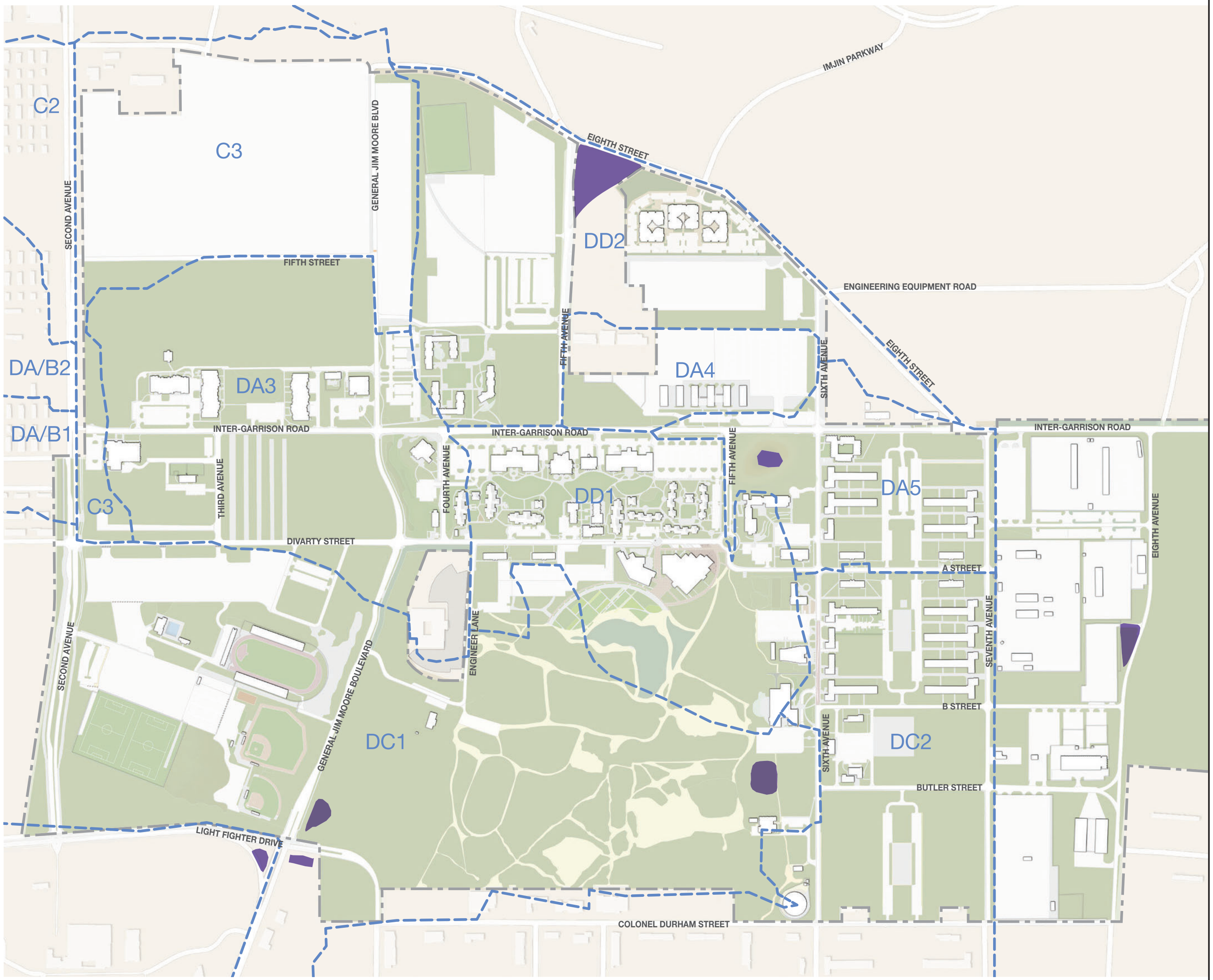
3 The term low impact development (LID) refers to systems and practices that protect water quality and associated aquatic habitat by using or mimicking natural processes in the infiltration, evapotranspiration, or use of stormwater. The implementation of LID techniques can greatly improve the quality of stormwater runoff, restore the infiltration of water to the aquifer, eliminate costs associated with conventional drainage systems, and reduce development impacts such as erosion and flooding.

Campus Boundary

Watershed Boundary

Existing Percolation Basin

Note: Sub-areas A & B are outside the campus boundary



SOURCE: Schaaf & Wheeler 2020

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FIGURE 4.8-3

Existing Drainage Sub-Areas

CSU Monterey Bay Master Plan EIR

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Groundwater

The Project site overlies the Salinas Valley Groundwater Basin – Monterey subbasin (3-004.10), as designated by DWR (DWR 2016). Previously, the groundwater basin boundary configurations were such that the Project site was located over the Salinas Valley – Seaside Area subbasin (3-04.08), as indicated in the Basin Plan (DWR 2003; Central Coast RWQCB 2017a).

Groundwater underlying the campus is not used for domestic uses given the existence of groundwater contamination that dates back to the former Fort Ord, as previously described (see also Section 4.7, Hazards, Hazardous Materials and Wildfire for additional information). The Central Coast RWQCB has concluded that there are no pathways for exposure to the groundwater contamination by campus property users, given that the groundwater is not used as a drinking water source, which is prohibited in a deed restriction that applies to the campus property (Andersen Environmental 2012). Additionally, based on review of recent groundwater monitoring reports from the former Fort Ord landfill, groundwater occurs at approximately 165 feet below ground surface and flows in a westerly direction (DDA 2016). Additionally, based on geotechnical reports prepared on the Project site, shallow groundwater does not exist on the campus (see Section 4.5, Geology and Soils).

As indicated above, water service to CSUMB is currently provided by MCWD in the Ord Community service area, which uses groundwater from the Monterey Subbasin of the Salinas Valley Groundwater Basin. CSUMB was allocated 1,035 AFY of potable water by the FORA shortly after the closure of Fort Ord, and a recycled allocation of 87 AFY. Total potable water use at CSUMB in 2018 was approximately 318 AFY, for all uses, including residential uses in the East Campus Housing and irrigation on both the Main and East Campuses (MCWD 2021). Based on campus data, total potable water use at CSUMB in Fiscal Year 2018-2019 was approximately 316 AFY, of which 219 AFY was related to building use and 97 AFY was related to irrigation. See Section 4.14, Utilities and Energy, for additional information about campus water use.

4.8.1.4 Near-Term Development Site Conditions

The existing hydrology and water quality setting for the near-term development component sites is generally described above. Additional information is provided below related to specific conditions on each site, including existing development conditions, slope and associated runoff direction and landscaping. Chapter 3, Project Description provides additional information about the location and characteristics of each development component site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site and potential staging area are located primarily in sub-area DA3, which drains west across Second Avenue via regional System D. The eastern edge of the site is located in sub-area DD2, which drains to the existing City of Marina percolation pond that lies northeast of the site at the intersection of Fifth Avenue and Eighth Street. The potential staging area is in sub-area C3. The site is flat to gently sloping and mostly paved with an existing surface parking lot and an unused paved area. Vegetation and paved pathways border the development site on the west and south.

Academic IV

The approximately 4.0-acre Academic IV site is located in sub-areas DD1 and DA5. The western half of the site is located in subarea DD1 and the eastern half of the site is located in sub-area DA5. Both of these subareas drain west across General Jim Moore Boulevard before discharging into regional System D. The site gently slopes down to the northeast and is mostly paved or developed. Vegetation and paved pathways border the development site on all sides. The two potential staging areas are located on flat sites; the staging area on the west is paved and the staging area on the east is mostly unpaved.

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center site is located in sub-areas DD1 and DC1. The parking lot and a portion of the potential staging area are located in sub-area DC1, which drains west across General Jim Moore Boulevard before discharging into regional System D. The remainder of the site is located in sub-area DD1, which drains to the existing City of Marina percolation pond that lies north of the site. Most of the site slopes gently down to the north and is partially paved or developed. Vegetation and paved pathways border the development site on the north and west sides of the site. The parking lot and staging area along the south of the site slopes gently down to the north and is mostly unpaved and vegetated.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase IIB site and potential staging area are located in sub-area DD2, which drains to the existing City of Marina percolation pond that lies northwest of the site. The site is relatively flat and mostly paved. Vegetation borders a portion of the entire site on the north, west and south.

Academic V

The approximately 2.7-acre Academic V site is located in sub-area DD1, which drains to the existing City of Marina percolation pond that lies north of the site. The site is relatively flat and partially paved or developed. Vegetation and paved pathways border the development site on all sides. Construction staging for this development would likely use the same potential staging area as that identified for the Student Recreation Center.

4.8.2 Regulatory Framework

4.8.2.1 Federal

Clean Water Act

The Clean Water Act or CWA (33 USC § 1251 *et seq*.), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Key sections of the act are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines. Under Section 303(d) of the CWA, the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives and establish TMDLs for each pollutant/stressor. While water quality impairments of nearby receiving waters and associated TMDLs are shown in Table 4.8-3, the campus stormwater does not drain to these receiving waters.
- Section 401 (Water Quality Certification) requires an applicant for any federal permit that proposes an activity which may result in a discharge to waters of the United States, to obtain certification from the state that the discharge will comply with other provisions of the act.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB), who have several programs that implement individual and general permits related to construction activities, municipal stormwater discharges, and various kinds of non-stormwater discharges. State and regional water quality related permits and approvals, including through NPDES, are shown in Table 4.8-4 (see Section 4.8.2.2).
- Section 404 establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the U.S. Army Corps of Engineers and the Environmental Protection Agency (USEPA).

Numerous agencies have responsibilities for administration and enforcement of the CWA. At the federal level this includes the USEPA and the U.S. Army Corps of Engineers (USACE). At the state level, with the exception of tribal lands, the California Environmental Protection Agency (CalEPA) and its sub-agencies, including the SWRCB, have been delegated primary responsibility for administering and enforcing the CWA in California.

Federal Antidegradation Policy

The Federal Antidegradation Policy (40 CFR §131.12) requires states to develop statewide antidegradation policies and identify methods for implementing them. Pursuant to the Code of Federal Regulations (CFR), state antidegradation policies and implementation methods shall, at a minimum, protect and maintain: (1) existing in-stream water uses; (2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

4.8.2.2 State

California Porter-Cologne Water Quality Control Act

Since 1973, the California State Water Resources Control Board and its nine RWQCBs have been delegated the responsibility for administering permitted discharge into the waters of California. The CSUMB campus falls within the jurisdiction of the Central Coast RWCQB, as indicated in Section 4.8.1.1. The Porter-Cologne Water Quality Act (Cal. Water Code § 13000 *et seq*.; Cal. Code Regs. tit. 23, chapters 3 and 15) provides a comprehensive water-quality management system for the protection of California waters. Under the Act, "any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" must file a report of the discharge with the appropriate RWQCB. Pursuant to the Act, the RWQCB may then prescribe "waste discharge requirements" that add conditions related to control of the discharge. Porter-Cologne defines "waste" broadly, and the term has been applied to a diverse array of materials, including non-point source pollution. When regulating discharges that are included in the Federal Clean Water Act, the state essentially treats Waste Discharge Requirements (WDRs) and NPDES as a single permitting vehicle. In April 1991, the State Water Resources Control Board and other state environmental agencies were incorporated into the CalEPA.

The Porter-Cologne Water Quality Control Act is the primary state regulation addressing water quality and waste discharges on land. Permitted discharges must be in compliance with the regional Basin Plan (Central Coast RWQCB 2017a), which includes Monterey County and the CSUMB campus. Each RWQCB implements the Basin Plan to ensure that projects consider regional beneficial uses (see Table 4.8-2), water quality objectives, and water quality problems (see Table 4.8-3). Table 4.8-4 provides the general water quality objectives for the Central Coast Region, which apply to freshwater and marine inland surface waters, enclosed bays and estuaries. CSUMB does not drain to any surface waters, bays or estuaries.

The RWQCB regulates urban runoff discharges under the NPDES permit regulations. NPDES permitting requirements cover runoff discharged from point (e.g., industrial outfall discharges), and nonpoint (e.g., stormwater runoff) sources. The RWQCB implements the NPDES program by issuing construction and industrial discharge permits.

Table 4.8-4
General Water Quality Objectives for the Central Coast Region

Constituent	Unit	Water Quality Objective
Color	units	15
pH[1]	—	6.5-8.3
Dissolved Oxygen	mg/L	5.0
Unionized ammonia (NH3)	mg/L	0.025
Methylene Blue Activated Substances	mg/L	0.2
Phenols	mg/L	0.1
Polychlorinated biphenyls	µg/L	0.3
Phthalate Esters	µg/L	0.002
Phenol	µg/L	1
Fecal Coliform[2]	MPN/100 ml, mean	200 (2000)
	MPN/100 ml, max	400 (2000)

Source: Central Coast RWQCB 2017a.
Acronyms: mg/L = milligrams per liter; ml = milliliters; MPN = most probable number; µg/L = micrograms per liter
Notes: Concentrations not to be exceeded more than 10 percent of the time during any 1-year period.
1 For waters with the beneficial use of non-contact or water-contact recreation. For waters without beneficial uses specified, the pH objective is 7.0 - 8.5.
2 The first objective applies to areas with water-contact recreation, and the second objective applies to areas with non-contact recreation.

Under the NPDES permit regulations, Best Management Practices (BMPs) are required as part of a Stormwater Pollution Prevention Plan (SWPPP). The EPA defines BMPs as "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the United States." BMPs include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage" (40 CFR §122.2).

California Antidegradation Policy

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the state (e.g., isolated wetlands and groundwater), not just surface waters. The policy states that whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality shall be maintained, and discharges to that water body shall not unreasonably affect present or anticipated beneficial use of such water resource.

California Toxics Rule

The USEPA has established water quality criteria for certain toxic substances via the California Toxics Rule. The California Toxics Rule established acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water, such as inland surface waters and enclosed bays and estuaries, that are designated by each RWQCB as having beneficial uses protective of aquatic life or human health.

Basin Planning

The California legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality, including the Porter–Cologne Act and portions of the CWA, to the SWRCB and its nine RWQCBs. The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for implementation of state and federal regulations. The nine RWQCBs throughout California adopt and implement Basin Plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The Central Coast RWQCB is responsible for the protection of the beneficial uses of waters within the coastal watersheds of Santa Cruz, San Benito, Monterey, San Luis Obispo, and Santa Barbara Counties, as well as portions of San Mateo, Kern and Ventura Counties. This jurisdiction includes the Project site.

The Water Quality Control Plan for the Central Coast Basin (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (Cal. Water Code §§ 13240–13247) (Central Coast RWQCB 2017a). The Central Coast RWQCB Basin Plan must conform to the policies set forth in the Porter-Cologne Act as established by the SWRCB in its state water policy. The Porter-Cologne Act also provides the RWQCBs with authority to include within their basin plan water discharge prohibitions applicable to particular conditions, areas, or types of waste. The Basin Plan is continually being updated to include amendments related to implementation of TMDLs of potential pollutants or water quality stressors, revisions of programs and policies within the Central Coast RWQCB region, and changes to beneficial use designations and associated water quality objectives.

NPDES and WDR Permits

The NPDES and WDR programs regulate construction, municipal, and industrial stormwater and non-stormwater discharges under the requirements of the CWA and the Porter–Cologne Water Quality Control Act. Table 4.8-5 lists the water-quality-related permits that would apply directly or indirectly to the Project, each of which is further described below. As indicated in the table, CSUMB has a waiver from the requirements of the Municipal Stormwater Program (Central Coast RWQCB 2017b).

Table 4.8-5
State and Regional Water Quality-Related Permits and Approvals

Program/ Activity	Order Number/ NPDES Number	Permit Name	Affected Area
Construction Stormwater Program	2009-0009-DWQ/ CAS000002, as amended	NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit)	Statewide
Municipal Stormwater Program	SWRCB Order No. R3-2013-0001-DWQ	WDRs for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)	Statewide[1]
Discharge of Groundwater from Construction and Project Dewatering to Surface Waters	Central Coast RWQCB Order No. R3-2017-0042	WDRs General Permit for Discharges with Low Threat to Water Quality	Central Coast Region

Definitions: NPDES = National Pollutant Discharge Elimination System; MS4 = Municipal Separate Storm Sewer System; WDR = Waste Discharge Requirement
Notes:
1 CSUMB has a waiver from the requirements of the Municipal Stormwater Program (Central Coast RWQCB 2017b).

Construction General Permit (SWRCB Order 2009-0009)

For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects in which construction activity disturbs one acre or more of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which would include and specify water quality BMPs designed to prevent pollutants from contacting stormwater and keep erosion from moving off site into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit, and the SWPPP must be prepared and implemented by qualified individuals as defined by the SWRCB.

As individual developments under the Project are pursued in the future, they will be required to comply with the Construction General Permit, if more than 1 acre of a given development site will need to be disturbed for construction activity. A "Notice of Intent" must be submitted to the Central Coast RWQCB and the preparation of a SWPPP is required prior to construction.

Waste Discharge Requirements General Permit for Discharges with Low Threat to Water Quality (Central Coast RWQCB Order No. R3-2017-0042)

This general order is intended to authorize discharges of treated or untreated groundwater generated from permanent or temporary dewatering operations or other applicable wastewater discharges not specifically covered in other general or individual NPDES permits. Discharges from facilities to waters of the United States that do not cause, have the reasonable potential to cause, or contribute to an in-stream excursion above any applicable state or federal water quality objectives/criteria or cause acute or chronic toxicity in the receiving water are authorized discharges in accordance with the conditions set forth in this order. To demonstrate coverage under the order, dischargers must submit documentation to show that the discharge would not cause or contribute to a violation of any applicable water quality objective/criteria for the receiving waters, or any other discharge prohibition listed in the order. In addition, discharges must perform reasonable potential analysis using a representative sample of groundwater or wastewater to be discharged. The sample shall be analyzed and the data compared to the water quality screening criteria for the constituents listed in the order, and if results show exceedance of water quality screening criteria, the discharge will be required to treat the wastewater to acceptable standards prior to discharge.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen Code), Part 11 of the California Building Standards Code (Title 24) is designed to improve public health, safety, and general welfare by utilizing design and construction methods that reduce the negative environmental impact of development and to encourage sustainable construction practices (Cal. Code Regs. Tit 24, part 11).

The CALGreen Code provides mandatory direction to developers of all new construction and renovations of residential and non-residential structures with regard to all aspects of design and construction, including, but not limited to, site drainage design, stormwater management, and water use efficiency. Required measures are accompanied by a set of voluntary standards designed to encourage developers and cities to aim for a higher standard of development.

California Water Plan

Required by the California Water Code Section 10005(a), the California Water Plan, prepared by the DWR, is the state government's strategic plan for managing and developing water resources statewide for current and future generations and provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The California Water Plan, which is updated every five years, presents basic data and information on California's water resources, including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The California Water Plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the state's water needs.

The goal for the California Water Plan Update is to meet California Water Code requirements, received broad support among those participating in California's water planning, and is a useful document for the public, water planners throughout the state, legislators, and other decision-makers.

Sustainable Groundwater Management Act

In 2014, California enacted the Sustainable Groundwater Management Act (Cal. Water Code § 10720-10737.8 *et seq*.) to bring the state's groundwater basins into a more sustainable regime of pumping and recharge. The legislation provides for the sustainable management of groundwater through the formation of local groundwater sustainability agencies (GSAs) and the development and implementation of groundwater sustainability plans (GSPs), and requires GSAs and GSPs for all groundwater basins identified by the DWR as high or medium priority. Additionally, the legislation establishes criteria for the sustainable management of groundwater and authorizes DWR to establish best management practices for groundwater (DWR 2016). See Section 4.8.2.4 for additional information about existing and pending GSPs that apply to the Project area.

4.8.2.3 CSUMB

The CSUMB Stormwater Master Plan specifies that campus redevelopment will infiltrate 100 percent of runoff from a hundred-year storm on the Project site, reducing CSUMB's reliance on the offsite regional stormwater facilities (Schaaf & Wheeler 2006). As indicated previously, this requirement is being implemented as new construction projects on the campus are implemented. For example, recent campus developments have included on-site infiltration facilities, which have employed LID approaches, as well as more conventional infiltration basins.

4.8.2.4 Regional

Groundwater Sustainability Plans

Under SGMA, several GSAs have been formed in the region. The Salinas Valley Basin GSA (SVBGSA)[4] covers all of the SVGB within Monterey County, except the adjudicated Seaside Basin and the lands within MCWDs GSA. The MCWD GSA covers the portion of the Monterey and 180/400 Foot Aquifer Subbasins within their service area. The Salinas Valley Groundwater Basin consists of nine subbasins, as described in Section 4.8.1, Environmental Setting, of which six fall entirely or partially under the SVBGSA's jurisdiction. One of the nine subbasins, the Seaside Subbasin, is adjudicated and not managed by the SVBGSA. Another two subbasins, the Paso

4 The SVBGSA is a Joint Powers Authority (JPA). The JPA membership is composed of the MCWRA, City of Salinas, City of Soledad, City of Gonzales, City of King (King City), the Castroville Community Services District (CSD), and M1W (SVBGSA 2020).

Robles and Atascadero Subbasins, lie completely in San Luis Obispo County and are managed by other groundwater sustainability agencies.

Under a 2018 agreement between the MCWD GSA and the SVBGSA, the GSP for the 180/400-Foot Aquifer Subbasin and a portion of the Monterey Subbasin outside of the MCWD service area has been prepared by the SVBGSA, and the GSP for the Monterey Subbasin in the Marina and Ord Management Areas is being prepared by the MCWD GSA (MCWD 2021). The Monterey Subbasin GSP is required to be prepared and submitted to DWR by January 31, 2022. The Monterey Subbasin GSP was prepared by the MCWD GSA and released in draft form in September 2021. The 180/400-Foot Aquifer Subbasin GSP was prepared by SVBGSA in coordination with the MCWD GSA and was approved by DWR on June 3, 2021. Both of these subbasin GSPs describe current groundwater conditions, develop a hydrogeologic conceptual model, establish a water budget, outline local sustainable management criteria, and provide projects and programs for reaching sustainability in the Subbasins by 2040 (SVBGSA 2020; MCWD GSA 2021). Details about the projects and actions for reaching sustainability identified in the 180/400 Foot Aquifer Subbasin GSP and in the Monterey Subbasin GSP, are provided below.

The SVBGSA is developing five other subbasin plans, including for a portion of the Monterey Subbasin not within the jurisdiction of the MCWD GSA, which have to be prepared and submitted to DWR by January 31, 2022. The five other subbasins are not in critical overdraft conditions. Together, the six Subbasin plans under the SVBGSA will be integrated into the Salinas Valley Integrated Groundwater Sustainability Plan (SVBGSA 2020). While GSPs for these other subbasins have been released in public draft form they are not reviewed in detail in this EIR given that the MCWD does not draw groundwater from these other subbasins.

180/400-Foot Subbasin GSP

The 180/400-Foot Subbasin GSP provides projected sustainable yield for the subbasin, which is the amount of long-term pumping that can be sustained over the planning horizon once all undesirable results have been addressed. It is not the amount of pumping needed to stop undesirable results and does not account for temporary pumping reductions that may be necessary to achieve the higher groundwater elevations that help mitigate seawater intrusion. The SVBGSA recognizes that, dependent on the success of various proposed projects and management actions, there may be a number of years when pumping might be held at a lower level to achieve necessary rises in groundwater elevation. The actual amount of allowable pumping from the Subbasin will be adjusted in the future based on the success of projects and management actions.

The historical sustainable yield of the Subbasin is 97,200 AFY, and the projected sustainable yield for 2030 is 107,200 AFY and the projected sustainable yield for 2070 is 112,000 AFY (SVBGSA 2020). The projected sustainable yields for 2030 and 2070 would require pumping reductions of approximately 7 percent (SVBGSA 2020), which would be accomplished with the projects and management actions further described below. The sustainable yield value, which currently has significant uncertainty, will be modified and updated as more data are collected, and more analyses are conducted through implementation of GSP monitoring programs (SVBGSA 2020).

Goals and Sustainable Management Criteria

The goal of the GSP is to manage the groundwater resources of the 180/400-Foot Aquifer Subbasin for long-term community, financial, and environmental benefits to the Subbasin's residents and businesses. The GSP describes six sustainability indicators including groundwater elevations, groundwater storage, seawater intrusion, groundwater quality, subsidence, and interconnected surface water. Sustainable management criteria are identified for each sustainability indicator and include the following:

- **Minimum thresholds** – specific, quantifiable values for each sustainability indicator used to define undesirable results *(i.e., indicators of unreasonable conditions that should not be exceeded)*
- **Measurable objectives** – specific, quantifiable goals that provide operational flexibility above the minimum thresholds *(i.e., goals the GSP is designed to achieve)*
- **Undesirable results** – Undesirable result means one or more of the following effects caused by groundwater conditions occurring throughout the basin:
    - Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon.
    - Significant and unreasonable reduction of groundwater storage.
    - Significant and unreasonable seawater intrusion.
    - Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.
    - Significant and unreasonable land subsidence that substantially interferes with surface land uses.
    - Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

The 180/400-Foot Subbasin GSP identifies a water charges framework, groundwater management actions, and proposed projects that will allow the subbasin to attain sustainability. The projects and actions included in the 180/400-Foot Subbasin GSP are defined as a toolbox of options. Specific details need to be developed for stakeholders to determine which projects and actions to implement. The projects and management actions described in the 180/400-Foot Subbasin GSP constitute an integrated management program for the entire Salinas Valley Groundwater Basin.

Water Charges Framework

The 180/400-Foot Subbasin GSP proposes a water charges framework with a tiered structure of charges[5] that provides incentives to constrain groundwater pumping to the sustainable yield while generating funds for project implementation (SVBGSA 2020). The stated intent in the GSP is that a similar water charges framework will be applied in all subbasins of the Salinas Valley Groundwater Basin. However, details such as pumping allowance quantities and tier charges will be different for each subbasin because the demand and sustainable yield varies by subbasin. Each subbasin's water charges framework will reflect the specific hydrogeology and conditions of that subbasin. Pumping allowances are not water rights but would be established to incentivize pumping reductions. There are a range of specific details about the water charges framework that are open for negotiation during the first three years of GSP implementation.

Management Actions

The /180/400-Foot Subbasin GSP identifies six management actions that are the most reliable, implementable, cost-effective, and acceptable to stakeholders. The first three would benefit the entire Salinas Valley; the last three are specific to the 180/400-Foot Aquifer Subbasin:

- Agricultural land and pumping allowance retirement
- Outreach and education for agricultural BMPs
- Reservoir reoperation
- Restrict pumping in Castroville Seawater Intrusion Project (CSIP) area (see Section 4.13, Utilities and Energy for information about this project)
- Support and strengthen MCWRA restrictions on additional wells in the Deep Aquifers
- Establish a seawater intrusion technical working group

Specific Priority Projects

The 180/400-Foot Subbasin GSP identifies nine priority projects, categorized below by type of project. Details of each project can be found in the 180/400-Foot Subbasin GSP. A preliminary ranking based on cost effectiveness is noted after each project:

[5] The tiered structure of charges includes three tiers. The Tier 1 rate is for groundwater pumped within the sustainable pumping allowance. Sustainable pumping allowances are a base amount of groundwater pumping assigned to each non-exempt groundwater pumper. The Tier 2 rate is for groundwater pumped in excess of the sustainable pumping allowance, at a transitional pumping allowances, which is the difference between current assumed pumping and the sustainable pumping allowance. The Tier 3 rate is for groundwater pumped above the transitional pumping allowance.

- **Project Type 1:** In-lieu recharge[6] through direct delivery of water to replace groundwater pumping – projects that use available water supplies for irrigation in lieu of groundwater (see Section 4.13, Utilities and Energy for information about these projects).
  - Optimize CSIP Operations (#2)
  - Modify Monterey One Water (M1W) Regional Wastewater Treatment Plant (#3)
  - Expand Area Served by CSIP (#4)
  - Maximize Existing Salinas River Diversion Facility (SRDF) Diversion (#5)
- **Project Type 2:** Direct recharge through recharge basins or wells – projects that fill large artificial ponds with water to percolate from the basin into the groundwater system or construct injection wells.
  - 11043 Diversion Facilities Phase I: Chualar (#7)
  - 11043 Diversion Facilities Phase II: Soledad (#8)
  - SRDF Winter Flow Injection (#9)
- **Project Type 3:** Indirect recharge through decreased evapotranspiration or increased infiltration – projects to remove invasive species, *arundo donax* and other non-native invasive plant species, from riparian corridors along the Salinas River to decrease evapotranspiration or to capture stormwater to increase percolation.
  - Invasive Species Eradication (#1)
- **Project Type 4:** Hydraulic barrier to control seawater intrusion – project to construct a hydraulic barrier consisting of a series of wells drilled a short distance inland from the coast and aligned approximately parallel to the coast. It could be operated as a recharge barrier that injects water into wells, or an extraction barrier that pumps water from wells, both of which would create a hydraulic barrier to seawater intrusion.
  - Seawater Intrusion Pumping Barrier (#6)
- **Alternative Projects**: Additionally, the SVBGSA identified a number of alternative projects, including: desalination of water from the seawater barrier extraction wells, recharge local runoff from Eastside Range, winter potable reuse water injection, and seasonal water storage in 180/400-Foot Aquifer.

[6] In-lieu use means the use of surface water by persons that could otherwise extract groundwater in order to leave groundwater in the basin.

Other Groundwater Management Activities

Although not specifically funded or managed by the SVBGSA, a number of associated groundwater management activities will be promoted and encouraged by the GSA as part of general good groundwater management practices. These include: continuing urban and rural residential conservation, promoting stormwater capture, supporting well destruction policies, and watershed protection and management.

Mitigation of Overdraft

The water charges framework is specifically designed to promote pumping reductions. If adequate pumping reductions are not achieved to mitigate all overdraft, funds collected through the water charges framework will support recharge of imported water, either through direct recharge or in-lieu means. Therefore, the water charges framework in association with the projects and management actions listed above will mitigate overdraft through a combination of pumping reduction and enhanced recharge. The priority projects listed above and in the GSP include more than ample supplies to mitigate existing overdraft (SVBGSA 2020).

Implementing the 180/400-Foot Subbasin GSP will require the following activities: monitoring and reporting groundwater data; refining and implementing the groundwater charges framework; addressing identified data gaps; expanding and improving the existing monitoring networks; updating the data management system; reviewing and implementing the new upcoming USGS model for the Salinas Valley; and refining the projects and management actions identified above.

Monterey Subbasin GSP

As indicated in Section 4.8.1, Environmental Setting, this EIR focuses on the Marina-Ord Area of the Monterey Subbasin, which consists of the lands within the City of Marina and the former Fort Ord, which are generally located north of State Route 68. This area is the focus of the information provided in this EIR given that MCWD's wells that serve the Ord Community service area are located in this area.

The Monterey Subbasin GSP indicates that the sustainable yield of the Monterey Subbasin is significantly affected by recharge, pumping, and conditions in adjacent subbasins (e.g., the 180/400-Foot Subbasin). As such, the sustainable yield based on historical overdraft has significant uncertainty and does not address all undesirable results. Groundwater conditions in adjacent subbasins are projected to change as these subbasins move toward sustainability. Future projected sustainable yield of the Marina-Ord Area, which includes projected demands from MCWD 2020 UWMP for 2020 through 2040 and other pumping projections, ranges between approximately 4,400 AFY and 9,900 AFY if adjacent subbasins are managed sustainably and the 180/400-Foot Aquifer Subbasin reaches its sustainable management criteria. The GSP indicates that confirmation that these quantities could be extracted without inducing seawater intrusion needs to be verified (MCWD GSA 2021).

Goals and Sustainable Management Criteria

The sustainability goal of the Monterey Subbasin GSP is to manage groundwater resources for long-term community, financial, and environmental benefits to the Subbasin's residents and businesses. In addition, because the Monterey Subbasin is hydrologically connected with other Salinas Valley Basin Subbasins, the GSP aims to develop a coordinated approach to groundwater management within this Subbasin and neighboring Subbasins (MCWD GSA 2021). Like the 180/400-Foot Aquifer Subbasin GSP, the Monterey Subbasin GSP describes sustainable management criteria (i.e., minimum thresholds, measurable objectives, and undesirable results) for the same six sustainability indicators including groundwater elevations, groundwater storage, seawater intrusion, groundwater quality, subsidence, and interconnected surface water.

The Monterey Subbasin GSP identifies several projects and management actions that will allow the Subbasin to attain sustainability by diversifying the Subbasin's water supply portfolio, increasing supply reliability, and protecting the Subbasin's groundwater resources against seawater intrusion. The Subbasin's historical efforts to invest in water conservation will continue under the GSP.

Projects and Management Actions

The projects and management actions for this GSP include: multi-subbasin projects that are generally identified in multiple Salinas Valley Subbasin GSPs and expand upon how the project would be applied in the Monterey Subbasin; Marina-Ord Area local projects and management actions led by MCWD (or Marina-Ord Area agencies) that will primarily benefit this area; and Corral de Tierra Area local projects and management actions that will primarily benefit this area. As indicated previously, this EIR focuses on the Monterey Subbasin GSP elements related to the Marina-Ord Area. These projects and actions include the following:

- **Multi-Subbasin Projects:**
  - <u>Winter Releases from Reservoir to Maximize Diversions from SRDF.</u> Winter release water will be diverted at the SRDF, treated at a new water treatment plant, and (1) injected through Aquifer Storage and Recovery (ASR) injection wells and/or (2) delivered directly to municipalities as supply augmentation. This project correlates to Priority Project #9 (SRDF Winter Flow Injection Project) listed above from the 180/400-Foot Aquifer Subbasin GSP.
  - <u>Regional Municipal Supply Project.</u> This project would construct a regional desalination plant to treat the brackish water extracted from the proposed seawater intrusion barrier in the 180/400-Foot Aquifer Subbasin. This project correlates to Priority Project #6 (Seawater Intrusion Pumping Barrier) listed above from the 180/400-Foot Aquifer GSP.

  - Multi-Benefit Stream Channel Improvements. Proposed stream channel improvements include: removing dense vegetation and reducing the height of sediment bars; removing invasive species *Arundo donax* (arundo) and *Tamarix sp.* (tamarisk) throughout the Salinas River watershed; and enhancing the recharge potential of floodplains along the Salians River. This project correlates to Priority Project #1 (Invasive Species Eradication) listed above from the 180/400-Foot Aquifer GSP.

- **Marina-Ord Area Local Projects:**
  - Stormwater Recharge Management. As future development and redevelopment within the Marina-Ord Area occurs, additional stormwater from urbanized areas and construction sites will be captured and infiltrated, providing recharge to the groundwater basin, per the FORA Stormwater Master Plan, which has the long-term objective to percolate all storm water on the east side of Highway 1 as part of the redevelopment of the former Fort Ord.
  - MCWD Demand Management Measures. MCWD plans to continue to implement conservation efforts within its service area including implementation of design standards for new construction that exceed the State's plumbing code; implementation of 2020 UWMP demand management measures; and replacement of portions of the water distribution system that are over 50-years old to reduce system water losses.
  - Recycled Water Reuse through Landscape Irrigation and Indirect Potable Reuse. The project consists of recycled water reuse through landscape irrigation and/or indirect potable reuse (IPR) within MCWD's service area. The source water for these options is recycled water from the M1W regional wastewater treatment plant, which would undergo advanced treatment to meet criteria under Title 22 of the California Code Regulations (CCR) for subsurface applications of recycled water. Reuse of this water through IPR involves injection into a groundwater aquifer and recovery through an appropriately permitted Groundwater Replenishment Reuse Project (GRRP), which provides seasonal storage and generates potable water that can meet a larger portion of MCWD's water demand beyond irrigation and non-potable needs.
  - Drill and Construct Monitoring Wells. This project includes drilling and construction of monitoring wells screened in the 400-Foot Aquifer and the Deep Aquifers near the southwestern portion of the Subbasin to fulfill monitoring network data gaps.

Mitigation of Overdraft

Projected GSP water budget results indicate that if adjacent subbasins are managed sustainably and the 180/400 Foot Aquifer Subbasin reaches it sustainable management criteria, the Marina-Ord Area of the Monterey Subbasin will not be in overdraft during the 30-year post-GSP implementation period. However, projected water level results indicate that further analysis and implementation of projects and/or management actions may be required to reach the sustainable management criteria in the Marina-Ord Area, depending upon boundary conditions achieved in adjacent subbasins.

The projects presented above are adequate to meet the entirety of the Marina-Ord Area's projected groundwater demand. The MCWD GSA and SVBGSA will be directly leading joint efforts to achieve sustainability and mitigate any residual overdraft. Multi-subbasin projects and management actions will need to be coordinated. For example, in the event that a seawater intrusion extraction barrier is constructed in the 180/400 Foot Aquifer Subbasin, impacts to groundwater levels, seawater intrusion, and cross-boundary flows will need to be assessed. The MCWD GSA will support projects and actions in adjacent subbasins, particularly those that will improve groundwater conditions near Monterey Subbasin boundaries and reduce the potential for seawater intrusion and decrease cross-boundary outflows from the Monterey Subbasin.

MCWD GSA and SVBGSA intend to coordinate implementation of the Monterey Subbasin GSP, through the development of an Implementation Agreement. MCWD GSA will implement the GSP within the Marina-Ord Area and the SVBGSA will implement the GSP within the Corral de Tierra Area. Given SVBGSA's role in the Corral de Tierra Area, the water charges framework identified in SVBGAS subbasin GSPs will be implemented in this area to promote voluntary pumping reductions. The MCWD GSA will likely meet estimated costs for GSP implementation through a combination of contributions through rate payers and from any available grant funding.

4.8.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to hydrology and water quality. The section includes the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.8.3.1 Standards of Significance

The significance thresholds used to evaluate the impacts of the Project related to hydrology and water quality are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to hydrology and water quality would occur if the Project would:

A. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater water quality.

B. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

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

   i) Result in substantial erosion or siltation on or off site.

   ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.

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

   iv) Impede or redirect flood flows.

D. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

E. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.8.3.2 Analytical Method

Program- and Project-Level Review

The hydrology and water quality impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3, Project Description. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the Master Plan. Both construction and operation of the Project are considered in the impact analysis, where relevant. The impact analysis assumes that Project development, including 5 near-term developments, would be constructed in compliance with a prepared SWPPP where future development sites exceed 1 acre and the existing CSUMB Stormwater Master Plan goal to percolate storm water runoff within the campus footprint through building-level LID and district-scale projects. In the event that significant adverse environmental impacts would occur with the implementation of the Project even with incorporation of applicable regulations and proposed PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

There are a number of PDFs that are incorporated into the technical analysis as part of the Project, including the following stormwater, erosion, and water supply PDFs. PDF-W-1 is considered in the analysis but not factored into the quantitative estimates of water demand with the Project, as provided in Section 4.14, Utilities and Energy. A summary of the relevant PDFs is provided below (see Chapter 3, Project Description for the specific text of each applicable PDF):

- *PDF-OS-1* requires the designation and management of open space to percolate stormwater runoff, among other identified purposes.
- *PDF-OS-3* provides for Construction Best Management Practices to avoid or minimize erosion and sedimentation of all development sites, regardless of site acreage.
- *PDF-OS-5* identifies planting specifications for implementation after demolition and construction, to stabilize newly created bare land with native plants and seed mixes to eliminate erosion.
- *PDF-OS-6* requires maximizing landscaping and natural material surfaces and permeability along existing and future trails to locally percolate stormwater runoff, among other identified purposes.
- *PDF-W-1* provides that development will be pursued within the campus's water allocation by: establishing water use thresholds below CALGreen Code standards; establishing water modeling for each capital project during the feasibility phase; establishing potable water conservation projects; retrofitting high-use campus fixtures; pursuing a heat recovery chilling system to reduce water needs; and studying expansion of non-potable water use including the establishment of an on-site water recycling facility.
- *PDF-W-2* requires the establishment of all landscapes as self-retaining stormwater management areas to maximize infiltration or retention for irrigation, and minimize stormwater runoff volumes. This will be accomplished by maximizing use of building-scale LID design features to protect water quality (e.g., green roofs, rain gardens, swales, stormwater harvesting, infiltration trenches and pervious paving); maximizing use of campus-scale LID design features to protect water quality (e.g., porous paving, green streets, recreation fields, swales and basins); infiltrating all stormwater runoff within campus boundaries or easements; developing standards for pervious pavement and pavement draining to natural areas as well as maintenance programs to support alternatives to concrete for pathways and outdoor gathering spaces; conducting project-specific drainage analysis during the design of individual developments to demonstrate that all criteria of the CSUMB Stormwater Master Plan are met; and incorporating LID features in the design of each development project to ensure these criteria are met.
- *PDF-W-3* requires the implementation of a regular stormwater maintenance program to protect water quality and follow best management practices (e.g., minimizing use of pesticides and quick release fertilizers, employing non-chemical controls to treat pest problems, maintaining compliance with existing standards for special handling, removal, and disposal of hazardous materials).

4.8.3.3 Issues Not Evaluated Further

The Project would not have impacts with respect to the following thresholds of significance and therefore these topics are not further evaluated:

- Groundwater Quality (Threshold A). Groundwater occurs at approximately 165 feet below ground surface at the Project site and is not used for domestic uses given the existence of groundwater contamination that dates back to the former Fort Ord. Due to the depth to groundwater, the Project would not cause further degradation of groundwater water quality. Therefore, the Project would have no impacts related to groundwater quality.

- Flooding-Related Risks (Thresholds C-iv and D). The proposed development areas on the Project site would be located outside of FEMA designated flood risk zones and the campus is outside of a tsunami risk area. Therefore, the Project would not impede or redirect flood flows (Threshold C-iv) or release pollutants due to inundation (Threshold D). Therefore, the Project would have no impacts due to flooding-related risks.

4.8.3.4 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of hydrology and water quality impacts associated with the Project.

Impact HYD-1:	**Surface Water Quality Standards and Waste Discharge Requirements (Thresholds A and E).** The Project would not directly or indirectly violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality. *(Less than Significant)*

Master Plan

Construction

Water quality standards and waste discharge requirements are intended to protect the quality of waters of the state. Impacts to water quality through exceedance of water quality standards, waste discharge requirements or by other means can potentially result from the short-term effects of construction activities (e.g., erosion and sedimentation due to land disturbances, uncontained material and equipment storage areas, improper handling of hazardous materials).

This discussion addresses the different types of water-quality impacts that could potentially occur with the Project during construction, including stormwater runoff from construction sites, management of demolition activities and debris, and non-stormwater discharges.

Non-stormwater discharges during construction would not be expected to occur from construction-related dewatering (to keep excavations free of water) given that the depth to groundwater below the Project site is approximately 165 feet below ground surface and shallow groundwater does not exist on the campus, as described in Section 4.8.1, Environmental Setting. Additionally, non-stormwater discharges from the Project site from the periodic application of water for construction-phase dust control during the dry season to prevent wind erosion and dust plumes would not be expected, as such water would either quickly evaporate or locally infiltrate into the highly permeable surface soils. Given the above, the Project would not have the potential to violate WDRs (see Table 4.8-5) related to non-stormwater discharges or exceed water quality objectives contained in the Basin Plan.

Equipment fueling and maintenance would be required during demolition, construction, renovation, modernization, landscaping, and utility upgrade activities associated with the Project. Incidental spills of gasoline, diesel fuel, lubricating oils, grease, paints, and solvents could occur during demolition and construction. In addition, demolition and construction would result in removal of existing vegetation, pavement, and structures, such that underlying soils would be exposed to wind and water erosion, especially during the rainy season (i.e., November through April). Excess sediment could increase runoff water turbidity and also could transport other pollutants such as nutrients, metals, oils, and greases. If not properly handled, demolition activities could result in the release of hazardous substances such as lead-based paint, asbestos, polychlorinated biphenyls (PCBs), mercury, and other hazardous building materials, which could be transported by stormwater runoff.

However, all proposed development would be subject to the CSUMB's Stormwater Master Plan requirement to infiltrate 100 percent of runoff from a hundred-year storm, as described in Section 4.8.1, Environmental Setting and confirmed in PDF-W-2. Therefore, construction stormwater discharges from all proposed development sites on the Main Campus would infiltrate on campus, or temporarily be directed into downstream percolation ponds. As there is no conveyance system that discharges to the Monterey Bay, the closest water body to the campus, project construction stormwater discharges from the Main Campus would not enter the bay. Additionally, while East Campus Housing is located in the Salinas River Watershed, this area drains to percolation ponds located within East Campus Housing. Additionally, the existing percolation ponds and open space areas in East Campus Housing have stormwater capacity for current conditions, which would not change with the Project. Overall, Project construction stormwater discharges do not and would not in the future discharge into any CWA 303(d) listed water bodies, which include segments of the Salinas River (see Table 4.8-3). Therefore, construction activities would not exceed water quality objectives or be a cause of degradation of the beneficial uses established for the Lower Salinas River.

Demolition, grading, and excavations associated with the Project would be completed in accordance with the SWRCB, Division of Water Quality, NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002. This General Permit regulates discharges of pollutants in stormwater associated with construction activity (stormwater discharges) from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development that disturbs more than one acre of land surface. The General Permit requires the development of a site-specific SWPPP and development of BMPs for all phases of construction, under the guidance of a Qualified SWPPP Practitioner. A copy of the applicable SWPPP would be kept at the construction site and be available for review by the Central Coast RWQCB upon request. Implementation of a SWPPP would avoid or minimize erosion and sedimentation and release of hazardous materials from construction sites by including water quality BMPs designed to prevent erosion and prevent sediments and pollutants from becoming mobilized by stormwater runoff. The SWPPP is required to include specific elements such as erosion and stormwater control measures that would be implemented onsite.

At a minimum, the SWPPP must include the following:

- A description of construction materials, practices, and equipment storage maintenance;
- A list of pollutants likely to contact stormwater and site-specific erosion and sedimentation control practices;
- A list of provisions to eliminate or reduce discharge of materials to stormwater;
- BMPs for fuel and equipment storage;
- Non-stormwater management measures to manage pollutants generated by activities such as paving operations and vehicle and equipment washing and fueling;
- The requirement that the appropriate equipment, materials, and workers be available to respond rapidly to spills and/or emergencies. All corrective maintenance or BMPs must be performed as soon as possible, depending upon worker safety; and
- Onsite post-construction controls.

Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods of the year, installing sediment barriers such as silt fencing and fiber rolls, maintaining equipment and vehicles used for construction, and tracking controls such as stabilization of construction access points. The development and implementation of BMPs such as overflow structures designed to capture and contain any materials that are inadvertently released from the storage containers on the construction site are also required. A Rain Event Action Plan would be required to ensure that active construction sites have adequate erosion and sediment controls in place prior to the onset of a storm event, even if construction is planned only during the dry season. The construction contractor(s) would also be required to develop and implement a monitoring program. The contractor would be required to conduct inspections of the construction site(s) prior to anticipated storm events and after the actual storm events. During extended storm events, the inspections would be conducted after every 24-hour period. The inspections would be conducted to: identify areas contributing to stormwater discharge; evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate, were properly installed, and are functioning in accordance with the Construction General Permit; and determine whether additional control practices or corrective measures are needed.

Development implemented under the proposed Master Plan that are on sites greater than one acre of land would be subject to the Construction General Permit. Development on smaller sites would be subject to proposed PDF-OS-3 and PDF-OS-5, which call for the use of construction BMPs to minimize erosion and sedimentation and the use of native plants and seed mixes to eliminate erosion after construction. Additionally, as indicated in Section 4.7, Hazards, Hazardous Materials and Wildfire, the Integrated California State University Administrative Manual (ICSUAM) requires that a hazardous materials report be prepared during the schematic design phase of a project. Hazardous materials abatement documents would be prepared and included in construction bid documents, if required, to address known or suspected conditions related to existing contamination on a development site or within an existing building that may be subject to demolition or reconstruction. Proper abatement of hazardous conditions on future development sites, as required by the ICSUAM, would minimize the potential for release of hazardous materials from construction sites.

Given all of the above, Project construction would not directly or indirectly violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality and the impact would be *less than significant*.

Operation

Once operational, most areas subject to development on the Main Campus would either be paved, landscaped or restored to native habitat, or built upon. Exposed areas of soil would be limited, thus minimizing the potential for erosion and sedimentation. The primary source of pollutants would be incidental leaks and spills of oils, grease, general maintenance products, pesticides, herbicides, and fertilizers. Vehicle parking would result in minor petroleum leaks onto paved surfaces. General maintenance products include paints, solvents, fuel, oils, and lubricants, which if not handled and stored properly, could result in incidental spills to paved and/or unpaved areas. Similarly, storage and use of landscaping chemicals could result in small incidental spills of such products and/or leaching of the chemicals into underlying soils and surface runoff.

Incidental spills of these substances could result in releases to stormwater (e.g., through spills or leaks exposed to stormwater runoff), if not properly handled. However, no Project stormwater would discharge into the Monterey Bay or into any CWA 303(d) listed water bodies, which include segments of the Lower Salinas River (see Table 4.8-3). Regardless, implementation of PDF-W-3 would minimize the release of hazardous substances into the environment, by minimizing the use of pesticides and fertilizers, using integrated pest management, using non-chemical controls for pest abatement and maintaining compliance with standards for handling, removal and disposal of hazardous materials. PDF-W-2 would result in the continued use of LID features (e.g., green roofs and streets, swales, porous paving) in all new development to protect stormwater quality and infiltrate all stormwater runoff within campus boundaries and easements in accordance with the CSUMB Stormwater Master Plan. Additionally, PDF-OS-1 and PDF-OS-6 would provide for stormwater percolation in open space areas and along existing and future trails.

Therefore, Project operations would not directly or indirectly violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality and the impact would be *less than significant.*

Near-Term Development Components

None of the near-term development component sites located on the Main Campus would discharge into the Monterey Bay or CWA Section 303(d) listed water bodies, such as the Lower Salinas River, during construction or operation. As indicated above, there is no conveyance system that discharges to the Monterey Bay, and while East Campus Housing is located in the Salinas River Watershed, this area drains to adequately sized percolation ponds located within East Campus Housing.

Additionally, given that all of the near-term development component sites are greater than 1 acre, CSUMB would be required to implement a SWPPP during construction for each development, which would avoid or minimize erosion and sedimentation and release of hazardous materials from these construction sites, as described above.

Incidental spills of pollutants during operations and potential releases of such pollutants in stormwater would be addressed through implementation of proposed PDF-W-3, which would minimize the release of hazardous substances into the environment. Additionally, proposed PDF-W-2 would result in the use of LID features in the design of these near-term development components to protect stormwater quality and infiltrate all stormwater runoff within campus boundaries and easements in accordance with the CSUMB Stormwater Master Plan.

Therefore, site construction and operations of near-term development components would not directly or indirectly violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality and the impact would be *less than significant.*

Mitigation Measures

Mitigation measures are not required because a significant impact related to surface water quality standards and waste discharge requirements has not been identified.

Impact HYD-2:	**Groundwater (Thresholds B and E).** The Project would not substantially decrease groundwater supplies, interfere substantially with groundwater recharge, or impede sustainable groundwater management of the basin. *(Less than Significant)*

Master Plan

Groundwater Supplies and Sustainable Groundwater Management

As discussed in Section 4.15, Utilities and Energy, the Project would create additional potable water demand within CSUMB's groundwater allocation by adding academic, general administrative, recreational, and student housing space. According to Section 4.14, Utilities and Energy (Table 4.15-7), water demand associated with the Project would result in an increased demand of approximately 314 AFY of potable water and 87 AFY of non-potable irrigation water for a total of approximately 401 AFY. Total campus potable water demand with existing, approved and proposed Master Plan buildout would be 630 AFY, which is less than MCWD's 2020 UWMP forecast water demand of 721 AFY at CSUMB by the year 2040 and well below the University's groundwater allocation of 1,035 AFY. Additionally, campus growth under the proposed Master Plan would result in an irrigation non-potable water demand of 87 AFY, which is the current limit of its non-potable water allocation.

Although the Project site overlies the Salinas Valley Groundwater Basin – Monterey Subbasin (3-004.10), as designated by the California DWR, groundwater beneath the site is not used as a municipal water source. The MCWD serves water to the Ord Community Service Area, of which CSUMB is part. MCWD currently relies solely on groundwater extracted from the Salinas Valley Groundwater Basin as the source of its supply, primarily from the Marina-Ord Area of the Monterey Subbasin, as described in Section 4.8.1, Environmental Setting.

With respect to groundwater management, SGMA empowers local agencies to form GSAs to manage basins sustainably and requires those GSAs to adopt GSPs for groundwater basins in California. Such GSPs have been issued for 180/400-Foot Aquifer Subbasin and the Monterey Subbasin, and other subbasins of the Salina Valley Groundwater Basin.

Both the 180/400-Foot Aquifer Subbasin and the Monterey Subbasin are connected and contain three aquifers commonly referred to as the 180-Foot, 400-Foot and Deep Aquifers. The 180-Foot and 400-Foot Aquifers have been subject to seawater intrusion for more than 70 years.

Seawater intrusion is less extensive in the 400-Foot Aquifer than in the 180-Foot Aquifer. To date, seawater intrusion has not been reported in the Deep Aquifers. The 180/400 Foot Aquifer Subbasin has been declared by the State to be a basin subject to "critical conditions of overdraft" (DWR 2016). Ongoing monitoring by MCWRA indicates that the seawater intrusion continues to migrate inland, particularly in the 180-Foot Aquifer, but groundwater conditions appear to be improving in some areas south of the Salinas River (MCWD 2021). As indicated previously, MCWD production wells are located in the Monterey Subbasin and tap the Deep Aquifer and the 400-Foot Aquifer. To date, these wells have not been impacted by seawater intrusion (MCWD 2021).

The Monterey Subbasin GSP indicates that the sustainable yield of this subbasin is significantly affected by recharge, pumping, and conditions in adjacent subbasins (e.g., the 180/400-Foot Subbasin). Groundwater conditions in adjacent subbasins are projected to change as these subbasins move toward sustainability. Future projected sustainable yield of the Marina-Ord Area includes projected demands from MCWD's 2020 UWMP through 2040 and other pumping projections. Projected sustainable yield ranges between approximately 4,400 AFY and 9,900 AFY if adjacent subbasins are managed sustainably and the 180/400-Foot Aquifer Subbasin reaches its sustainable management criteria (MCWD GSA 2021).

Projected Monterey Subbasin GSP water budget results indicate that if adjacent subbasins are managed sustainably and the 180/400 Foot Aquifer Subbasin reaches it sustainable management criteria, the Marina-Ord Area of the Monterey Subbasin will not be in overdraft during the 30-year post-GSP implementation period. However, the Monterey Subbasin GSP indicates that further analysis and implementation of projects and/or management actions may be required to reach the sustainable management criteria in the Marina-Ord Area, depending upon boundary conditions achieved in adjacent subbasins.

MCWRA and MCWD have taken actions to address and eliminate basin overdraft and seawater intrusion. MCWD also is exploring new alternative water sources to augment groundwater supplies, including recycled water, as described in Section 4.14, Utilities and Energy. Additionally, 180/400 Foot Aquifer Subbasin GSP and the Monterey Subbasin GSP include additional strategies for reaching sustainability in these subbasins by 2040. Specifically, the Monterey Subbasin GSP projects and management actions presented in Section 4.8.2, Regulatory Framework, are adequate to comprise the entirety of the Marina-Ord Area's projected groundwater demand. Therefore, such projects would reduce or avoid groundwater pumping in this area depending on the extent of project implementation.

The MCWD GSA and SVBGSA will work cooperatively on implementation of the Monterey Subbasin GSP and the 180/400 Subbasin GSP. During the early years of GSP implementation, data collection and analysis will be critical for the implementation of these GSPs and will allow for a better understanding of groundwater conditions and the necessity of projects and management actions. During the first two years of GSP implementation, the GSAs will undertake further scoping and analysis of potential project benefits and feasibility. With stakeholder input, the GSAs will determine (1) which projects to move forward first, (2) which projects to implement if the first set of projects do not reach sustainability goals, and (3) which projects should not be prioritized for implementation. During years 3 and 4, the GSAs will secure access agreements, undertake permitting and review under the California Environmental Quality Act, and develop funding mechanisms for projects that are selected. The GSAs will continue an iterative, ongoing process to evaluate the effectiveness of projects post implementation, including assessment of groundwater conditions, and the need for additional projects (MCWD GSA 2021).

While the proposed Master Plan would result in an incremental increase in demand for potable water sourced from MCWD groundwater wells, this increase would not cause a substantial decrease in ground water supplies as: (1) total campus potable water demand with existing, approved and proposed Master Plan buildout would be well below the University's groundwater allocation of 1,035 AFY for potable water; (2) implementation of PDF-W-1 and Title 24 compliance could reduce Project demand for MCWD potable water from groundwater; (3) the projected sustainable yield for the Monterey Subbasin considered in the GSP for that subbasin accounts for projected demands from MCWD's 2020 UWMP through 2040 (MCWD GSA 2021), including demand from CSUMB under the proposed Master Plan; and (4) the implementation of the 180/400-Foot Aquifer Subbasin and the Monterey Subbasin GSPs will provide for sustainable groundwater management of these subbasins and the Project would in no way impede the implementation of these GSPs.

Therefore, as the Project would not substantially decrease groundwater supplies or impede sustainable groundwater management of the basin, impacts would be *less than significant*.

Groundwater Recharge

In total, the proposed Master Plan would result in a net increase of 2.6 million GSF of new academic and support facilities, including housing, administration, student life, recreational, and institutional partnership buildings on the Main Campus. However, as the vast majority of the new construction associated with the Project would be located on developed or already paved sites, new construction would not result in a substantial net loss of permeable recharge area or a substantial reduction in infiltration of precipitation. Permeable recharge area could actually increase under the proposed Master Plan with the implementation of PDF-W-2, which would require the use LID features (e.g., green roofs and streets, swales, porous paving) in all new development to infiltrate all stormwater runoff within campus boundaries and easements in accordance with the CSUMB Stormwater Master Plan. Such an increase in permeable recharge area could occur as existing developed or paved areas that would be subject to new development under the proposed Master Plan do not currently include the use of such LID features. Overall, implementation of the CSUMB Stormwater Master Plan since it's preparation in 2006 and demolition of derelict buildings on campus has increased permeable recharge area on campus over time. Additionally, proposed PDF-OS-1 and PDF-OS-6 would provide for stormwater percolation in open space areas and along existing and future trails.

While the Project site is underlain by an established groundwater basin (3-004.10, Salinas Valley – Monterey Subbasin), as designated by the California DWR, groundwater beneath the Project site is not used for domestic uses given the existence of groundwater contamination that dates back to the former Fort Ord, as described in Section 4.8.1, Environmental Setting. Considering this and the depth of groundwater (approximately 165 feet below the ground surface), groundwater recharge underneath the CSUMB campus, while improving over time, is not likely an important component in local sustainable groundwater management. Therefore, any changes in groundwater levels in this local aquifer due to the Project would be minor, localized, and incremental relative to existing conditions.

For these reasons, implementation of the Project would not interfere substantially with groundwater recharge and impacts would be *less than significant.*

Near-Term Development Components

Groundwater Supplies and Sustainable Groundwater Management

The near-term development components would result in the addition of 1,000 student beds, 171,700 square feet of academic space, and 70,000 square feet of recreational facility space. Some of these near-term development components are located on sites with existing buildings that would be demolished to accommodate the new developments (Buildings 1, 2, 3, 13, 21, and 23). Water demand for the near-term development components, including demolition of existing buildings, would total approximately 59 AFY based on the campus water use rates presented in Section 4.14, Utilities and Energy. This water demand represents a portion of and is accounted for in the total proposed Master Plan water demand identified above.

While the near-term development components would result in an incremental increase in demand for potable water sourced from MCWD groundwater wells, this increase would not cause a substantial decrease in ground water supplies as: (1) total campus potable water demand with existing, approved and proposed Master Plan buildout, including the near-term development components, would be well below the University's groundwater allocation of 1,035 AFY for potable water; (2) implementation of PDF-W-1 and Title 24 compliance could reduce near-term development components demand for MCWD potable water from groundwater; (3) the ultimate use of a portion of CSUMB's recycled water allocation associated with the near-term development components would reduce overall demand for potable water sourced from MCWD groundwater wells; (4) the projected sustainable yield for the Monterey Subbasin considered in the GSP for that subbasin accounts for projected demands from MCWD's 2020 UWMP through 2040, including demand from CSUMB under the proposed Master Plan, which includes the near-term development components; and (5) the implementation of the 180/400-Foot Aquifer Subbasin and the Monterey Subbasin GSPs will provide for sustainable groundwater management of these subbasins and the near-term development components would in no way impede the implementation of these GSPs.

Therefore, as the near-term development components would not substantially decrease groundwater supplies or impede sustainable groundwater management of the basin, impacts would be *less than significant*.

Groundwater Recharge

As indicated above, the near-term development component sites are located primarily in existing paved/developed areas. Additionally, the implementation of PDF-W-2 would require the use of LID features (e.g., green roofs and streets, swales, porous paving) in the near-term development component sites to infiltrate all stormwater runoff within campus boundaries and easements in accordance with the CSUMB Stormwater Master Plan. As a result, implementation of these near-term development components would not result in a significant decrease in precipitation infiltration and associated decrease in groundwater recharge.

Therefore, implementation of the near-term development components would not interfere substantially with groundwater recharge, and impacts would be *less than significant.*

Mitigation Measures

Mitigation measures are not required because a significant impact related to groundwater has not been identified.

Impact HYD-3:	**Alteration of Stormwater Drainage Patterns (Threshold C).** The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would (i) result in substantial erosion or siltation on or off site, (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site, or (iii) increase or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. *(Less than Significant)*

Master Plan

As described in Section 4.8.1.3, the existing campus storm drain system was constructed by the U.S. Army to serve the former Fort Ord over a period of approximately 60 years, starting in 1940. The system evolved as Fort Ord expanded and was modified over time. This regional system presently collects stormwater east of Highway 1 that does not infiltrate and conveys it to percolation basins between Highway 1 and the beach to the west. The percolation basins were considered temporary with the long-term objective to percolate all storm water on the east side of Highway 1 as part of the redevelopment of the former Fort Ord. Prior to 2002, stormwater was discharged to Monterey Bay, but ocean outlets have since been demolished.

The soils on the Project site are highly permeable and allow for infiltration rather than surface flow under normal rainfall conditions. Surface flow occurs primarily in impervious areas and is transported through CSUMB-owned stormwater systems to existing regional stormwater systems and infiltration facilities that lie both within and outside of the Project site.

The CSUMB Stormwater Master Plan specifies that campus redevelopment will infiltrate 100 percent of runoff from a hundred-year storm on the Project site, and within easements granted to other agencies for infrastructure, which will reduce CSUMB's reliance on the offsite regional stormwater facilities, as described in Section 4.8.1.3, Campus Setting, and confirmed in PDF-W-2. The CSUMB Stormwater Master Plan developed a comprehensive study of campus drainage, proposing additional percolation basins, drainage inlets, and other stormwater infrastructure to achieve the goal of full percolation. Campus developments since that time have included on-site infiltration facilities to achieve this objective.

As previously discussed, the Project includes 2.6 million GSF of net new construction on the Main Campus. As indicated in Impact HYD-2, the vast majority of the new construction associated with the Project would be located on developed or already paved sites and therefore the Project would not result in a substantial net loss of permeable recharge area or a substantial reduction in infiltration of precipitation. Additionally, on-going implementation of the CSUMB Stormwater Master Plan as development proceeds would result in the infiltration of 100 percent of runoff from a hundred-year storm on the Project site and adding landscaped areas to new building sites would decrease the overall pervious surface on campus under existing conditions. As indicated in PDF-W-2, project-specific drainage analyses would be conducted for individual developments as they are pursued to ensure that this and other objectives of the CSUMB Stormwater Master Plan are met. Ultimately, the existing campus storm drain system will be abandoned as the campus implements building- and district-scale storm water percolation facilities per PDF-W-2. Additionally, proposed PDF-OS-1 and PDF-OS-6 would provide for stormwater percolation in open space areas and along existing and future trails.

Given the above, the Project would not substantially alter the existing drainage patterns of the site, would not substantially increase the rate or amount of surface runoff and therefore would not exceed the capacity of the regional stormwater drainage systems and impacts would be *less than significant*. See Impact HYD-1 for an analysis of stormwater quality.

Near-Term Development Components

As indicated above, the near-term development component sites are located in existing paved/developed areas. Therefore, the amount of impervious surfacing and associated stormwater runoff would not be expected to substantially increase with these developments and would actually decrease as existing paving is removed and replaced by landscaped areas. Additionally, on-going implementation of the CSUMB Stormwater Master Plan as near-term development components proceed would result in the infiltration of 100 percent of runoff from a hundred-year storm within the campus boundary or easements. As indicated in proposed PDF-W-2, project-specific drainage analyses would be conducted for the near-term development components as each is pursued to ensure that this and other objectives of the CSUMB Stormwater Master Plan are met. The drainage analyses will also identify the appropriate LID design features required to achieve full percolation.

Given the above, the near-term development components would not substantially alter the existing drainage patterns of the sites, would not substantially increase the rate or amount of surface runoff and therefore would not exceed the capacity of the regional stormwater drainage systems and impacts would be *less than significant*. See Impact HYD-1 for an analysis of stormwater quality.

Mitigation Measures

Mitigation measures are not required because a significant impact related to alteration of drainage patterns has not been identified.

4.8.3.5 Cumulative Impacts

This section provides an evaluation of hydrology and water quality impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and potentially other possible development allowed under local general plans. The geographic areas considered in the cumulative analysis for this topic are described in the impact analysis below.

Impact HYD-4:	**Cumulative Hydrology and Water Quality Impacts (Thresholds A, B, C and E).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to hydrology and water quality. (*Less than Significant*)

Surface Water Quality and Stormwater Drainage Patterns

The geographic scope for cumulative surface water quality and drainage impacts is the southern portion of the Monterey hydrologic area (No. 309.50) in which the Project site is located, which extends from the slopes of the Fort Ord National Monument on the east to the Pacific Ocean on the west. This area encompasses the cities of Marina, Seaside, Sand City, and Monterey. In this area, water generally flows from east to west or southeast to northwest, downhill towards the Monterey Bay. This geographic scope is appropriate for surface water quality and drainage impacts because such impacts are localized in the watershed where the impact occurs. Cumulative development within this geographic scope includes development identified in Table 4.0-1 and Figure 4.0-1 and other possible development allowed under the Marina, Seaside, Sand City, and Monterey County General Plans.

Cumulative development would generally increase impermeable surface area in the southern portion of the Monterey hydrologic area. Development could potentially increase peak flood flows, alter drainage patterns, reduce groundwater recharge, and increase pollutants in regional stormwater. However, the regional stormwater system in the Former Fort Ord no longer drains to the Pacific Ocean but rather to temporary percolation ponds between the ocean and Highway 1, with the long-term objective being to percolate all storm water on the east side of Highway 1 as part of the redevelopment of the former Fort Ord.

Cumulative development would be required to adhere to all applicable State and local[7] regulations designed to control erosion and sedimentation and protect water quality during construction and post-construction operations. All construction sites larger than one acre in size would be

[7] Local regulations apply only to cumulative projects located off-campus in the jurisdictions of local municipalities.

required to prepare and submit a SWPPP under the NPDES Construction General Permit, thereby reducing the risk of water quality degradation on- and off-site from soil erosion and other pollutants. In addition, the Central Coast RWQCB postconstruction requirements for stormwater management encourage and require for certain projects, on-site treatment and infiltration of stormwater runoff. The FORA Stormwater Master Plan also requires all stormwater to be infiltrated east of Highway 1 and infiltration basins are required to have the storage capacity to accommodate a 100-year storm event. This would reduce the quantity of stormwater runoff that enters the regional storm drainage system.

In addition, implementation of NPDES MS4 General Permit and municipal code requirements by local jurisdictions would reduce the potential for increased pollutants in stormwater from cumulative development located off campus. These requirements would also decrease operational effects of off-campus cumulative development because each development proposal would be required to reduce the on-site post-development peak discharges at or below pre-development peak discharge rates by implementing on-site LID features and other groundwater recharge design elements.

As indicated in Impact HYD-1 and Impact HYD-3, the Project would comply with the NPDES Construction General Permit and submit a SWPPP for construction on sites larger than one acre. Development on smaller sites would be subject to proposed PDF-OS-3 and PDF-OS-5, which call for the use of construction BMPs to minimize erosion and sedimentation and the use of native plants and seed mixes to eliminate erosion after construction. During operations, the Project would implement PDF-W-2 resulting in the continued use of LID features (e.g., green roofs and streets, swales, porous paving) in all new development to protect stormwater quality and infiltrate all stormwater runoff within campus boundaries and easements in accordance with the CSUMB Stormwater Master Plan, which is consistent with the FORA Stormwater Master Plan.

Given the above requirements, cumulative development would not result in significant impacts related to surface water quality degradation, violations of water quality standards, or alterations of stormwater drainage patterns. Therefore, cumulative surface water impacts would be *less than significant.*

Groundwater

The geographic scope for cumulative groundwater impacts is the Salinas Valley Groundwater Basin – Monterey Subbasin (3-004.10) and specifically the Marina-Ord Area of the subbasin as described in the Monterey Subbasin GSP (MCWD GSA 2021). While the 180/400-Foot Aquifer Subbasin and the Monterey Subbasin are connected and contain three common aquifers, MCWD currently relies on groundwater extracted from the Marina-Ord Area of the Monterey Subbasin, as described in Section 4.8.1, Environmental Setting.

Cumulative development would increase the demand for water, most of which would be derived from groundwater extracted by MCWD from the Marina-Ord Area of the Monterey Subbasin. However, future projected sustainable yield of the Marina-Ord Area, presented in the Monterey Subbasin GSP, includes projected demands from MCWD's 2020 UWMP through 2040 and other pumping projections, which account for projected demands from cumulative development.

MCWRA and MCWD have taken actions to address and eliminate basin overdraft and seawater intrusion. MCWD also is exploring new alternative water sources to augment groundwater supplies, including recycled water, as described in Section 4.14, Utilities and Energy. Additionally, 180/400 Foot Aquifer Subbasin GSP and the Monterey Subbasin GSP include additional strategies for reaching sustainability in these subbasins by 2040. Specifically, the Monterey Subbasin GSP projects and management actions presented in Section 4.8.2, Regulatory Framework, are adequate to comprise the entirety of the Marina-Ord Area's projected groundwater demand. Therefore, such projects would reduce or avoid groundwater pumping in this area depending on the extent of project implementation.

The MCWD GSA and SVBGSA will work cooperatively on implementation of the Monterey Subbasin GSP and the 180/400 Subbasin GSP, given the connection of the two subbasins. The implementation of the 180/400-Foot Aquifer Subbasin and the Monterey Subbasin GSPs will provide for sustainable groundwater management of these subbasins and cumulative development would not substantially decrease groundwater supplies or impede the implementation of these GSPs. Therefore, the cumulative groundwater impact would be *less than significant*.

4.8.4 References

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4.9 LAND USE AND PLANNING

This section of the EIR presents an analysis of the potential land use and planning impacts associated with development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate significant or potentially significant impacts, if any are identified.

No public and agency comments related to land use and planning were received during the public scoping periods in response to the original Notice of Preparation (NOP) or the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.9.1 Environmental Setting

4.9.1.1 Study Area

The study area for the land use and planning analysis includes the 1,396-acre CSUMB campus and the areas within approximately 0.25 miles of the campus in all directions (see Figure 3-2 in Chapter 3, Project Description).

4.9.1.2 Existing Land Uses

The CSUMB campus is located on the former U.S. Department of the Army (Army) Fort Ord military base (former Fort Ord), which includes lands within the jurisdictions of the cities of Marina, Seaside, Del Rey Oaks, Monterey, and unincorporated Monterey County. The CSUMB campus is within and surrounded by three jurisdictions: the City of Marina to the north and west, the City of Seaside to the south and west, and Monterey County to the north, east, and south (see Figure 3-2 in Chapter 3, Project Description).

CSUMB

The legacy of the former military use is still apparent in the existing land use structure on the CSUMB campus. Some military buildings and areas of pavement remain, some of which are being reused for campus purposes. However, numerous new campus buildings have also been constructed since the original 1998 Master Plan, which guided the initial phases of campus development and over time has influenced the overall land use pattern on the campus. Several of the 1998 Master Plan principles helped to guide the subsequent 2004 Master Plan effort and are relevant to the current master planning project. Over time, dispersed development formerly requiring travel by car has become denser and more walkable as the campus core has been developed. The campus now consists of three distinct areas: Main Campus, East Campus Housing, and East Campus Open Space (see Figure 3-2 in Chapter 3, Project Description).

The Main Campus area is located west of Eighth Avenue and contains all university facilities, with the exception of the East Campus Housing area. The campus core, located between or along Inter-Garrison Road on the north, Divarty street on the south, General Jim Moore Boulevard on the west and Sixth Avenue on the east, is where much of the academic, student services and student residential uses are located (see Figure 3-3, Chapter 3, Project Description). Student housing is also located in the North Quad Housing (north of Inter-Garrison Road), and the Promontory (south of Eighth Street).

Existing athletics and recreation facilities are generally located on the west end of Main Campus between Second Avenue and General Jim Moore Boulevard, south of Inter-Garrison Road. One additional student recreation field is located north of North Quad Housing. The Otter Sports Center and outdoor facilities (Freeman Stadium, Otter Soccer Complex, Aquatic Center, and baseball and softball fields) are currently shared between athletics and recreation. Surface parking lots are located throughout the Main Campus. Many paved lots outside of the campus core are closed because of limited enforcement and maintenance budgets. Within the campus core, infill lots create a fragmented pattern of land use. Large areas of land on the CSUMB campus are vacant or underutilized.

The East Campus Open Space is a large, undeveloped natural open space area dominated by oak woodland, bordered by Eighth Avenue to the west, Inter-Garrison Road to the north, and the campus boundary to the south and east. Two major electrical transmission lines (a 60-kilovolt [kV] line to the Main Garrison area and a 115-kV line to the Monterey Peninsula) traverse the northern and central portions of the East Campus Open Space area as well as the eastern edge of the East Campus Housing area. There also is an informal system of trails in this area. A segment of the Fort Ord Regional Trail and Greenway (FORTAG), a 30-mile regional network of paved recreational trails and greenways, is also proposed within the East Campus Open Space on the south side of Divarty Street (FORTAG 2021). Construction of the proposed FORTAG trail would provide active transportation on campus and connect to trail routes and destinations off campus, such as Marina, Seaside, and the Pacific Ocean.

The East Campus Housing area is developed with two residential subdivisions: Schoonover Park and Frederick Park. These housing areas, which were originally developed by the Army, are sited along the ridges of the gently sloping topography and are intermixed with several small neighborhood parks and undeveloped oak woodlands, chaparral, and pockets of grassland. East Campus Housing is located about 1.5 miles east of the campus core, north of Inter-Garrison Road, and currently contains housing for students, faculty and staff, and Community Housing Partners.[1]

[1] Community Housing Partners are made up of affiliates (a subcategory of CSUMB staff), educational partners and military partners. Per the housing property conveyance to the CSU, CSU agrees to permit active duty military personnel, Department of Defense civilian employees and their families residing in on-campus housing units to remain until such time as 90 percent of the units are occupied by students and/or CSU employees and students and/or employees of other area institutions of higher education.

Two properties within or adjoining campus are not currently owned by the University (see Figure 3-3, Chapter 3, Project Description):

- The Former Monterey Veterans Administration (VA) Community Outpatient Clinic**.** The VA building is located off of Engineer Lane near the campus core and was previously used as a medical center and outpatient clinic. The VA clinic was replaced and decommissioned when the Major General William H. Gourley VA-Department of Defense Outpatient Clinic, located off of Ninth Street in Marina east of the CSUMB campus, opened in August 2017. The Veterans Transition Center of Monterey County has entered a lease with the Department of Veterans Affairs to renovate and reutilize the existing vacant 35,200-square-foot building on approximately five acres of land to provide supportive housing for veterans.

- The City of Marina Corporation Yard**.** The corporation yard property is located along Fifth Avenue and is northeast of the CSUMB Visual and Public Arts buildings; it separates the Promontory from North Quad Housing. The corporation yard is primarily used as a storage and work area for City of Marina public maintenance vehicles and equipment.

City of Marina

The City of Marina is located north and west of former Fort Ord and south of the Salinas River. A portion of the CSUMB Main Campus lies within the City of Marina city limits (see Figure 3-2, Chapter 3, Project Description). Marina encompasses approximately 9.7 square miles (6,200 acres), of which approximately 50 percent is located within the former Fort Ord (City of Marina 2000). Marina's predominant land use is residential. Commercial land uses front Reservation Road and Del Monte Boulevard and are concentrated in the City's downtown core district, which encompasses approximately 320 acres south of Reservation Road and northeast of Del Monte Boulevard. The area adjacent to CSUMB contains mostly abandoned former military barracks to the west along Second Avenue (part of the former Main Garrison). The area adjacent to CSUMB to the north is designated primarily for single-family residential land uses and is currently undergoing redevelopment as a mixed-use community, with newly developed and under-construction residential development. Newer commercial uses are also located further north of the campus along Second Avenue, near the intersection of Imjin Parkway. The Marina Equestrian Center Park is also located adjacent to CSUMB to the north off of Fifth Avenue.

Marina received a public benefit conveyance from the U.S. Army of 845.5 acres of the former Fritzsche Army Air Field for public airport use, which is now the Marina Municipal Airport, located north of Reservation Road, well outside the CSUMB campus (see Figure 3-2, Chapter 3, Project Description). The U.S. Army transferred the remainder of the 1,395-acre former Army Air Field site through an economic development conveyance to the University of California Monterey Bay Education, Science, and Technology Center (UC MBEST). These designated UC

MBEST-owned lands are intended to accommodate public, nonprofit, and private office and research-and-development activities devoted to scientific, technology, or educational endeavors, and which may also have limited manufacturing components (City of Marina 2010).

City of Seaside

The City of Seaside is located south and west of the former Fort Ord. A portion of the CSUMB Main Campus lies within Seaside city limits (see Figure 3-2, Chapter 3, Project Description). Seaside encompasses a total area of approximately 9.4 square miles (6,000 acres). It is divided into two distinct portions: Seaside Proper, the largely developed southwestern portion of the city; and North Seaside, the largely undeveloped northern and eastern portions of the city that were part of the former Fort Ord, which comprise about 70 percent of Seaside's land area. Land uses in Seaside Proper consist primarily of medium-density residential dwellings constructed between the 1950s and 1970s. Local-serving commercial development comprises the majority of non-residential uses, with the exception of an existing auto center between Fremont Boulevard and Del Monte Boulevard. The area adjacent to the CSUMB Main Campus to the west and south in the City of Seaside includes mostly vacant former military buildings on lands that are designated for regional commercial and mixed-use development in the Seaside General Plan (Seaside 2004). The Presidio of Monterey (POM) is also located to the south of the Main Campus in Seaside.

Monterey County

The eastern edge of the Main Campus, East Campus Open Space and East Campus Housing lie within an unincorporated area of Monterey County (see Figure 3-2, Chapter 3, Project Description). Monterey County lands within the former Fort Ord are located in the Greater Monterey Peninsula Area Plan (GMPAP) planning area, adjacent to the Greater Salinas and Toro planning areas. The GMPAP consists of 140,222 acres and includes seven incorporated cities (Marina, Seaside, Sand City, Del Rey Oaks, Monterey, Pacific Grove, and Carmel) that constitute 15 percent of the total acreage in Monterey County. Public and quasi-public land uses, such as parks and recreational facilities, military facilities, and community facilities, comprise the largest category of land uses in the County's unincorporated area within the GMPAP planning area (County of Monterey 1994). Existing land uses within the unincorporated County area adjacent to CSUMB include mostly undeveloped open space lands. A former Army landfill is located west of the East Campus Housing area, northeast of the Main Campus area, and north of the East Campus Open Space area.

4.9.1.3 Site Conditions for Near-Term Development Components

The land use and planning setting for the near-term development component sites is generally described above. Additional information is provided below related to specific conditions on each site, including existing development conditions. Chapter 3, Project Description provides additional information about the location of each development component site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site is located on an existing parking lot and does not contain housing or any other buildings.

Academic IV

The approximately 4.0-acre Academic IV site contains Existing Building 13 (Science Research Lab Annex) and parking lots 13 and 19. No housing is located on the site.

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center site is located south of the Main Quad and contains Existing Building 21 (Beach Hall) and Building 23 (Tide Hall), and portions of parking lots 23 and 508, as well as undeveloped land. No housing is located on the site.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site is located on a vacant paved lot south of the Promontory and does not contain housing or any other buildings.

Academic V

The approximately 2.7-acre Academic V site is located in the Main Quad and is developed with Existing Buildings 1, 2, and 3 (Administration, Playa, and Del Mar buildings) and parking lot 18. No housing is located on the site.

4.9.2 Regulatory Framework

4.9.2.1 Federal

Federal Aviation Regulations

The criteria for limiting the height of structures, trees, and other objects in the vicinity of an airport is based upon: Part 77, Subpart C, of the CFR; and applicable airport design standards published by the Federal Aviation Administration (FAA).

The Marina Municipal Airport Land Use Compatibility Plan (ALUCP) identifies the FAA Height Notification Boundary and Federal Aviation Regulation Part 77 Airspace Surfaces. Title 14 United States Code 1, Chapter 1, Subchapter E, Part 77 – Aeronautics and Space – Safe, Efficient Use, and Preservation of the Navigable Airspace, establishes requirements for notifying the FAA of certain construction activities and alterations to existing structures, to ensure there are no obstructions to navigable airspace. The Marina Municipal Airport ALUCP indicates that FAA review is required for any proposed structure more than 200 feet above the ground surface (Coffman Associates, Inc. 2019). See Section 4.9.2.3, Local, for additional information about the Marina Municipal ALUCP.

4.9.2.2 State

Existing CSUMB Master Plan

The 2007 Master Plan for the CSUMB campus authorized an on-campus traditional student enrollment of 8,500 full-time-equivalent students (FTES) and 3,500 FTES non-traditional, primarily off-campus students,[2] for a total of 12,000 FTES, with 1,833 FTE faculty and staff. The 2007 Master Plan was prepared and approved by the Board of Trustees of the California State University (CSU Board of Trustees) in 2009.

In 2016, several projects were approved and resulted in revisions to the 2007 Master Plan. These revisions provided for: (1) the necessary changes to site the Monterey Bay Charter School off of Colonel Durham Street between Sixth and Seventh Avenues; (2) changes to the campus's boundaries along Eighth Street associated with the acquisition of parcels contiguous to the campus where the Promontory housing is located; and (3) the necessary changes to site the Student Union on an existing parking lot in the campus core and consolidate existing parking in a new lot located along 7th Avenue. The current Master Plan is shown in Figure 3-4 in Chapter 3, Project Description.

Fort Ord Reuse Authority Act

The Fort Ord Reuse Authority Act was implemented by the State of California to facilitate the transfer and reuse of the Fort Ord military base, and established FORA as the entity responsible for planning, financing, and carrying out the transfer and reuse of the base in a cooperative, coordinated, balanced, and decisive manner (Cal. Gov. Code § 67650 *et seq.)*. Founded in 1994 after the official closure of Fort Ord, the Fort Ord Reuse Authority (FORA) was responsible for the oversight of Monterey Bay area economic recovery from the closure of and reuse planning of the former Fort Ord military base. Pursuant to the Act, FORA must dissolve when eighty percent of the base has been developed or reused in a manner consistent with the *Fort Ord Reuse Plan* (Reuse Plan), or on June 30, 2020, whichever comes first. Pursuant to the Fort Ord Reuse

2 "Traditional" students are resident and commuting students who primarily take classes on-campus, whereas "non-traditional" students are those students whose primary contact with the campus is via distance learning (e.g., taking courses offered over the Internet) and/or with periodic short-term and intensive on-campus resident learning experiences.

Authority Act, FORA's legislatively defined mission was complete as of June 30, 2020 and FORA has now been dissolved.

The FORA Resolution No. 18-11 approved a Transition Plan that was submitted to the Monterey County Local Agency Formation Commission and assigned assets and liabilities, designated responsible successor agencies, and provided a schedule of remaining obligations. The Transition Plan calls for the cities of Marina, Seaside, Monterey and Del Rey Oaks and the County of Monterey to follow the Reuse Plan policies and programs (see description below). The Resolution further stated that after FORA's ultimate dissolution on June 30, 2020, any changes to the policies and programs of the Reuse Plan or any part thereof will be made by the respective land use jurisdictions only after full compliance with all applicable laws, including but not limited to CEQA.

The Reuse Plan, adopted by FORA in 1997, provided a framework for the reuse of more than 45 square miles of the former Fort Ord army base. The reuse plan identified land uses, goals, and policies to transform the former U.S. Army base into an integrated community, which includes property located in the following jurisdictions: the cities of Seaside, Marina, Monterey, and Del Rey Oaks; the County of Monterey; the University of California; California State University (i.e., CSUMB); and the Presidio of Monterey Annex. The Reuse Plan, designated land uses and development intensities within the former Fort Ord. The land that comprises CSUMB is identified for university uses in the Reuse Plan.

The *FORA Regional Urban Design Guidelines* (RUDG) were developed for FORA as directed by the Reuse Plan. They are refinements of existing Reuse Plan policy and were completed as a separate implementation action. The FORA Board unanimously adopted the RUDG on June 10, 2016. The RUDG establishes standards for road design, setbacks, building height, landscaping, signage, and other matters of visual importance. They provide jurisdictions, developers, and the public guidance of matters of visual importance to the former Fort Ord reuse.

4.9.2.3 Local

As a state entity, CSUMB is not subject to local government permitting or regulations, policies, or ordinances, such as the general plans and ordinances for the cities of Marina and Seaside and the County of Monterey. While that is the case, local plans are summarized below to provide context for the analysis of potential conflicts with land use plans, policies, and programs, required to address one of the standards of significance presented in Section 4.9.3.1 below. The elements of these plans and policies that specifically refer to CSUMB are the focus of the summarized information. The campus is not within the California coastal zone and therefore is not subject to relevant Local Coastal Programs of the local jurisdictions authorized under the California Coastal Act.

City of Marina General Plan

The Marina General Plan, adopted in 2000 and last amended in 2010, consists of four elements: Community Land Use, Community Infrastructure, Community Design and Development, and Program and Implementation. The overall goal of the general plan is to create a community which provides a high quality of life for all its residents; offers a broad range of housing, transportation, and recreation choices; and which conserves irreplaceable natural resources (City of Marina 2010). The portion of the campus that lies in Marina totals approximately 230 acres.

Goals and policies from the Marina General Plan that specifically refer to development on the CSUMB campus are provided below.

- *Policy 2.25:* By the year 2020, the City's population would range between 38,000 and 40,000, including current and projected residents of the Frederick Schoonover housing area and CSUMB's North Quad new housing. Policies contained herein will accommodate an increase of approximately 15,700 to 17,400 new residents through 2020, excluding CSUMB students residing on the Main Campus. This estimated increase is equivalent to an 82 - 91 percent population growth over a 20-year period, at an average annual growth rate of 4 to 4.6 percent from 2000 to 2020.
- *Policy 2.31(4):* New housing shall accommodate a broad range of life-styles, including those associated with the presence of CSUMB and the MBEST Center, with people wishing to combine living and work space, and with retired residents who will make up an increasing proportion of the region's population in the future.
- *Policy 2.31(5):* CSUMB should provide housing opportunities for both faculty and students in order to reduce commuter travel to and from the campus. The supply of on-campus housing should increase at least as fast as the level of on-campus enrollment.
- *Policy 2.47:* The majority of retail and personal-service facilities shall be concentrated in the designated Multiple Use area to the west of Second Avenue, north of Eighth Street. Provision for such uses on the CSUMB campus shall be limited to no more than 107,000 square feet of space.
- *Policy 4.66:* 8th Street serves as both the northern boundary of the CSUMB campus and a major east-west pedestrian/bicycle corridor. Landscaped setbacks shall be provided along each side of the roadway. Development along both sides of the street shall be oriented to the street with major building entrances facing onto it.

City of Seaside General Plan

The Seaside General Plan, adopted in 2004, consists of eight elements: Land Use, Urban Design, Economic Development, Circulation, Conservation/Open Space, Safety, Noise, and Housing. The

General Plan aims to encourage the development and redevelopment of North Seaside, while revitalizing the central core of the community; establish a positive and unique identity of the Monterey Peninsula; create new jobs and revenue-generating development opportunities; protect natural resources such as open space and scenic vistas as development occurs; encourage the provision and maintenance of quality development; and improve overall quality of life. Further, the General Plan envisions Seaside as the "Gateway to the Monterey Peninsula" (City of Seaside 2004). The City of Seaside began the process of updating its General Plan in February 2016 to reflect changes in the City's economic and housing markets, demographics, land use, transportation system, community character, and infrastructure demands since the 2004 Seaside General Plan. The 2004 Seaside General Plan is still the current adopted plan, as the updated General Plan has not yet been adopted. The portion of the campus that lies in Seaside totals approximately 360 acres. Goals and policies from the 2004 Seaside General Plan that relate to development on the CSUMB campus are provided below.

- *Policy LU-11.2:* Cooperate with CSUMB to support the development of vocational schools and learning centers that encourage a well-trained work force.

The Seaside 2040 General Plan (Seaside 2017), which is in draft form, includes the following policies related to CSUMB:

- Creating a "Campus Town" adjacent to CSUMB that provides for higher-density housing, R&D and employment areas, retail and entertainment uses, and active parks and recreational spaces to support CSUMB students and faculty, as well as permanent Seaside residents.
- Contiguous development. Locate initial new development on former Fort Ord lands adjacent to Seaside's built environment and CSUMB to create a contiguous expansion of the City.
- Joint use agreements. Maintain joint use agreements with the Monterey Peninsula Unified School District, CSUMB, federal government, and Monterey Peninsula Regional Parks District to allow greater park access.
- College pathways for disadvantaged students. Work with CSUMB as well as other colleges and universities, and regional partners to expand the number of disadvantaged students from Seaside that attend and graduate from 2-year and 4-year colleges. Strive to create incentives for City residents to attend CSUMB.
- Town-gown partnerships. Maintain strong "town-gown" relationships with regional institutes of higher learning, including CSUMB, UCSC, Monterey College of Law, Panetta Institute of Public Policy, Middlebury Institute of International Studies, Naval Postgraduate School, and others, and collaborate on potential expansion as appropriate.

- Regional education coordination. Coordinate with local and regional educational institutions, including the Monterey Peninsula Unified School District, Monterey Peninsula College, CSUMB, and Middlebury Institute of International Studies, to provide community services and programming that promote educational opportunities.
- University library access. Coordinate with CSUMB, Monterey Peninsula College, CSUMB, and Middlebury Institute of International Studies to offset demand for local libraries and encourage public access to university library resources.
- Education and training. Partner with CSUMB and Rancho Cielo to encourage long-term green technology education and training.
- Economic partnership. Maintain a collaborative relationship with CSUMB, identifying opportunities to collaborate about new R&D, industrial, and makerspaces.
- Public-private partnerships. Support the use of public-private partnerships to foster job growth and vocational training, including partnerships used or planned by major public entities in Seaside such as with CSUMB and the US Defense Department.

County of Monterey General Plan

The County of Monterey General Plan, adopted in 2010, consists of eight elements: Land Use, Circulation, Conservation and Open Space, Safety, Public Services, Agriculture, Economic Development, and Housing. The County General Plan also contains 10 area and/or master plans, including the Fort Ord Master Plan, which incorporates all applicable policies and programs contained in the adopted Fort Ord Reuse Plan, and the GMPAP, which includes supplemental policies for each element, with the exception of Agriculture (County of Monterey 2010). The portion of the campus that lies in the County totals approximately 800 acres.

There are no goals or policies from the County of Monterey General Plan that refer to the CSUMB campus and therefore no policies are provided.

Marina Airport Land Use Compatibility Plan

California Public Utilities Code § 21675 requires each Airport Land Use Commission (ALUC) to formulate an ALUCP. The basic function of ALUCPs is to promote compatibility between airports and the land uses that surround them "to the extent that these areas are not already devoted to incompatible uses" (Pub. Util. Code § 21674(a)). With limited exception, California law requires preparation of ALUCPs for each public-use and military airport in the state. California Government Code § 65302.3 further requires that general plans and any applicable specific plan be consistent with ALUCPs. In addition, general plans and applicable specific plans must be amended to reflect amendments to the ALUCP. Most counties have established an ALUC, as provided for by law, to prepare ALUCPs for the airports in that county and to review land use plans, development proposals, and certain airport development plans for consistency with the compatibility plans. In Monterey County, the ALUC function rests with the Monterey County ALUC, in accordance with the California Public Utilities Code § 21670.3.

The Marina Municipal ALUCP was adopted in May 2019 by the Monterey County ALUC. The Marina Municipal ALUCP is based on the FAA approved Airport Layout Plan, approved by the FAA in 2018, which depicts both the current and planned facilities for the airport. The Marina Municipal ALUCP also references and identifies the FAA Part 77 requirements noted in Section 4.9.2.1, Federal Regulations, above.

Based on review of the Marina Municipal ALUCP, the campus is located approximately 4,500 feet south and southwest of Marina Municipal Airport runway, at the closest point in the East Campus Housing area. The CSUMB campus is located outside of the airport safety zones, but a portion of the campus is located within the airport influence area (Zone 7) of the Marina Municipal Airport (Coffman Associates 2019a). Specifically, East Campus Housing and the northeast portion of the Main Campus are within the airport influence area. The airport accident risk level is considered low within this zone. Based on review of Table 4B of the Marina Municipal ALUCP, the following are requirements within the airport influence area (Zone 7):

- There are no limits on the number of dwelling units per acre;
- The maximum non-residential intensity is identified as 300 persons per acre;
- There is a 10 percent open land requirement;
- Outdoor stadiums and similar uses with very high intensity uses are prohibited;
- ALUC review is required for any proposed structure taller than 100 feet above ground level;
- ALUC review is required for any proposed use involving vulnerable occupants (children, the elderly and people with disabilities) within 6,000 feet from the side of the runway and 10,000 feet from the end of the runway; and
- Proposed land uses with characteristics that may cause visual, electronic, or wildlife hazards, particularly bird strike hazards, to aircraft taking off or landing are incompatible.

Per Policy 4.2.3.4 of the ALUCP, proposed land uses with characteristics that may cause visual, electronic, or wildlife hazards, particularly bird strike hazards, to aircraft taking off or landing at the Marina Municipal Airport or in flight are incompatible in the airport influence area and may be permitted only if the uses are consistent with FAA rules and regulations. Any proposed local land use policy action that affects property within the airport influence area must be referred to the ALUC for a determination of consistency with the relevant policies of the ALUCP. Local jurisdictions shall notify the ALUC of every such proposed land use policy action as required by state law. However, per Policy 1.3.3.1 of the ALUCP, ALUCs have no jurisdiction over existing land uses; federal, state and tribal lands; or the operation of airports. While properties owned by the State of California are not subject to the ALUCP, a review of the plan in relationship to the Project was conducted to determine whether any apparent conflicts with the plan could result in significant environmental impacts (see Impact LDU-2 in Section 4.9.3, Impacts and Mitigation Measures).

While and the Monterey Peninsula Airport is in proximity to the CSUMB campus, the campus is outside the airport planning area identified for the airport (Coffman Associates 2019b).

4.9.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to land use and planning. The section identifies the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.9.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to land use and planning are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to land use and planning would occur if the Project would:

A. Physically divide an established community.
B. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.9.3.2 Analytical Method

Program- and Project-Level Review

The land use and planning impact analysis in this section includes a program-level analysis under CEQA of the Project, as described in Chapter 3 Project Description. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the Project. As previously stated, local land use regulations and policies are evaluated in this section for informational purposes only, as CSUMB, a state entity, is not subject to municipal regulation of property owned or controlled by CSU in furtherance of its educational mission. Existing land uses for the campus and the areas surrounding the campus were identified based on the existing and proposed CSUMB Master Plan, the Marina and Seaside General Plans and the Monterey County General Plan, and field reconnaissance. The impact analysis below focuses on whether there is a potential for a conflict with a relevant plan or policy that could result in a significant adverse environmental impact. In the event significant adverse environmental impacts would occur with implementation of the Project even with incorporation of applicable regulations and proposed project design features (PDFs) (see below), mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

There are a number of PDFs that are incorporated into the technical analysis for land use and planning, as summarized below (see Chapter 3, Project Description for specific text of each applicable PDF):

- *PDF-MO-1 and PDF-MO-2* indicate that CSUMB will accommodate at least 60 percent of enrolled students and 65 percent of faculty and staff in on-campus housing. CSUMB will implement these PDFs to ensure that these campus housing goals are met, which will minimize vehicle commute travel to and from the campus. Appendix C, Student Housing and Parking Management Guidelines, and the CSUMB Housing Guidelines (CSUMB 2022) provide additional information about meeting the identified housing goals.
- *PDF-MO-3 and PDF-MO-4* provide for mixed-use campus development with amenities and a mix of on-campus student housing types to improve campus life, reduce vehicle travel off campus and promote on-campus pedestrian and bicycle access.
- *PDF-MO-8* establishes restrictions to general vehicle travel through the campus core and locates vehicle circulation and parking on the campus periphery. Specifically, vehicle access will be limited to CSUMB students, faculty, and staff vehicles on General Jim Moore Boulevard between Eighth Street and Fifth Street. Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles at: Inter-Garrison Road between General Jim Moore Boulevard and Sixth Avenue, Divarty Street between General Jim Moore Boulevard and Seventh Avenue, Fourth Avenue between Divarty Street and Inter-Garrison Road, Fifth Avenue between Divarty Street and Inter-Garrison, A Street between Divarty Street and Seventh Avenue, Sixth Avenue between B Street and north of Divarty Street, and Butler Street between Sixth Avenue and Seventh Avenue. Additionally, Seventh Avenue between Colonel Durham Street and Butler Street will be converted to one-way for vehicles traveling north from Colonel Durham Street to Inter-Garrison Road.
- *PDF-D-1* indicates that the campus will implement the design concepts included in the Master Plan Guidelines as all building and landscape projects are pursued and will voluntarily comply with FORA RUDG with in all future improvements along the campus edges.
- *PDF-D-3* indicates that within the campus core, new buildings would not exceed the existing Library's elevation above mean sea level (approximately 310 feet above sea level) and that outside of the campus core, new buildings would not exceed 5 stories.

4.9.3.3 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of land use impacts associated with the Project.

Impact LDU-1:	**Physically Divide Community (Threshold A)**. The Project would not physically divide an established community. (*Less than Significant*)

Master Plan

The physical division of an established community typically refers to the construction of a physical feature (e.g., a road, railroad tracks, or other type of structure that prohibits access) or removal of a means of access (e.g., a local road or bridge) that would impair internal access within an existing community, or between a community and adjacent areas. The Project would not result in the construction of such physical features or removal of a means of access, as further described below.

The Project would result in a net increase of approximately 2.6 million gross square feet (GSF) of new academic facilities, administration, student support, athletic and recreational facilities, housing, and institutional partnership[3] facilities to accommodate 12,700 FTES and 1,776 FTE faculty and staff on campus by the year 2035. On-campus housing, with a mix of housing types, would be provided for least 60 percent of enrolled students and 65 percent of faculty and staff, per PDF-MO-1 though PDF-MO-4. Project development would occur entirely within the existing campus boundaries and would not result in expansion of such boundaries. Construction of new facilities and infrastructure, relocation of facilities and infrastructure, provisions for increased on-campus housing, implementation of circulation improvements, and an upgrade of the utilities infrastructure systems would all contribute to a more efficient and high-performing campus with regard to campus operations, services, and community connectivity. The Project includes renovation and development of specific buildings and facilities on the existing campus which could temporarily impact travel within and use of on-campus facilities during construction. Project development would occur in phases over the planning period as more housing and facilities are needed and to maintain campus functions. Overall, the Project would build upon the existing campus land use framework and development to accommodate increases in enrollment and improve on-campus amenities.

PDF-MO-8 establishes restrictions to general vehicle travel through the campus core and locates vehicle circulation and parking on the campus periphery. Specifically, vehicle access will be limited to CSUMB students, faculty, and staff vehicles on General Jim Moore Boulevard between Eighth Street and Fifth Street. Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles at: Inter-Garrison Road between

[3] Institutional Partnerships are projects involving public-public or public-private partnerships and long-term contractual relationships that use or develop CSU real property to further the educational mission of the campus.

General Jim Moore Boulevard and Sixth Avenue, Divarty Street between General Jim Moore Boulevard and Seventh Avenue, Fourth Avenue between Divarty Street and Inter-Garrison Road, Fifth Avenue between Divarty Street and Inter-Garrison, A Street between Divarty Street and Seventh Avenue, Sixth Avenue between B Street and north of Divarty Street, and Butler Street between Sixth Avenue and Seventh Avenue. Additionally, Seventh Avenue between Colonel Durham Street and Butler Street will be converted to one-way for vehicles traveling north from Colonel Durham Street to Inter-Garrison Road. These Project modifications to existing campus street facilities would create a more pedestrian, bicycle and transit-oriented campus core, but would also cause existing and future local and regional traffic to circulate differently on-campus and in some cases divert traffic to adjacent streets surrounding the campus, as indicated in Section 4.13, Transportation. These Project modifications would not physically divide an established community as access would remain available on adjacent streets. Overall, the Project would not physically divide an established community and the impact would be *less than significant.*

Near-Term Development Components

Student Housing Phase III

Student Housing Phase III would include construction of four-story student residential buildings on an approximately 6.4-acre site in the North Quad on an existing parking lot, adjacent to other existing residential uses. The proposed student housing would not remove a roadway or otherwise prevent access. Therefore, the development of Student Housing Phase III would not divide an established community and *no impact* would occur.

Academic IV Building

Academic IV would include demolition of existing Building 13 and portions of parking lot areas 13 and 19, and construction of a four-story science building. The new building would consist of infill development located within the campus core. The development would also include construction of a pedestrian/bike path north of existing Building 53 (Chapman Science Academic Center) for improved connectivity to the multimodal hub and parking to the east. The proposed building would not remove a roadway or otherwise prevent access. Therefore, the development of Academic IV would not divide an established community, and *no impact* would occur.

Student Recreation Center Phases I and II

The Student Recreation Center Phases I and II would be located on an approximately 8.5-acre site south of the Main Quad and Divarty Street and includes demolition of Building 21 (Beach Hall) and Building 23 (Tide Hall), and portions of parking lots 23 and 508. The Student Recreation Center would develop an area that supports existing structures and a parking lot adjacent to athletics and recreation uses. The proposed building would not remove a roadway or otherwise prevent access

Therefore, the development of the Student Recreation Center would not divide an established community, and *no impact* would occur.

Student Housing Phase IIB

The Student Housing Phase IIB would develop a four-story student residential building complex just south of the Promontory housing area on a vacant approximately 7.2-acre pavement lot. The proposed building would not remove a roadway or otherwise prevent access. Therefore, the development of the Student Housing Phase IIB would not divide an established community, and *no impact* would occur.

Academic V

Academic V would be located on an approximately 2.7-acre site in the Main Quad and includes demolition of existing Buildings 1, 2, and 3 (Administration, Playa, and Del Mar buildings) and parking lot 18. The development would involve temporary relocation of the administration offices until the new Administration Building, another new building identified on the proposed Master Plan, is constructed. Academic V would replace existing buildings with similar academic uses and would not substantially change the land use patterns on campus. Additionally, the proposed building would not remove a roadway or otherwise prevent access. Therefore, the development of the Academic V would not divide an established community and *no impact* would occur.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact LDU-2:	**Conflict with Land Use Plan, Policy, or Regulation (Threshold B).** The Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. (*Less than Significant*)

Master Plan

Conflict with Local General Plans

The CSUMB campus is surrounded by three jurisdictions: the City of Marina to the north and west, the City of Seaside to the south and west, and Monterey County to the north, east, and south. As par to the transfer and reuse of the Fort Ord military base, the various jurisdictions were allocated lands with specified land uses, and the CSU system was given "sovereign redevelopment authority" over the 1,377 acres of land that is now CSUMB. As described above and in Chapter 3.0, Project Description, the CSU system is a sovereign state entity with redevelopment authority that supersedes all local jurisdictions. Local jurisdiction land use plans and regulations described in this section, such as the City of Marina and City of Seaside General Plans and the County of Monterey General Plan, are described for land use context and for informational purpose only, and not as the basis for the determination of significant environmental impacts.

As indicated in Section 4.9.2.4, Local, there are limited local adopted General Plan policies of the three jurisdiction that refer to CSUMB. The adopted Marina General Plan and adopted Seaside General Plan, however, do have General Plan policies that specifically refer to CSUMB. As indicated in Table 4.9-1, the Project would not conflict with these adopted policies. While the draft Seaside 2040 General Plan contains policies that pertain to CSUMB, this general plan has not been adopted to date (see Section 4.9.2.3 for draft policies). The Project would not cause a significant environmental impact due to a conflict with any applicable or local jurisdictional land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and the impact would be *less than significant.*

See Section 4.13, Transportation, for an analysis of whether the Project would conflict with a program, plan, ordinance, or policy addressing the circulation system.

Table 4.9-1
Review of Relevant Marina General Plan and Seaside General Plan Policies

Policy #	Policy Text	Potential for Project to Conflict
Marina General Plan		
2.25	By the year 2020, the City's population would range between 38,000 and 40,000, including current and projected residents of the Frederick Schoonover housing area and CSUMB's North Quad new housing. Policies contained herein will accommodate an increase of approximately 15,700 to 17,400 new residents through 2020, excluding CSUMB students residing on the Main Campus. This estimated increase is equivalent to an 82 - 91 percent population growth over a 20-year period, at an average annual growth rate of 4 to 4.6 percent from 2000 to 2020.	**No Conflict.** As indicated in Section 4.11, Population and Housing, the City of Marina population as of 2021 is approximately 21,920; substantially less than estimated in this policy. New on-campus housing under the Project would not exceed the population estimate anticipated in the policy.
2.31(4)	New housing shall accommodate a broad range of life-styles, including those associated with the presence of CSUMB and the MBEST Center, with people wishing to combine living and work space, and with retired residents who will make up an increasing proportion of the region's population in the future.	**No Conflict.** Project PDF-MO-4 provides for a mixture of bedroom and suite types across housing areas at a variety of rates to accommodate a range of student types such as those with dependents, first year, returning students, residents, including traditional doubles, multiple occupant suites, student family apartments, accessible rooms, and live-in staff and faculty apartments.
2.31(5)	CSUMB should provide housing opportunities for both faculty and students in order to reduce commuter	**No Conflict.** Project PDF-MO-1 and PDF-MO-2 require CSUMB to accommodate housing for a minimum 65 percent of faculty and staff and 60 percent of FTES. The proposed Master Plan provides

Table 4.9-1
Review of Relevant Marina General Plan and Seaside General Plan Policies

Policy #	Policy Text	Potential for Project to Conflict
	travel to and from the campus. The supply of on-campus housing should increase at least as fast as the level of on-campus enrollment.	housing facilities to meet these goals. PDF-MO-2 also indicates that first and second year undergraduate students not residing in the tri-county area (Santa Cruz, San Benito and Monterey Counties) will continue to be required to live on campus and on-campus housing for 90% of International Students will be provided. Additionally, the near-term development components provide a balance of on-campus housing and academic and student services, such that the supply of on-campus housing will increase as on-campus enrollment increases.
2.47	The majority of retail and personal-service facilities shall be concentrated in the designated Multiple Use area to the west of Second Avenue, north of Eighth Street. Provision for such uses on the CSUMB campus shall be limited to no more than 107,000 square feet of space.	**No Conflict.** Project PDF-MO-3 calls for mixed-use campus development to provide amenities that support and improve campus life and reduce vehicle travel off campus. The PDF indicates that a mixture of uses in new and renovated residence halls will be provided, including but not limited to: multi-purpose classroom and social spaces, dining halls, convenience stores, mail services, housing staff offices and quiet study spaces. The Project does not specify a square footage limit on these types of uses as they improve campus life and reduce vehicle travel off campus. However, such uses would be designed for the campus population as opposed to for the larger community.
4.66	Eighth Street serves as both the northern boundary of the CSUMB campus and a major east-west pedestrian/bicycle corridor. Landscaped setbacks shall be provided along each side of the roadway. Development along both sides of the street shall be oriented to the street with major building entrances facing onto it.	**No Conflicts.** Project PDF-D-1 indicates that CSUMB will voluntarily comply with FORA RUDG in all future improvements along the campus edges, including Eighth Street. As indicated in Section 4.9.2.3, Local, the FORA RUDG establishes standards for road design, setbacks, building height, landscaping, signage, and other matters of visual importance.
Seaside General Plan		
LU-11.2	Cooperate with CSUMB to support the development of vocational schools and learning centers that encourage a well-trained work force.	**No Conflict.** One of the basic objectives of the project is to support and advance the University's educational mission by guiding the physical development of the campus to: accommodate student enrollment growth up to a future enrollment of 12,700 FTES; provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population; and develop into a comprehensive university campus that graduates students that can meet the needs of regional and statewide employers.

Consistency with Marina Airport Land Use Compatibility Plan

The Marina airport air traffic pattern is on the north side of the airport, which eliminates most overflight impacts to the developed portion of CSUMB; however, CSUMB is located within the AIA (Zone 7). Flight hazards according to the Marina ALUCP consist of structures, activities, and uses occurring on the ground that may cause hazards to aircraft flight. Other flight hazard issues include activities that have the potential to create interference to aircraft such as the creation of glare, smoke, radio emissions or bird hazards. While properties owned by the State of California are not subject to the ALUCP, a review of the plan in relationship to the Project was conducted to determine whether any apparent conflicts with the plan could result in significant environmental impacts.

Proposed development that would occur with Project implementation would be located only within the Main Campus and would consist of infill development on existing developed or paved sites within the campus core and elsewhere on the Main Campus. Project development would not create substantial new flight hazards per the Marina ALUCP. As described in Chapter 3, Project Description, future development would be similar to existing development and would not exceed the height of the existing Library elevation (310 feet above mean sea level) within the campus core and no more than 5 stories outside the campus core, as provided for in PDF-D-3. Therefore, Project implementation would not result in increased flight hazards and would not conflict with the Marina ALUCP, and the impact would be *less than significant.*

Near-Term Development Components

The above discussion for the Project also applies to the near-term development components. All near-term development components would be required to adhere to the same PDFs, as described for the Project. Therefore, none of the near-term development components would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and the impacts would be *less than significant.*

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

4.9.3.4 Cumulative Impacts

This section provides a detailed evaluation of land use and planning impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis and as relevant to this topic.

Impact LDU-3	**Cumulative Land Use Impacts (Thresholds A and B).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to land use. (*Less than Significant)*

All proposed new development or redevelopment under the Project would take place on the CSUMB campus. While Project implementation would increase the development density on the Main Campus, development would take place within the boundaries of existing campus, which is under the jurisdiction of the California State University. Given that, Project development would not contribute to any cumulative land use impacts and therefore the impact would be *less than significant*.

4.9.4 References

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4.10 NOISE AND VIBRATION

This section of the EIR presents an analysis of the potential noise and vibration impacts associated with the development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate significant or potentially significant impacts. Information in this section is based on information derived from the Transportation Analysis prepared by Fehr & Peer (Appendix H) and the Noise Measurements and Calculations (Appendix G).

No public and agency comments related to noise and vibration were received during the public scoping periods in response to the original Notice of Preparation (NOP) or the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.10.1 Environmental Setting

4.10.1.1 Study Area

The study area for the evaluation of noise and vibration includes the 1,396-acre CSUMB campus, located in the northwestern portion of the former Fort Ord military base, and locations surrounding the campus. Section 4.10.3.2, Analytical Methods provides additional information about how noise and vibration were evaluated in this section of the EIR.

4.10.1.2 Noise Concepts

To help frame the discussion of predicted noise levels and corresponding potential impacts attributed to the Project, the following is a brief presentation of noise terminology and fundamental acoustical concepts.

Sound, Noise, Acoustics

Sound is a mechanical wave or vibration that travels through the air or another medium, entailing a process that consists of three components: the source, the path, and the receiver. All three components must be present for sound to exist and be perceived. Without a source to produce sound or a medium to transmit sound pressure waves, there is no sound. Finally, sound must be received; a hearing organ, sensor, or object must be present to perceive, register, or be affected by sound or noise. In most situations, there are many different sound sources, paths, and receptors rather than just one of each. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired.

Sound Pressure Levels and Decibels

The amplitude of a sound determines its loudness. Loudness of sound increases with increasing amplitude. Sound pressure amplitude is measured in units of micro-Newton per square meter, also called micro-Pascal. One micro-Pascal is approximately one-hundred billionths of normal atmospheric pressure. The pressure of a very loud sound may be 200 million micro-Pascals, or 10 million times the pressure of the weakest audible sound. Because expressing sound levels in terms of micro-Pascal would be very cumbersome, sound pressure level in logarithmic units is used instead to describe the ratio of actual sound pressures to a reference pressure squared. These units are called Bels. To provide a finer resolution, a Bel is subdivided into 10 decibels, abbreviated dB.

A-Weighted Sound Level

Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited not only in the range of audible frequencies but also in the way it perceives the sound in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 Hertz (Hz) and 5,000 Hz, and it perceives a sound within that range as more intense than a sound of higher or lower frequency with the same magnitude. To approximate the frequency response of the human ear, a series of sound level adjustments is usually applied to the sound measured by a sound level meter. The adjustments (referred to as a weighting network) are frequency dependent.

The A-scale weighting network approximates the frequency response of the average healthy ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special situations (e.g., B-scale, C-scale, D-scale), but these scales are rarely used in conjunction with most environmental noise. Noise levels are typically reported in terms of A-weighted sound levels. All sound levels discussed in this section are A-weighted (dBA). Examples of typical noise levels for common indoor and outdoor activities are depicted in Table 4.10-1.

Table 4.10-1
Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
--	110	Rock Band
Jet Fly-over at 300 meters (1,000 feet)	100	--
Gas Lawn Mower at 1 meter (3 feet)	90	--
Diesel Truck at 15 meters (50 feet), at 80 kilometers/hour (50 miles/hour)	80	Food Blender at 1 meter (3 feet) Garbage Disposal at 1 meter (3 feet)
Noisy Urban Area, Daytime Gas Lawn Mower at 30 meters (100 feet)	70	Vacuum Cleaner at 3 meters (10 feet)
Commercial Area Heavy Traffic at 90 meters (300 feet)	60	Normal Speech at 1 meter (3 feet)
Quiet Urban Daytime	50	Large Business Office Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
--	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans 2013a.

Human Responses to Changes in Noise Levels

Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dB when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dB. A change of 5 dB is readily perceptible, and a change of 10 dB is perceived as twice or half as loud. A doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in sound level.

Noise Descriptors

Additional units of measure have also been developed to evaluate the long-term characteristics of sound. The equivalent sound level (L_{eq}) is also referred to as the energy-average sound level. It is the equivalent steady-state sound level that in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same time period. The 1-hour A-weighted equivalent sound level, commonly notated as L_{eq} (h) or L_{eq1h}, is the energy average of the A-weighted sound levels occurring during a 1-hour period and is the basis of many jurisdictions for establishing thresholds for noise emission at property boundaries.

People are generally more sensitive and annoyed by noise occurring during the evening and nighttime hours. Thus, another noise descriptor used in community noise assessments, the Community Noise Equivalent Level (CNEL), was introduced. The CNEL scale represents a time-weighted 24-hour average noise level based on the A-weighted sound level. The CNEL accounts for the increased noise sensitivity during the evening hours (7:00 p.m. to 10 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.) by adding 5 dB and 10 dB, respectively, to the average sound levels occurring during the nighttime hours.

Sound Propagation

Sound propagation (i.e., the passage of sound from a noise source to a receiver) is influenced by several factors. These factors include geometric spreading, ground absorption, and atmospheric effects, as well as shielding by natural and/or man-made features. Sound levels are attenuated at a rate of approximately 6 dB per doubling of distance from an outdoor point source due to the geometric spreading of the sound waves. Additional sound attenuation can result from man-made features such as intervening walls and buildings, as well as natural features such as hills and dense woods. Atmospheric conditions such as humidity, temperature, and wind gradients can temporarily either increase or decrease sound levels. In general, the greater the distance the receiver is from the source, the greater the potential for variation in sound levels due to atmospheric effects.

4.10.1.3 Vibration Fundamentals

Groundborne vibration is a small, rapidly oscillating motion transmitted through the ground. The strength of groundborne vibration attenuates fairly rapidly over distance. Some soil types transmit vibration quite efficiently; other types (primarily sandy soils) do not. Several basic measurement units are commonly used to describe the intensity of ground vibration. The descriptors used by the Federal Transit Administration (FTA) are peak particle velocity (PPV), in units of inches per second, and vibration velocity decibel (VdB). The calculation to determine PPV at a given distance is as follows:

$$PPV_{dist} = PPV_{ref} *(25/D)^\wedge 1.5$$

In the above expression PPV_{dist} = the peak particle velocity in inches per second (ips) of the vibrating equipment (or transient vibration source, such as a pile-driver hammer drop or controlled detonation) adjusted for distance; PPV_{ref} = the reference vibration level in ips at a reference distance of 25 feet; and D = the distance from the vibration source to the receiver.

The velocity parameter (instead of acceleration or displacement) best correlates with human perception of vibration. Thus, the response of humans, buildings, and sensitive equipment to vibration is described in this report in terms of the root-mean square (rms) velocity level in VdB units relative to 1 micro-inch per second. As a point of reference, the average person can just barely perceive vibration velocity levels below 70 VdB (typically in the vertical direction). The calculation to determine the rms at a given distance is as follows:

$$L_v(D) = L_v(25\text{ feet}) - 30*\log(D/25)$$

In the above expression $L_v(D)$ = the vibration level at the receiver; $L_v(25\text{ feet})$ = the reference source vibration level; and D = the distance from the vibration source to the receiver.

Typical background vibration levels in residential areas are no greater than 50 VdB (FTA 2006); and the vibration velocity level at which most residential building occupants will detect and become annoyed with is approximately 94 VdB, or 0.2 inches per second rms PPV. The risk level for minor cosmetic damage to typical residential buildings featuring non-engineered timber and masonry is comparable, generally beginning at 94 VdB, or a PPV value of 0.2 inches per second (FTA 2006).

4.10.1.4 Existing Conditions

The primary noise source in the Project area is vehicle traffic along Highway 1, as well as local roads including Second Avenue, Inter-Garrison Road, Imjin Road, Imjin Parkway, and General Jim Moore Boulevard. Noise is also generated by students and people at various events on campus. Aircraft operations at Monterey Peninsula Airport and Marina Municipal Airport are intermittent, secondary noise sources at the CSUMB campus. Existing and 20-year forecast noise contour figures from the 2019 Marina Municipal Airport Land Use Compatibility Plan (Monterey County Airport Land Use Commission 2019) show that CSUMB lands that are south of Old County Road (see Chapter 3, Project Description, Figure 3-2) are well outside the 60 dBA CNEL aviation noise contour, which includes all developed portions of the Main Campus and East Campus. Therefore, the airport does not expose people residing or working in the Project area to excessive noise levels.

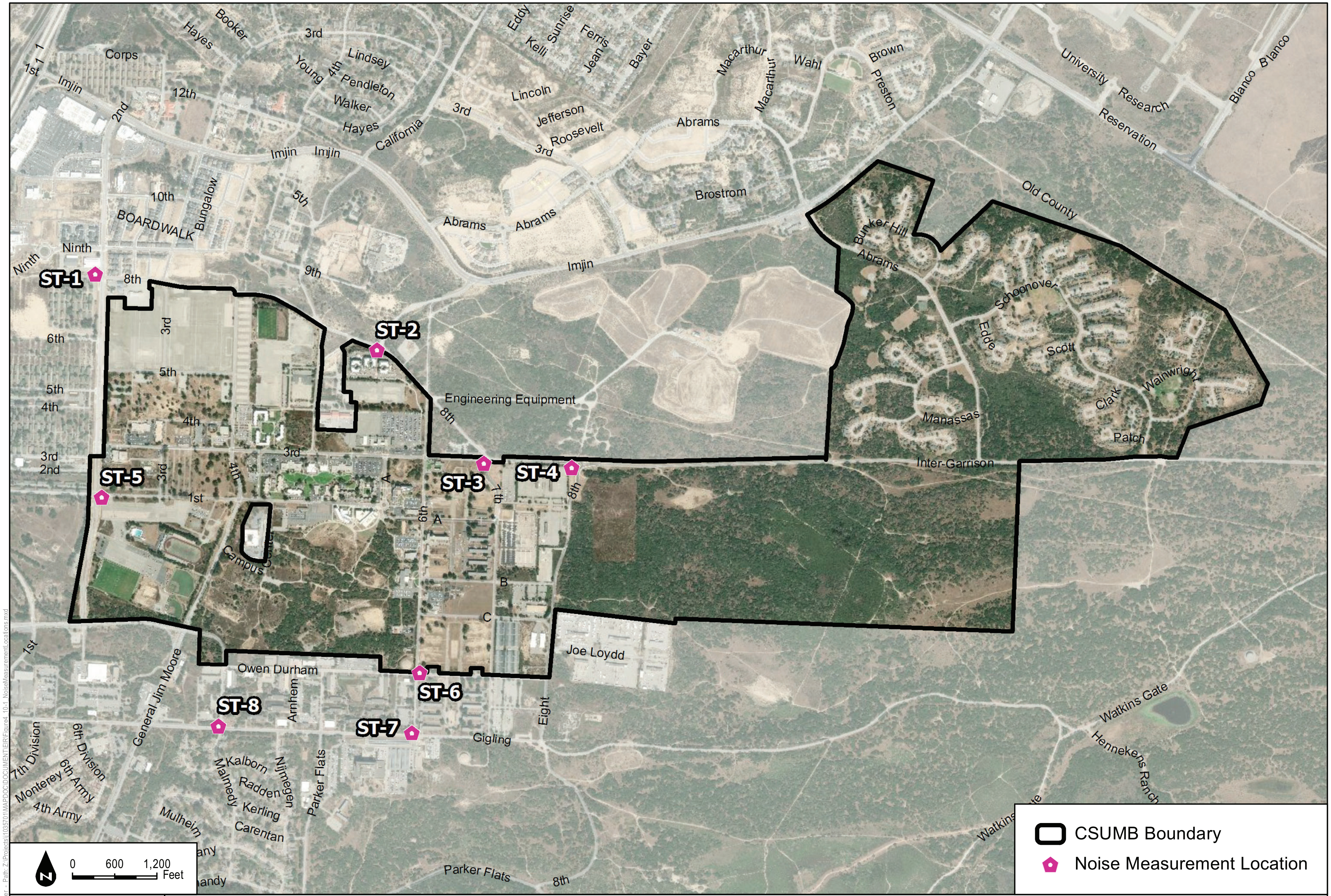
Noise measurements were conducted in and around the campus on May 23, 2019 to determine the existing noise levels. The measurements were made using a calibrated Piccolo II integrating sound-level meter, which meets the current American National Standards Institute standard for a Type 2 precision sound-level meter. The sound level meter was positioned at a height of approximately 5 feet above ground on a tripod, and the measurement microphone was covered with a windscreen.

The noise measurement locations are depicted as Sites ST-1 through ST-8 in Figure 4.10-1. These sites were selected to provide samples of typical ambient noise levels at existing and future representative noise-sensitive land uses in the Project vicinity (see Section 4.10.3.2, Analytical Method, for additional information). Noise-sensitive land uses, also called noise-sensitive receivers, in the Project vicinity include on- and off-campus residences and on-campus classrooms and other academic uses. As summarized in Table 4.10-2, the measured outdoor noise level (L_{eq}) ranged from 53.6 dBA at Site ST-4 to 67.5 dBA at Site ST-8. More detailed field survey data sheets describing these outdoor sound level measurements and the surrounding environmental conditions are provided in Appendix G.

Table 4.10-2
Measured Outdoor Noise Levels

Site	Location and Perceived Sound Source(s) Description	Date, Time	L_{eq}[1]	L_{max}[2]	L_{min}[3]	L_{90}[4]	L_{50}[5]	L_{10}[6]
ST-1	10 feet from edge of pavement, traffic	2019-05-23, 10:05 AM to 10:25 AM	55.7	74.2	45.4	49.2	52.6	59.1
ST-2	5 feet from edge of pavement, traffic	2019-05-23, 10:52 AM to 11:12 AM	58.1	83.3	36.2	40	47.7	60.8
ST-3	10 feet from edge of pavement, traffic, distant construction vehicle beeping, birds	2019-05-23, 11:43 AM to 12:03 PM	53.8	69.9	39	44	49.1	58.8
ST-4	10 feet from edge of pavement, traffic, birds	2019-05-23, 12:24 PM to 12:44 PM	53.6	71.5	33.9	40.1	48	58.2
ST-5	5 feet from edge of pavement, traffic	2019-05-23, 1:12 PM to 1:32 PM	59.2	75.6	48.5	52.2	55.9	62.8
ST-6	1 foot from edge of pavement, traffic	2019-05-23, 1:55 PM to 2:15 PM	55.9	75.3	38.3	44.4	50	59.5
ST-7	3 feet from edge of pavement, traffic, buzzing gate across the street (approx. 160 ft.) when vehicles enter/exit facility	2019-05-23, 2:30 PM to 2:50 PM	63.5	87.7	38.8	50.3	56.6	66.1
ST-8	3 feet from edge of pavement, traffic, birds	2019-05-23, 3:05 PM to 3:25 PM	67.5	90.9	44.7	54.2	62.7	70.9

Source: Appendix G
Notes:
1 Equivalent continuous sound level (energy-average sound level)
2 Maximum sound level during the measurement period
3 Minimum sound level during the measurement period
4 Sound level exceeded 90% of the time during the measurement period
5 Sound level exceeded 50% of the time during the measurement period
6 Sound level exceeded 10% of the time during the measurement period



SOURCE: Bing Maps

FIGURE 4.10-1

Noise Measurement Location

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4.10.1.5 Site Conditions for Near-Term Development Components

The noise and vibration setting for the near-term development component sites is generally described above. Additional information is provided below related to specific conditions on each site, including existing development conditions. Section 3, Project Description provides additional information about the location of each development component site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site is located on an existing parking lot and does not contain housing or any other buildings. North Quad Housing (Buildings 301, 302 and 303) is located immediately east of the site, Health and Wellness Services and the Black Box Cabaret (Buildings 80 and 81) are located to the west of the site across General Jim Moore Boulevard, and the Alumni and Visitor Center is located to the south of the site across Inter-Garrison Road.

Academic IV

The approximately 4.0-acre Academic IV site contains the Science Research Lab Annex (Building 13), parking lots, and landscaping and does not contain housing. The Chapman Science Academic Center (Building 53) is located to the north of the site, the World Languages and Cultures buildings and the Science Instructional Lab Annex (Buildings 48 through 50) are located to the east, and the Cinematic Arts and Technology building (Building 27) is located to the south of the site (see Figure 3-14D)

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center Phases I and II site is located south of the Main Quad and contains two buildings (Buildings 21 and 23) and portions of two parking lots, as well as undeveloped land; no housing is located on the site. The Academic III building is under construction to the east of the site and residence halls (Buildings 208, 210 and 211) are located to the north across Divarty Street (see Figure 3-14C).

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site is located on a vacant paved lot south of the Promontory housing and does not contain housing or any other buildings. The CSUMB Visual and Public Art Center and the central plant facilities are located to the south of the site and City of Marina facilities are located to the southwest of the site (see Figure 3.14A)

Academic V

The approximately 2.7-acre Academic V site is located in the Main Quad and is developed with Administration and Playa and Del Mar academic buildings (Buildings 1, 2 and 3), a parking lot, and landscaping; no housing is located on the site. Residence halls are located to the east and west of the site (Buildings 202 through 211) and student services buildings are located to the north (Buildings14, and 16) (see Figure 3-14C).

4.10.2 Regulatory Framework

4.10.2.1 Federal

The Noise Control Act of 1972 recognized the role of the federal government in dealing with major commercial noise sources, which require uniform treatment. Since Congress has the authority to regulate interstate and foreign commerce, regulation of noise generated by such commerce also falls under congressional authority. The federal government specifically preempts local control of noise from aircraft, railroads, and interstate highways. The U.S. Environmental Protection Agency (EPA) has identified acceptable noise levels for various land uses to protect the public, with an adequate margin of safety, as described in its "Levels Document" guidance (EPA 1974). In the absence of local noise regulations, the EPA public-protecting guideline of 55 dBA L_{dn} would be assessed at the exterior of any existing noise sensitive land use where the existing outdoor ambient sound level is not already in excess of this value. Noise sensitive land uses are understood to include but are not limited to residences.

The Department of Housing and Urban Development standards define day-night average sound levels (L_{dn}) below 65 dBA outdoors as acceptable for residential areas. Outdoor levels up to 75 dBA L_{dn} may be made acceptable through the use of insulation in buildings. (See 24 CFR § 51.)

When evaluating potential construction noise impacts, especially when other quantitative standards may be lacking, guidance from the Federal Transit Administration (FTA) recommends the following daytime standards (FTA 2006): at residential land uses, no more than 80 dBA L_{eq} energy-averaged over an 8-hour period (L_{eq8hr}); and for a commercial land use, or similar space where occupancy is limited to daytime hours (e.g., classroom), the acceptable exterior threshold is 85 dBA L_{eq8h}.

4.10.2.2 State

The pertinent State of California noise regulations are contained in the California Code of Regulations. Title 24, Noise Insulation Standards, establishes the acceptable interior environmental noise level (45 dBA L_{dn}) for multifamily dwellings (the regulation may be extended by local legislative action to include single-family dwellings). An interior acoustical study is also required demonstrating that interior noise levels due to exterior sources will be less than or equal to 45 CNEL for affected multifamily structures that are exposed to exterior noise levels in excess of 60 CNEL.

Government Code § 65300 requires local land use planning jurisdictions to prepare a general plan (Cal. Gov. Code § 65300) and the Noise Element is a mandatory component of the general plan (Cal. Gov. Code § 65302(f)). It may include general community noise guidelines developed by the California Department of Health Services and specific planning guidelines for noise/land use compatibility developed by the local jurisdiction. The state noise compatibility guidelines also recommend that the local jurisdiction should consider adopting a local noise control ordinance. The California Department of Health Services has developed guidelines (1987) for community noise acceptability for use by local agencies. Selected relevant levels are as follows (L_{dn} may be considered approximately equivalent to CNEL):

- CNEL below 60 dBA – normally acceptable for low-density residential use;
- CNEL of 55 to 70 dBA – conditionally acceptable for low-density residential use;
- CNEL below 65 dBA – normally acceptable for high-density residential uses;
- CNEL of 60 to 70 dBA – conditionally acceptable for high-density residential use, transient lodging, churches, educational and medical facilities; and
- CNEL below 70 dBA – normally acceptable for playgrounds and neighborhood parks.

"Normally acceptable" is defines as satisfactory for the specified land use, assuming that normal conventional construction is used in building. "Conditionally acceptable" may require some additional noise attenuation or special study. Under most of these land use categories, overlapping ranges of acceptability and unacceptability are presented, leaving some ambiguity in areas where noise levels fall within the overlapping range.

The State of California additionally regulates the noise emission levels of licensed motor vehicles traveling on public thoroughfares, sets noise emission limits for certain off-road vehicles and watercraft, and sets required sound levels for light-rail transit vehicle warning signals. The extensive state regulations pertaining to worker noise exposure are, for the most part, applicable only to the construction phase of any project (e.g. the California Occupational Safety and Health Administration (Cal-OSHA) Occupational Noise Exposure Regulations) or workers in a central plant and/or maintenance facility or involved in the use of landscape maintenance equipment or heavy machinery.

As a State of California entity, the CSU system has "Contract General Conditions for Collaborative Design-Build Major Projects" that include the following Sound Control

Requirements of Design-Builders that would construct near-term and other site-specific projects implemented under the Master Plan:

- The Design-Builder shall comply with all sound control and noise level rules, regulations and ordinances which apply to the work. In the absence of any such rules, regulations and ordinances, the Design-Builder shall conduct its work to minimize disruption to others due to sound and noise from the workers, and shall be responsive to the Trustees' requests to reduce noise levels.
- Design-Builder shall not cause or allow sounds to be produced in excess of 65 decibels measured at the job site between the hours of 7:00 p.m. and 7:00 a.m. Design-Builder shall not cause or allow sounds to be produced in excess of 85 decibels measured at the job site between the hours of 7:00 a.m. and 7:00 p.m. without the consent of the University.
- Each internal combustion engine, used for any purpose on the Project or related to the Project, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the Project without a muffler.
- Loading and unloading of construction materials will be scheduled so as to minimize disruptions to University activities. Construction activities will be scheduled to minimize disruption to the University and to University users.

The above-bulleted 85 dBA threshold for construction noise during daytime hours (7:00 a.m. to 7:00 p.m.) is compatible with the FTA guidance of 85 dBA for non-residential receiving land uses.

4.10.2.3 Local

The CSUMB campus, which is located in the City of Marina, City of Seaside, and an unincorporated portion of Monterey County (County), would have the potential to impact off-campus noise-sensitive land uses in the cities and County. While, as a state entity, CSUMB is not subject to local government permitting or planning regulations, policies, or ordinances, such as the general plans and ordinances for the cities of Marina and Seaside and the County of Monterey, this noise and vibration analysis considers them in the context of guidance to develop appropriate noise and vibration significance thresholds for assessing impacts. Thus, the following are excerpts from the City of Marina General Plan, City of Seaside General Plan, and the County of Monterey General Plan, which supplement the previously described federal and state-level guidance for suitable noise and vibration impact significance thresholds. See Section 4.10.3.1 for additional information about noise and vibration impact significance thresholds.

City of Marina

The Community Design and Development section of the City of Marina General Plan sets maximum allowable noise levels at the property lines of residences and other noise-sensitive receptors as follows:

- Daytime (7 a.m. – 10 p.m.) – 50 dB hourly L_{eq}, 70 dBA L_{max}; and,
- Nighttime (10 p.m. – 7 a.m.) – 45 dB hourly L_{eq}, 65 dBA L_{max}

Section 15.04.055 of the City of Marina municipal code limits allowable construction hours to between 7 a.m. and 7 p.m. on Mondays through Saturdays, with 10 a.m. to 7 p.m. allowed on Sundays and holidays for any construction activities that require a building, grading, demolition, use or other city permit. During daylight savings time, construction hours may be extended to 8:00 p.m. However, no construction activities, tools, or equipment may produce a noise level of more than 60 dBA for twenty-five percent of an hour at any receiving property line.

City of Seaside

The Seaside General Plan noise element includes implementation plans N-1.3.1 and N-1.3.3 that call for enforcement of the municipal code standards for non-transportation noise and construction noise, respectively. Section 17.30.060 of the municipal code sets the following exterior limits on noise as received by the following land uses:

- Residential – 65 dBA CNEL;
- Mixed-use Residential, Commercial, Office, Public Facilities – 70 dBA CNEL; and,
- Industrial – 75 dBA CNEL.

County of Monterey

<u>Noise Ordinance</u>

Section 10.60.030 of the County of Monterey noise ordinance prohibits operation of any machine, equipment or device that produces a noise level exceeding 85 dBA at a distance 50 feet. However, the regulations do not apply to noise-producing equipment in excess of 2,500 feet away from an occupied dwelling unit. Operation of most typical construction equipment, according to Federal Highway Administration (FHWA) data (DOT 2006), would be expected to comply with this threshold (85 dBA at 50 feet).

Section 10.60.040(B) and (D) of the Monterey County Code limits nighttime noise to 45 dBA hourly L_{eq} as measured at the property line from the source of emission.

General Plan

Per the Monterey County General Plan, Safety element Policy S-7.8 requires submission of a pre-construction vibration level study if usage of heavy construction equipment is expected to occur within 100 feet of a structure. Policy S-7.9 prohibits construction activities within 500 feet of a noise-sensitive land use when they create noise above "acceptable" levels (per Policy S-7.1) during the evening hours of Monday through Saturday, or anytime on Sundays or holidays prior to completion of a noise mitigation study. Noise protection measures, in the event of an impact, may include constructing temporary barriers or using quieter equipment than normal. Policy S-7.10 provides that construction projects shall include the following standard noise projection measures:

- Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience;
- All equipment shall have properly operating mufflers; and
- Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.

Summarized Land Use Compatibility Guidelines

The cities and County use the land use compatibility guidelines in Table 4.10-3 to guide planning.

Table 4.10-3
Summarized Land Use Compatibility Guidelines

Uses	Cities				Monterey County[3]	
	Marina[1]		Seaside[2]			
	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
Residence	45	60	45	65	N/A	60
Live/Work	50	65	45	70	N/A	65
Hotel/ Motel	50	65	N/A	70	N/A	65
Office	55	67	50	70	N/A	70
Industrial	60	70	55	75	N/A	75
School, Library	45	60	50	50	N/A	70
Parks and Playfields	N/A	65	50	70	N/A	70

Notes:
1 City of Marina General Plan Noise Element
2 City of Seaside General Plan Noise Element
3 County of Monterey General Plan Noise Element

4.10.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to noise and vibration. The section identifies the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are recommended.

4.10.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to noise and vibration are based on Appendix G of the CEQA Guidelines. Based on the above, a significant impact related to noise and vibration would occur if the Project would:

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

B. Generate excessive groundborne vibration or groundborne noise levels.

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

In analyzing noise and vibration impacts associated with the Project, pertinent noise standards introduced in Section 4.10.2 have been considered and utilized to develop the following quantified significance thresholds for A and B above.

- Temporary Construction Noise (Threshold A): For temporary construction activities associated with the Project, a significant impact would result if construction noise during daytime hours (7 a.m. to 7 p.m.) exceeds 80 dBA L_{eq} over an 8-hour period at the exterior of a residential land use, or 85 dBA L_{eq} over an 8-hour period at the exterior of a classroom, based on FTA guidance. Project construction would be anticipated to be carried out as sequential phases but could have concurrent activities across the Project site.

- Permanent Noise – Stationary Sources (Threshold A): For stationary sound source emission (e.g., heating, ventilating, and air conditioning [HVAC] system noise, stadium noise) attributed to the Project, exceedance of 65 dBA CNEL at a sensitive receptor would be considered significant. Where the source of new stationary noise is expected to be continuous or steady-state in character, such as air-conditioning operating 24-hours a day to keep building occupants comfortable, the corresponding hourly L_{eq} would need to be 6.7 dBA less (i.e., 58.3 dBA) to account for the evening and nighttime dB penalties that are part of the CNEL value derivation.

- Permanent Noise – Mobile Sources (Threshold A): For Project-attributed increases to local roadway traffic volumes, a significant permanent increase to the outdoor sound environment (either described with CNEL or L_{dn}) would be defined as an increase of 3 dBA or greater, where exterior noise levels would already exceed 65 dBA CNEL (an outdoor noise level considered "normally acceptable"); or, if as a result of the Project increase in roadway noise, the predicted with-Project noise level exceeds 65 dBA CNEL. An increase of 3 dBA is perceived by the average healthy human ear as barely perceptible.

- Permanent Noise – Combined Stationary and Mobile Sources Increase Over Pre-Project Ambient (Threshold A): Because *both* roadway noise and sound from stationary sources (e.g., HVAC) associated with a newly-built or renovated on-campus facility implemented under the Project represent durable or "permanent" potential increases to the outdoor sound environment at a receptor near a new or renovated facility, the logarithmic sum of the A-weighted overall sound pressure levels from these two transportation and non-transportation sound sources would be considered a significant impact if it causes either of the following:
  - A 5 dB increase in noise where existing noise levels are below 65 dBA CNEL, or
  - A 3 dB increase in noise where existing noise levels are above 65 dBA CNEL.
- Vibration (Threshold B): Due to a lack of quantified vibration level regulation or policy guidance at the local level, this impact analysis will apply FTA and Caltrans guidance that suggests 0.2 ips PPV (or 94 VdB) as both an annoyance-based criterion for occupants of inhabited buildings and a risk level for minor cosmetic damage to typical residential buildings featuring non-engineered timber and masonry (Caltrans 2013b). For multi-story modern reinforced-concrete buildings, however, the risk threshold for potential damage would be less stringent—on the order of 0.5 ips PPV. For buildings that house vibration-sensitive processes, such as operation of electron microscopes, the FTA guidance would be 65 VdB (FTA 2006); however, this guidance is to prevent damage to equipment and does not constitute a significance criterion for vibration.

4.10.3.2 Analytical Method

Program- and Project-Level Review

The noise and vibration impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3, Project Description. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the proposed Master Plan, as described in Chapter 3, Project Description. Both construction and operation of the Project are considered in the impact analysis, where relevant. In the event significant adverse environmental impacts would occur with the implementation of the Project even with incorporation of applicable regulations and proposed PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

The proposed PDF relevant to this topic is PDF-D-8, which is a component of the Project and considered in the impact analysis. PDF-D-8 indicates that when individual building projects are being pursued, CSUMB will prepare an acoustical study(s) of sound emission from proposed stationary noise sources to be located near existing sensitive receptor locations, including receptor locations within 150 feet of new stationary sources. The study(s) will determine the need for sound insulation in new buildings with noise-sensitive occupants so that interior sound levels of habitable spaces do not exceed 45 dBA CNEL. Best engineering practices will be implemented to reduce noise from such stationary sources to comply with applicable standards at existing sensitive receptor locations. CSUMB would implement this PDF to avoid or minimize stationary noise impacts on noise-sensitive receptors or occupants. See Chapter 3, Project Description for the details of this PDF.

Noise Analysis Sites

As described in Section 4.10.1.4, Existing Conditions, ambient outdoor sound level measurements were conducted to quantify the existing daytime noise environment at eight sites (see Figure 4.10-1), which represent potential sensitive receptors or sensitive land uses within or adjacent to the campus. The representative sites, which were used for assessing noise impacts in this analysis, were selected due to consideration of two primary factors: 1) one or more projected peak hour traffic volumes contributing to nearby roadway intersections would be expected to increase substantially (e.g., doubling); and 2) proximity to existing on-campus noise-sensitive receptors and those associated with the five proposed near-term development components. Peak hour traffic volumes were taken from the Transportation Analysis (Appendix H). Additionally, nearby noise sensitive receptors within 150 feet of new stationary noise sources are also considered in the analysis.

Construction Noise

To evaluate potential noise and vibration impacts from construction activities associated with implementation of the Project as described in this assessment, six typical construction phases are studied, with usually anticipated equipment for each comparable to CalEEMod default inputs (i.e., for analyzing Air Quality impacts) and reference equipment noise and vibration levels from industry-accepted FHWA and FTA sources. Using an Excel-based prediction model that emulates the FHWA Roadway Construction Noise Model,[1] significant impact screening distances for each phase are estimated to show where development implemented under the Project would be

1 Although the Roadway Construction Noise Model was funded and promulgated by the FHWA, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.

sufficiently proximate to existing noise-sensitive receptors to cause a significant impact and need for noise and/or vibration mitigation.

Similarly, evaluating potential noise and vibration impacts from construction activities associated with each of the five near-term development components entails use of the same Excel-based prediction model. As the location of the pre-existing nearest noise-sensitive receptor (e.g., a student dormitory) with respect to a project-specific site can be identified, noise exposure levels and hence construction noise mitigation needs for each of the five near-term development components can be estimated. Additionally, combined construction noise from a potential scenario representing two adjoining and potentially concurrent near-term development components is also evaluated herein.

Roadway Noise

As appropriate, the collected existing outdoor ambient sound level data at the eight sites were used to validate the predictive modeling of existing roadway traffic noise, which were then modified with inputs representing future parameters to predict future noise levels. Consistent with the Transportation Analysis (Appendix H), noise levels were modeled for each of the following four scenarios: (i) existing conditions; (ii) existing with project conditions; (iii) cumulative conditions; and (iv) cumulative with project conditions. This noise analysis uses the FHWA Traffic Noise Model (version 2.5) to estimate these existing and future roadway traffic noise levels for the eight representative assessment sites.

Stadium Noise

Stadium noise associated with replacement of the current 6,000-seat stadium, field house, and field with a new approximate 10,000-seat stadium with the Project has the potential to change the outdoor ambient sound environment. The additional seating would generate additional spectator noise from the stadium during sporting and special events. The analysis provides a qualitative assessment of the potential for this stadium replacement to exceed the applicable noise threshold at nearby noise-sensitive land uses.

Other Operational Noise

In addition to acoustical contributions due to changes in area roadway traffic and stadium operations, the Project has the potential to change the campus outdoor ambient sound environment due to the creation of new stationary sources of noise, such as anticipated rooftop HVAC systems and other electro-mechanical or fluid-handling equipment that tend to operate continuously and would be exposed to the outdoors. This category of potential stationary noise emitters would also include intermittent operation of standby generators that require regular testing to help ensure operation during actual emergencies. Without information on site-specific development projects (and their component noise-producing mechanical systems) that may be implemented with the Project, assessment of stationary source noise can be done qualitatively to determine conditions under which detailed quantitative analyses of HVAC noise (and refinement of noise-reducing design features) would be needed.

For the near-term development components studied herein and for which preliminary or planning-level site-specific information is available, estimates of stationary noise emission attributed to the five near-term development component sites are calculated using an Excel-based model that relies on input parameters that include building gross square footage, interior space usage or function, and the proximity of sensitive receptors to expected major HVAC equipment noise producers (e.g., air handling unit fans).

Increase over Ambient

Assessment of permanent changes to the outdoor ambient sound environment includes a logarithmic summation of estimated roadway traffic noise and predicted stationary source sound emission from development of individual projects arising from implementation of the proposed Master Plan. The near-term development components are used as illustrations of this potential for a permanent, post-construction change to the outdoor ambient sound level and are assessed against the noise thresholds identified in Section 4.10.3.1, Thresholds of Significance.

4.10.3.3 Issues Not Evaluated Further

The Project would have no impact with respect to the following threshold of significance and therefore this topic is not further evaluated:

- <u>Exposure to Excessive Airport Noise (Threshold C).</u> As described in Section 4.10-1, Environmental Setting, existing and 20 year forecast noise contour figures from the 2019 Marina Municipal Airport Land Use Compatibility Plan (Monterey County Airport Land Use Commission 2019) show that CSUMB lands that are south of Old County Road (see Chapter 3, Project Description, Figure 3-2) are well outside the 60 dBA CNEL aviation noise contour, which includes all developed portions of the Main Campus and East Campus Housing. The Project would not expose people residing or working in the Project area to excessive airport noise levels and therefore would have no impacts.

4.10.3.4 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of noise and vibration impacts associated with the Project.

Impact NOI-1:	**Substantial Temporary Increase in Ambient Noise Levels (Threshold A)**. The Project would generate a substantial temporary construction-related increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (*Potentially Significant*)

Master Plan

Campus growth accommodated by the proposed Master Plan would result in an increase of approximately 6,066 full-time-equivalent students (FTES) and 752 full-time-equivalent faculty/staff over existing levels (academic year 2016-2017). To accommodate the growth in students, faculty and staff, the Project would also result in a net increase of approximately 2.6 million gross square feet (GSF) of new academic, administration, student life, athletic and recreational, and institutional partnership facilities, and housing. The construction of new facilities on the campus would result in construction noise.

Construction of Project facilities would temporarily generate noise that could expose nearby receptors to elevated noise levels that may disrupt communication and routine activities. The magnitude of the impact would depend on the type of construction activity, equipment, duration of the construction, distance between the noise source and receiver, and intervening structures.

Construction equipment would vary day-to-day depending on the phase of construction and the activities occurring. Typical construction activities would include grubbing/clearing of on-site areas, excavation, and relocation of soil/rock on the site, 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. Equipment that would be in use during construction would include, in part, graders, backhoes, rubber-tired dozers, loaders, cranes, forklifts, cement mixers, pavers, rollers, and air compressors. Typical noise levels generated by various types of construction equipment likely to be used are identified in Table 4.10-4.

Table 4.10-4
Typical Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment Noise Level (L_{max}, dBA at 50 feet)
All Other Equipment > 5 HP	85
Backhoe	78
Compressor (Air)	78
Concrete Mixer Truck	79
Concrete Saw	90
Crane	81
Dozer	82
Front End Loader	79
Generator	72
Grader	85
Man Lift	75
Paver	77
Roller	80
Scraper	84
Slurry Trenching Machine	80
Tractor	84
Welder / Torch	73

Source: DOT 2006
Note: L_{max} = maximum sound level; dBA = A-weighted decibels

Maximum noise levels at a reference distance of 50 feet tend not to exceed 85 dBA L_{max} for common equipment and vehicles anticipated for this kind of academic, residential and mixed-use development on a college campus. Exceptions typically include impact-type equipment, concrete saws, drills and other processes where the noise generated is not merely due to engine or motor performance, but from the forceful and/or rapid contact of the equipment tool on the worked material. Hourly L_{eq} values at this reference distance, however, would vary depending on duty cycle. For instance, an air compressor at a stationary position on a construction site may operate continuously, but the pneumatic hammer it is powering may only be active and performing work for a fraction of a given hour during a typical work-shift.

Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance, as each piece of equipment can be approximated as an individual point-type source. Alternately, a set of equipment in proximity to one another could be considered geographically a common point source; or, on average with respect to time, a set of operating equipment with uncertain positions within a defined area could be considered a common point-source.

The geographical common-point consideration is comparable to the FTA "general assessment" guidance for evaluating construction noise at a sensitive receptor near a construction site when the specific locations of individual operating equipment are unknown. The technique assumes noise from the two loudest pieces of equipment (operating at full power and thus exhibiting L_{max} corresponding with the comparable equipment types and values shown in Table 4.10-4) on a construction site will be dominant, and that the acoustic combination can be treated as a single point source from which sound would propagate towards the offsite receptor of interest. Emulating this FTA-based "two-loudest" method, Table 4.10-5 presents the source-to-receptor distances, for each of five construction phases, within which predicted noise from construction site activity would likely exceed the 8-hour L_{eq} FTA-based thresholds at the exteriors of residential and non-residential commercial (i.e., classroom uses) receptors.

Table 4.10-5
Predicted Construction Noise Impact Screening Distances

Typical Construction Phase	Anticipated Two Loudest Noise-Producing Equipment[1]	Distance (feet) to Residential Receptor[2,3]	Distance (feet) to Commercial (Educational Use) Receptor[2,4]
Demolition	concrete saw, dozer	175	100
Site Preparation	grader, scraper	125	70
Grading	grader, tractor	125	70
Building Construction	crane, tractor	100	55
Paving	roller, tractor	100	55
Architectural Finishes	air compressor (2)	60	35

Notes:
1 Assumes two pieces of equipment operating at full power (L_{max}) all eight hours; noise from other phase equipment neglected.
2 Assumes the distance is between the construction site acoustical centroid (AC) and the receptor exterior façade.
3 Federal Transit Administration (FTA) guidance threshold for construction noise received by Residential land use is 80 dBA 8-hour equivalent sound level (L_{eq}).
4 FTA guidance threshold for construction noise received by Commercial land use is 85 dBA 8-hour L_{eq}.

Therefore, construction activity and associated temporary noise impacts from implementation of the proposed Master Plan within the indicated distances shown in Table 4.10-5 could be *potentially significant*.

Near-Term Development Components

The construction activities for the Project will be varied by expected land usage and location. Aggregate noise emission from construction activities, broken down by sequential phase, was predicted for each of the five near-term development components at two distances to the nearest existing noise-sensitive receptor: 1) from the nearest position of the construction site boundary; and 2) from the geographic center-point of the construction site, which serves as the time-averaged location or "acoustical centroid" of active construction equipment for the phase under study. The intent of the former distance is to help evaluate anticipated construction noise from equipment or vehicle activity expected to be at the boundary for some period of time, which would be most appropriate for phases such as site preparation, grading, and paving. The latter distance is used in a manner similar to the "general assessment" technique as described in the FTA guidance for construction noise assessment, when the location of individual equipment for a given construction phase is uncertain over some extent (or the entirety) of the construction site area. For example, this distance would be considered relevant for building erection and architectural coating phases, when most activity would be at or near a new building façade and thus likely away from the site boundary. Reflecting this anticipated distance relevance by phase, Table 4.10-6 summarizes these two distances to the apparent closest noise-sensitive receptors by construction phase for each near-term development component.

Table 4.10-6
Near-Term Development Components Construction Phase Distances to Nearest Pre-Existing Noise-Sensitive Receptors

Construction Phase	Student Housing IIB		Student Housing III		Student Recreation Center		Academic V		Academic IV	
	to SB[1] (feet)	to AC[2] (feet)	to SB[1] (feet)	to AC[2] (feet)	to SB[1] (feet)	to AC[2] (feet)	to SB[1] (feet)	to AC[2] (feet)	to SB[1] (feet)	to AC[2] (feet)
Demolition	75	--	30	--	125	--	40	--	80	--
Site Preparation	75	--	30	--	125	--	40	--	80	--
Grading	75	--	30	--	125	--	40	--	80	--
Building Construction	--	233	--	136	--	262	--	134	--	173
Paving	75	--	30	--	125	--	40	--	80	--
Architectural Finishes	--	233	--	136	--	262	--	134	--	173

Source: Appendix G
Notes:
1 Distance to site boundary (SB).
2 Distance to acoustical centroid (AC), or the geographic center-point of the construction site and active construction equipment for the phase under study.

An Excel-based noise prediction model emulating and using reference data from the FHWA Roadway Construction Noise Model (DOT 2006) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. Input variables for the predictive modeling consist of the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity), and the distance from the noise-sensitive receiver. The predictive model also considers how many hours that equipment may be on site and operating (or idling) within an established work shift. No topographical or structural shielding was assumed in the modeling. The Roadway Construction Noise Model has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis.

Equipment that would be in use during construction would include, in part, graders, backhoes, rubber-tired dozers, loaders, cranes, forklifts, cement mixers, pavers, rollers, and air compressors. Maximum noise levels at a reference distance of 50 feet tend not to exceed 85 dBA L_{max} for common equipment and vehicles anticipated for this kind of residential and mixed-use development on a college campus. Exceptions typically include impact-type equipment, saws, drills and other processes where the noise generated is not merely due to engine or motor performance, but from the forceful and/or rapid contact of the equipment tool on the worked material. Hourly L_{eq} values at this reference distance, however, would vary depending on duty cycle. For instance, an air compressor at a stationary position on a construction site may operate continuously, but the pneumatic hammer it is powering may only be active and performing work for a fraction of a given hour during a typical work-shift.

Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance, as each piece of equipment can be approximated as an individual point-type source. Alternately, a set of equipment in proximity to one another could be considered geographically a common point source; or, on average with respect to time, a set of operating equipment with uncertain positions within a defined area could be considered a common point-source. Project construction would take place both near and far from adjacent, existing noise-sensitive uses, as the distance values in Table 4.10-6 indicate. Table 4.10-7 provides the construction noise estimates for each near-term development component and an analysis for each component is provided below. Appendix G provides details on the calculations of estimated construction noise.

Where predicted construction noise levels presented in Table 4.10-7 exceed the applicable construction noise threshold, the decibels to reduce the noise levels to below the threshold is no more than 10 dBA. As detailed in MM-NOI-1, practical options for noise control and sound abatement can be expected to provide this reduction and yield impacts that would be less than significant. For example, a properly designed and installed temporary noise barrier can be expected to provide approximately 10 dBA of noise reduction when it is solid (i.e., non-porous and no air-gaps), sufficiently massive, and implemented in proximity to the sound source or the receptor. Alternately, since this analysis presumes that construction equipment would be onsite and either operating or idling for a full eight hours (i.e., a typical daytime work-shift), any halving of equipment idling or actively operating time can yield 3 dBA of noise reduction from an individual piece of equipment. Therefore, if a grader at some fixed distance to a receptor was operating for less than one cumulative hour instead of the full eight hours, its acoustical contribution would be reduced by at least 10 dBA.

Table 4.10-7
Predicted Near-Term Development Components Construction Noise Estimates at Nearest Pre-Existing Noise-Sensitive Receptors

Construction Phase	Student Housing IIB L_{eq8h} (dBA)	Student Housing III L_{eq8h} (dBA)	Student Recreation Center L_{eq8h} (dBA)	Academic V L_{eq8h} (dBA)	Academic IV L_{eq8h} (dBA)
Demolition	**82**	**90**	78	**87**	81
Site Preparation	80	**88**	76	**86**	80
Grading	**82**	**90**	78	**88**	81
Building Construction	68	73	67	73	71
Paving	**82**	**90**	77	**87**	81
Architectural Finishes	61	65	60	64	63
*FTA guidance-based criterion**	*80*	*80*	*80*	*80*	*85*

Source: Appendix G
Notes:
Leq8h = 8-hour energy-equivalent sound level; FTA = Federal Transit Administration
Bold values indicate predicted construction noise levels that exceed the threshold, which depends on type of existing receptor: residential (80 dBA) or commercial (85 dBA)

Student Housing Phase III

The proposed new Student Housing Phase III would be located west of the existing three-building Vineyard Suites dormitories, which is a noise-sensitive receptor. Depending on the construction phase as shown in Table 4.10-6, construction activities could occur as close as 30 feet to the nearest existing western building façade. Estimated noise exposure levels due to activities for the six identified construction phases were predicted at the appropriate distance and are presented in Table 4.10-7. Based on these predicted noise levels for four of the six listed phases, construction noise for this near-term development component would exceed FTA-based guidance criteria of 80 dBA over an eight-hour period at this nearest existing noise-sensitive residential receptor; thus, the construction noise impact of this near-term development component would be considered *potentially significant*.

Academic IV Building

Academic IV would be located west of the Science Instructional Lab Annex, an existing daytime-only noise-sensitive receptor on the basis of it having occupied learning spaces and related interior uses. Depending on construction phase, as shown in Table 4.10-6, construction activities could occur as close as 80 feet to the nearest existing western building façade. Estimated noise exposure levels due to activities for the six identified construction phases were predicted at the appropriate distance and are presented in Table 4.10-7. Based on these predicted noise levels, construction noise for this near-term development component would be less than the FTA-based guidance criteria of 85 dBA over an eight-hour period at this nearest existing non-residential noise-sensitive receptor; thus, the construction noise impact associated with this near-term development component would be *less than significant*.

Student Recreation Center Phases I and II

The Student Recreation Center Phases I and II would be located south of the existing Avocet Hall, which is a residential-type noise-sensitive receptor. Depending on the construction phase, as shown in Table 4.10-6, construction activities could occur as close as 125 feet to the nearest existing southern building façade. Estimated noise exposure levels due to activities for the six identified construction phases were predicted at the appropriate distance and are presented in Table 4.10-7. Based on these predicted noise levels, construction noise for this near-term development component would be less than the FTA-based guidance criteria of 80 dBA over an eight-hour period at this nearest existing noise-sensitive residential receptor; thus, the construction noise impact associated with this near-term development component would be *less than significant*.

Student Housing Phase IIB

Student Housing Phase IIB would be located just south of the existing three-building Promontory West dormitories, which is a noise-sensitive receptor. Depending on the construction phase, as shown in Table 4.10-6, construction activities could occur as close as 75 feet to the nearest existing southern building façade. Estimated noise exposure levels due to activities for the six identified construction phases were predicted at the appropriate distance and are presented in Table 4.10-7. Based on these predicted noise levels for three of the six listed phases, construction noise for this near-term development component would exceed FTA-based guidance criteria of 80 dBA over an eight-hour period at this nearest existing noise-sensitive residential receptor; thus, the construction noise impact would be considered *potentially significant*.

Academic V

Academic V would be located east of Avocet Hall, but would be potentially closer to Yarrow Hall, an existing dormitory building and residential-type noise-sensitive receptor to the east of this development component site. Depending on the construction phase, as shown in Table 4.10-6, construction activities could occur as close as 40 feet to the nearest existing western building façade. Estimated noise exposure levels due to activities for the six identified construction phases were predicted at the appropriate distance and are presented in Table 4.10-7. Based on these predicted noise levels for four of the six listed phases, construction noise for this near-term development component would exceed FTA-based guidance criteria of 80 dBA over an eight-hour period at this nearest existing noise-sensitive residential receptor; thus, the construction noise impact would be considered *potentially significant*.

Student Recreation Center & Academic V

There is potential for concurrent construction activities within the two adjoining near-term development component sites: Academic V and the Student Recreation Center. Were this to occur, the existing on-campus residential building Avocet Hall would be the nearest occupied residential receptor exposed to construction noise emission from both site-specific projects. While the preceding analysis for the Student Recreation Center already considers Avocet Hall the nearest sensitive receptor, the preceding analysis for the Academic V facility would need to make adjustments to the input distance values in Table 4.10-6 and predicted noise results in Table 4.10-7 to reflect this residence hall (and thus not Yarrow Hall). The Avocet Hall eastern façade appears to be 250 feet from the Academic V acoustic centroid, and 65 feet from the Academic V construction area boundary. Since the timing of concurrency is uncertain at this time, Table 4.10-8 displays a matrix of predicted noise levels for thirty-six (36) possible scenarios of combined construction phases—one from each of the near-term development components. The predicted 8-hour L_{eq} values represent logarithmic sums of aggregate construction noise from each of the two compared near-term development component site phases. For example, if grading for Academic V took place during demolition activity at the Student Recreation Center site, the predicted combined level would be 84 dBA L_{eq8h} and exceed the FTA-based guidance threshold of 80 dBA at the Avocet Hall facade; but if this demolition phase for the Student Recreation Center occurred during Academic V building construction phase, the combined noise level would only be 78 dBA L_{eq8h} and thus be less than the FTA threshold.

Table 4.10-8
Predicted Combined Construction Noise Levels at Nearest Pre-Existing Noise-Sensitive Receptor for Student Recreation Center and Academic V

Student Recreation Center Construction Phase	Predicted Noise Level (dBA, 8-hour L_{eq}) of Combined Construction Noise Emission* from Near-Term Development Components					
	Academic V Construction Phase					
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Finishes
Demolition	**84**	**83**	**84**	78	**84**	78
Site Preparation	**84**	**83**	**84**	77	**84**	76
Grading	**84**	**83**	**84**	78	**84**	78
Building Construction	**83**	**82**	**83**	70	**83**	68
Paving	**84**	**83**	**84**	77	**84**	77
Architectural Finishes	**83**	**82**	**83**	68	**83**	63

Notes:
* assessed from the construction site boundary of each indicated near-term development component to a common receptor: the eastern façade of Avocet Hall.

L_{eq} = energy-equivalent sound level

Bold values indicate predicted construction noise levels that exceed the threshold of 80 dBA 8-hourly L_{eq}

Based on these predicted noise levels displayed in Table 4.10-8, concurrent construction noise for these two near-term development component sites would exceed the FTA-based guidance criteria of 80 dBA over an eight-hour period during demolition, site preparation, grading and paving phases at the Academic V site. Therefore, the construction noise impact of concurrent construction at these two buildings would be *potentially significant*.

Mitigation Measure

MM-NOI-1: CSUMB shall require that construction contractors implement the following practices and measures:

- Construction activity shall generally be limited to the daytime hours between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 8:00 p.m. on weekends and holidays. If nighttime construction is required, noise levels shall not exceed 65 dB L_{max} (slow response) when measured at the construction site boundary between the hours of 7:00 p.m. and 7:00 a.m. Loud construction activity (e.g., asphalt removal, large-scale grading operations) shall not be schedule during finals week and preferably will be scheduled during holidays, summer/winter break, etc.
- All construction equipment shall be properly maintained and equipped with noise-reducing air intakes, exhaust mufflers, and engine shrouds in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.
- Electrical power, rather than diesel equipment, shall be used to run compressors and similar power tools and to power any temporary structures, such as construction trailers.
- All stationary construction equipment (e.g., electrical generators, pumps, refrigeration units, and air compressors) and equipment staging areas shall be located as far as feasible from occupied residences or educational land uses.
- When anticipated construction activities are expected to occur less than 175 feet from an existing on-campus or off-campus residential land use, one or more of the following techniques shall be employed to keep noise levels below an eight-hour A-weighted energy-equivalent level (L_{eq8h}) of 80 dBA at the potentially affected sensitive receptors:
    - Reduce construction equipment and vehicle idling and active operation duration.

- Install or erect on-site a temporary, solid noise wall (or acoustical blanket having sufficient mass, such as the incorporation of a mass-loaded vinyl skin or septum) of adequate height and horizontal extent so that it linearly occludes the direct sound path between the noise-producing construction process(es) or equipment and the sensitive receptor(s) of concern.
- Where impact-type equipment is anticipated on site, apply noise-attenuating shields, shrouds, portable barriers or enclosures, to reduce the magnitudes of generated impulse noises.

Significance After Mitigation

Implementation of MM-NOI-1 would avoid substantial temporary increases in ambient noise levels during construction of the Project, including but not limited to Student Housing Phase III, Student Housing Phase IIB, and Academic V by: limiting construction noise to the less sensitive times of day; properly maintaining all construction equipment; ensuring all equipment is properly equipped with noise-reducing air intakes, exhaust mufflers, and engine shrouds; using electrical power to run power tools and to power temporary structures; siting all stationary construction equipment and staging areas as far away as feasible from residences and educational land uses; and implementing special procedures when construction activities are expected to occur less than 175 feet from existing residences. With the implementation of MM-NOI-1 the construction noise impact of the Project would be reduced to *less than significant*.

While not required to reduce a significant impact, MM-NOI-1 would be implemented to further reduce the temporary noise impact associated with construction of the Academic IV and the Student Recreation Center Phases I and II.

Impact NOI-2:	**Substantial Permanent Increase in Ambient Noise Levels (Threshold A**). The Project would generate a substantial permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, due to roadway and stadium noise. (*Potentially Significant*)

Master Plan

Roadway Noise

To assess the Project's potential operational impacts relative to vehicle traffic noise, a roadway noise analysis was conducted to establish baseline conditions and quantify the potential increases in roadway noise resulting from implementation of the Project. Roadway noise levels were predicted with the FHWA Traffic Noise Model, using inputs based on traffic projections included in the Transportation Analysis (Appendix H). Noise levels were predicted at the same locations shown in Figure 4.10-1 and presented in Table 4.10-2. The roadway intersections identified in Table 4.10-9 at these assessment locations represent the major thoroughfares in and around the CSUMB Main Campus where the highest Project-attributed roadway noise level increases were anticipated on the basis of predicted upward change in future traffic volumes. Roadway intersections and segments further from the CSUMB Main Campus, where all the Project's capital improvements would be located, would be expected to experience less Project-related traffic increases and thus correspondingly less likelihood of potential impact due to Project-related roadway noise increases.

Consistent with the Transportation Analysis (Appendix H), noise levels were modeled for existing conditions and existing with Project conditions. See Impact NOI-4 for an analysis of cumulative impacts. The results of the noise modeling predictions are shown on Table 4.10-9, which lists the following for each of the eight representative sites: the represented roadway intersection, the existing conditions roadway noise level (using the CNEL descriptor), existing with Project conditions roadway noise, and the arithmetic difference between the two estimated noise levels. Note that for the existing conditions (i.e., without contribution from the Project) predicted levels have been validated with the field-collected data presented in Table 4.10-2.

The predicted CNEL values shown in Table 4.10-9 are considered conservative estimates because they do not take into account acoustical shielding from existing buildings or the noise-reducing effects of path-intervening terrain. Compared to existing conditions, predicted roadway noise levels in and around the CSUMB Main Campus were estimated to increase by up to 3.6 dBA CNEL (see increase for ST-2 in Table 4.10-9) as a result of the Project.

Table 4.10-9
Roadway Noise Modeling Results Summary

Site	Roadway Intersection	Existing CNEL (dBA)	Existing with Project CNEL (dBA)	Increase (dB)	Impact?
ST-1	Eighth Street and Second Avenue	61.5	62	0.5	No
ST-2	Eighth Street and Injin Road	58.4	62	3.6	No
ST-3	Eighth Street and Inter-Garrison Road	61.7	61.5	-0.2	No
ST-4	Eighth Avenue and Inter-Garrison Road	60.9	63.4	2.5	No
ST-5	Second Avenue and Divarty Street	64.1	66.3	2.2	No
ST-6	Sixth Avenue and Col. Durham Street	62.7	63.1	0.4	No
ST-7	Sixth Avenue and Gigling Road	67.4	70.7	**3.3**	Yes
ST-8	Lightfighter Drive and Gigling Road	62	63.6	1.6	No

Source: Appendix G
Notes:
CNEL = community noise equivalent level
Bold values indicate predicted roadway noise level increases exceed the threshold

As described in Section 4.10.3.1, an increase in ambient noise levels of 3 dBA CNEL or more attributable to the Project would be considered a significant impact only when the existing or future outdoor ambient sound level already exceeds 65 dBA CNEL; or, if as a result of the Project increase in roadway noise, the predicted with-Project noise level exceeds 65 dBA CNEL. As mentioned in Section 4.10.4, an exterior sound level of 65 dBA CNEL is considered "normally acceptable" for high-density residential use that would characterize existing dormitories and similar new residential housing proposed as part of implementation of the Project. A change in average outdoor noise levels of less than 3 dBA is usually considered not discernible to the general population; however, an increase in average noise levels of from 3 to 5 dBA is considered clearly perceptible to most people (Caltrans 2013a). At ST-2, while the predicted increase due to the Project is greater than 3 dBA, the resultant CNEL would remain less than 65 dBA and thus, like the predicted noise levels at the other studied representative locations, roadway noise impacts at this location would be considered *less than significant*.

In contrast, at representative off-campus location ST-7, located at Sixth Avenue and Gigling Road, the with-Project roadway noise level increase is greater than 3 dBA and the resultant CNEL would exceed 65 dBA. Therefore, the impact of roadway noise at this off-campus location would be *potentially significant*.

Stadium Noise

The Project would ultimately replace the current 6,000-seat stadium, field house, and field with a new approximate 10,000-seat stadium sized and equipped to host intercollegiate soccer and track events and designed to specifically meet future athletic and student needs. The additional seating would generate additional spectator noise from the stadium during sporting and special events. The nearest noise sensitive receptors on- and off-campus include residences approximately 1,800 feet northeast and approximately 0.51 miles south, respectively. The nearest academic building is approximately 1,500 feet from the stadium site. Detailed information regarding the replacement stadium and associated improvements are not yet available. 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 replacement could exceed applicable noise threshold of 65 dBA CNEL at nearby noise-sensitive land uses. Therefore, the noise impact associated with stadium noise would be *potentially significant.*

Mechanical Noise

Mechanical equipment associated with the operation of new campus facilities could include heating, ventilation, and air-conditioning (HVAC) equipment, backup generators, and various fans, pumps, and compressors that often can be significant noise sources. Emergency/back-up generators would 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. Therefore, 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.

The loudest sources of continuous noise from a building are typically the operation of HVAC systems and other electromechanical equipment, which emit sound levels that can exceed noise thresholds and thus create a noise impact when located in sufficient proximity to noise sensitive receptors such as residences, campus housing, classrooms, or the library, if not properly designed. While it is CSUMB's objective to have all new buildings on central heating and cooling from the central plant, it may not be feasible for buildings at greater distances from the central plant. Anticipated new on-site stationary operating mechanical equipment associated with future buildings proposed as part of the Project are typical major producers of relatively continuous or "steady-state" outdoor noise that include rooftop air-handling units that supply air conditioning to occupied structures, and exhaust fans for new laboratories or parking structures having subsurface levels. For new Project buildings that the campus central plant would not provide remote chilled water for air-conditioning cooling, or where refrigeration might otherwise need to be supplied locally, rooftop-mounted air-cooled condensing units and compressors would be considered additional noise-producing equipment exposed to the outdoors.

Although project-level design details are not known at this time, the air-handling units and other equipment featuring fans would likely be located on the top of proposed buildings and surrounded by rooftop parapet walls or be otherwise partially enclosed (or fully, such as a basement or penthouse dedicated for housing central HVAC systems); thus, it is unlikely that most noise-sensitive receivers would have a direct view of such equipment. Implementation of PDF-D-8 as part of the Project would require that an acoustical study of sound emission from proposed stationary noise sources be prepared during the schematic design process and as part of selection of these systems to ensure they comply with identified noise thresholds at sensitive receptor locations, as applicable. Therefore, the noise impact associated with mechanical noise sources would be *less than significant*.

Near-Term Development Components

Roadway Noise

The roadway noise analysis conducted for the proposed Master Plan includes analysis of the near-term development components, as these developments are included in the proposed Master Plan. Based on Table 4.10-9 and Appendix G, roadway noise would not exceed the roadway noise threshold of 3 dBA or greater, where exterior noise levels would already exceed 65 dBA CNEL, with the exception of one representative location (ST-7) at Sixth Avenue and Gigling Road, which is off campus. Therefore, the impact of roadway noise at this off-campus location from the near-term development components would also be *potentially significant*.

Mechanical Noise

As stated previously, the loudest sources of continuous noise from a building are typically the operation of HVAC systems. Table 4.10-10 summarizes expected HVAC equipment sound source level quantities associated with the near-term development components, based on a technique that relates building information (gross square footage, primary use or function), industry-accepted ventilation airflow rates for occupancy-based indoor air quality, and acoustical fan design parameters (Storm 2018). This analysis further determined that other stationary noise sources would not meaningfully contribute to the surrounding outdoor ambient sound environment, for one or more of the following reasons:

- New noise-producing electro-mechanical and/or fluid handling systems will be sufficiently enclosed or otherwise attenuated to comply with applicable standards at sensitive receptor locations, as specified in PDF-D-8; and,
- The near-term development components would rely on existing CSUMB utilities and associated infrastructure, such as a central utility plant that would provide chilled water, in lieu of installing new refrigeration that would require outdoor air-cooled condensers for new or renovated individual buildings.

Table 4.10-10
Anticipated Major Stationary Operating Sources of Outdoor Noise by Near-Term Development Component

Near-Term Development Component	Gross Square Footage (GSF), and Interior Use or Occupancy	Description of Anticipated Major Stationary Sound Source	Estimated Source Noise Level (dBA L_{eq})[1,2]	Assumed Height above Grade (feet)
Student Housing IIB	160,000 gsf dormitory	Rooftop Air-Handling Units (plenum-type centrifugal fan drawing outside air into the building)	87	6 feet above top of roof
Student Housing III	240,000 gsf dormitory	Rooftop Air-Handling Units (plenum-type centrifugal fan drawing outside air into the building)	88	6 feet above top of roof
Student Recreation Center	70,000 gsf sporting spectator area	Rooftop Air-Handling Units (plenum-type centrifugal fan drawing outside air into the building)	94	6 feet above top of roof
Academic V	76,700 gsf classroom	Rooftop Air-Handling Units (plenum-type centrifugal fan drawing outside air into the building)	87	6 feet above top of roof
Academic IV	72,200 gsf classroom	Rooftop Air-Handling Units (plenum-type centrifugal fan drawing outside air into the building)	87	6 feet above top of roof

Source: Appendix G
Notes:
1 Sound pressure level (SPL) distance-adjusted to a reference distance of one meter (approximately 3 feet).
2 SPL depends on the equipment airflow capacity as suggested by building gross square footage and function or usage.

Using an Excel-based model that incorporates industry-accepted point-source sound propagation algorithms and the estimated reference noise levels due to stationary sources shown in Table 4.10-10, outdoor sound exposure levels were predicted at the nearest noise-sensitive receiver locations associated with each of the five near-term development components presented in Table 4.10-11.

Under these analysis conditions, the predicted hourly L_{eq} values at the nearest noise-sensitive receptors to the near-term development components are all below 58.3 dBA, and would thus result in CNEL values less than the identified threshold of 65 dBA (on the basis of a continuous sound source having that steady hourly L_{eq} sound level causing the CNEL to be 6.7 dB greater). Additionally, Table 4.10-12 shows that the anticipated increases of the outdoor ambient sound level attributed to major stationary operating sources of outdoor noise for each near-term development component are expected to be less than the thresholds in Section 4.10.3.1. At all five of the nearest noise-sensitive receptors identified in Table 4.10-11, the existing CNEL values are less than 65 dBA, which means the allowable increase to the outdoor ambient sound level due to the combination of Existing with Project traffic and added stationary sound sources would be 5 dB or less, which Table 4.10-12 shows would be satisfied.

Table 4.10-11
Anticipated Major Stationary Operating Sources of Outdoor Noise by Near-Term Development Component

Near-Term Development Components	Approximate Distance to Nearest Noise-sensitive Receptor (feet)[1]	Description of Nearest Existing Noise-sensitive Receptor	Estimated Noise Level at Receptor	
			Hourly L_{eq} (dBA) [1]	CNEL (dBA) [2]
Student Housing IIB	233	south façade of Promontory West	42	49
Student Housing III	136	west façade of Vineyard Suites	48	55
Student Recreation Center	262	south façade of Avocet Hall	48	55
Academic V	134	west façade of the Science Instruction Lab Annex	47	54
Academic IV	173	west façade of Yarrow Hall	45	52

Notes:
1 Assumes the distance is between the near-term development component site acoustical centroid (AC) per Table 4.10-6 and the nearest noise-sensitive receptor exterior façade.
2 Assumes continuous operation of the major noise-producing stationary equipment that provide building interior comfort and ventilation excludes occasional test operation of emergency generators.

Table 4.10-12
Anticipated Increase over Existing Outdoor Ambient at Nearest Noise-sensitive Receptors due to Near-Term Development Components

Near-Term Development Components	Nearest Surveyed Location	Existing Outdoor CNEL (dBA)[1]	Existing Plus Project Roadway Noise CNEL (dBA)[1]	Estimated CNEL from Near-Term Development Stationary Sources (dBA)[2]	Logarithmic Sum of Existing Plus Project Roadway Noise and Stationary Sources CNEL (dBA)	Increase over Existing Outdoor CNEL (dB)	Impact?
Student Housing IIB	ST-2	58.4	62	49	62.2	3.8	No
Student Housing III	ST-5	64.1	66.3	55	66.6	2.5	No
Student Recreation Center	ST-5	64.1	66.3	55	66.6	2.5	No
Academic V	ST-2	58.4	62	54	62.6	4.2	No
Academic IV	ST-3	61.7	61.5	52	62.0	0.3	No

Notes:
1 from Table 4.10-9
2 from Table 4.10-11

Based on this predictive analysis with results presented in Table 4.10-11 and Table 4.10-12, potential noise impacts from stationary sources like HVAC systems associated with the near-term development components would be *less than significant*.

Mitigation Measures

MM-NOI-2 <u>Stadium Noise.</u> To minimize noise levels generated by the replacement of the existing stadium with an expanded stadium with additional seating capacity, 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 new and expanded stadium. The assessment shall be conducted prior to final design. Noise reduction measures shall be incorporated into the design to reduce increases in existing operational noise levels at nearby noise-sensitive land uses to below the applicable threshold (i.e., less than 65 dBA CNEL). Such measures may include, but are not limited to, the incorporation of structural shielding, enclosed bleachers, and revised placement for amplified sound system speakers.

Significance After Mitigation

Implementation of MM-NOI-2 would avoid a substantial permanent increase in ambient noise levels in the vicinity of the Project due to stadium noise by requiring a noise assessment prior to final design and incorporation of noise reduction measures into the design to reduce increases in existing operational noise levels at nearby noise-sensitive land uses to below the applicable threshold. With the implementation of MM-NOI-2, the permanent noise impact of the Project due to stadium noise would be reduced to *less than significant*.

Regarding the potentially significant roadway noise impact at one off-campus location (ST-7), located at Sixth Avenue and Gigling Road, the University does not have jurisdiction over adjacent land uses or proposed development in this off-campus location. Given that there are no feasible mitigation measures that the University can implement to reduce the roadway noise to less than significant at this location, the roadway noise impact would be considered *significant and unavoidable*. However, as indicated in Impact NOI-4, the cumulative impact of the Project related to roadway noise is less than significant, as the Project's contribution to the cumulative impact does not exceed the threshold.

Impact NOI-3:	**Excessive Vibration (Threshold B).** The Project would not generate excessive groundborne vibration or groundborne noise levels. *(Less than Significant)*

Master Plan

Heavier pieces of conventional construction equipment and vehicles used at construction sites could include dozers, graders, cranes, loaded trucks, water trucks, and pavers. But aside from these vehicles, on-site construction activities causing the most groundborne vibration and noise would be associated with impact-type equipment: pile-driving for building foundations.

During grading, the largest groundborne vibration levels are anticipated to be generated by large bulldozers and loaded trucks used for earthmoving. According to the FTA, vibration levels associated with the use of bulldozers (based on size) range from approximately 0.003 to 0.089 ips PPV and 58 to 87 VdB at 25 feet (FTA 2006), as shown in Table 4.10-13. Additionally, loaded trucks used for soil hauling during grading could generate vibration levels of approximately 0.076 ips PPV and 86 VdB at 25 feet.

Per Table 4.10-6, sensitive receptors adjacent to capital improvements would likely range from approximately 30 to 125 feet from the boundary of the construction area. Using the vibration velocity propagation expression explained in Section 4.10.2.2, the two right-most columns of Table 4.10-13 present estimated PPV at these receptor distances for the listed sample equipment. As none of the listed sample construction activities are anticipated to result in continuous vibration levels of 0.2 ips PPV that typically annoy people or risk damage to residential structures (see Section 4.10.3.1), the vibration impact associated with the proposed Master Plan would be considered *less than significant*.

While not needed to reduce a significant impact, it is recommended that MM-NOI-3 be implemented where vibration-sensitive instruments or processes are present in adjacent buildings during construction, as construction vibration does have the potential to disrupt the normal operation of some sensitive equipment.

Table 4.10-13
Typical Construction Equipment Vibration Levels

Equipment	PPV (inches per second) at 25 feet	Lv (rms vibration velocity dB [VdB]) at 25 feet	PPV (inches per second) at the receptor* (30 feet)	PPV (inches per second) at the receptor* (125 feet)	Impact?
Pile drive (impact)–typical	0.644	104	0.160	0.019	No
Pile drive (sonic)–typical	0.170	93	0.042	0.005	No
Vibratory roller	0.210	94	0.050	0.006	No
Jackhammer	0.035	79	0.021	0.001	No
Large bulldozer	0.089	87	0.018	0.003	No
Loaded trucks	0.076	86	0.004	0.002	No
Small bulldozer	0.003	58	0.001	< 0.001	No

Notes:
PPV = peak particle velocity; Lv = vibration level; rms = root mean square; dB = decibel.
* includes the effect of a 10 VdB foundation coupling loss for large, multi-story buildings (FTA 2006)

Near-Term Development Components

Per Table 4.10-6, the closest sensitive receptor to any of the five near-term development components ranges from approximately 30 to 125 feet from the boundary of the construction area. Using the vibration velocity propagation expression explained in Section 4.10.2.2, the two right-most columns of Table 4.10-13 present estimated PPV at these receptor distances for the listed sample equipment. As none of the listed sample construction activities are anticipated to result in continuous vibration levels of 0.2 ips PPV that typically annoy people or risk damage to residential structures, the vibration impact for the near-term development components would also be considered *less than significant*.

If the existing CSUMB Science Instructional Lab Annex contains vibration-sensitive instruments, construction of Academic IV could disrupt the use of this equipment for their intended purposes. The estimated vibration velocity levels from pile driving or a vibratory roller, if such equipment were used at the Academic IV construction site, would be greater than 69 VdB and thus exceed the FTA vibration velocity guidance limit of 65 VdB for facilities housing the operation of highly sensitive instruments. While not needed to reduce a significant impact, it is recommended that

MM-NOI-3 be implemented during the construction of Academic IV and comparable circumstances where vibration-sensitive instruments or processes are present in adjacent buildings during construction.

Mitigation Measures

MM-NOI-3: <u>Recommended Vibration Monitoring Plan.</u> While not required to reduce a significant impact, it is recommended that CSUMB or its designee prepare a vibration monitoring plan by a qualified acoustician prior to beginning construction of any project that involves pile driving (or any heavy construction operation known to exhibit a reference vibration velocity level of 0.2 ips PPV or greater magnitude at 25 feet) within 250 feet of an existing facility housing medical, semiconductor, testing, manufacturing, musical recording, or other instruments and processes that are known to be highly sensitive to vibration and may thus have function compromised by undue levels of groundborne-transmitted vibration. At a minimum, the vibration monitoring plan shall require data be sent to the University noise control officer or designee on a weekly basis or more frequently as determined by the noise control officer. The data shall include vibration level measurements taken during the previous work period. In the event that there is reasonable probability that future measured vibration levels would exceed FTA guidance (65 VdB or more stringent criteria as the existing facility activities may require), the University shall take the steps necessary to ensure that future vibration levels do not exceed such limits, including suspending further construction activities that would result in excessive vibration levels until either alternative equipment or alternative construction procedures can be used. Construction activities not associated with vibration generation could continue.

In addition to the data described previously, the vibration monitoring plan shall also include the location of vibration monitors, the vibration instrumentation used, a data acquisition and retention plan, and exceedance notification and reporting procedures.

Significance After Mitigation

Mitigation measures are not required because a significant impact related to vibration has not been identified. However, the implementation of MM-NOI-3 is recommended where vibration-sensitive instruments could potentially be disrupted during construction.

4.10.3.5 Cumulative Impacts

This section provides an evaluation of noise and vibration impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and as relevant to the evaluation of noise. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact NOI-4:	**Cumulative Noise and Vibration Impacts (Thresholds A and B).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to noise and vibration. *(Less than Significant)*

The geographic scope for cumulative noise and vibration impacts is generally limited to areas within approximately 0.5 mile of the campus or less, as described below. This geographic scope is appropriate for noise and vibration because the Project's noise impacts are localized and site-specific.

Construction Noise

The distribution of cumulative projects shown in Figure 4.0-1 suggest that several on- and off-campus developments are near the campus boundary and include the following: the Monterey Bay Charter School New School project, the Freeman Stadium Facilities Renovation Project, and the Second Avenue Development Project on the CSUMB campus; and the Campus Town Specific Plan, the Dunes on Monterey Bay, the Projects at Main Gate Specific Plan, and the Concourse Auto Dealership surrounding the campus. Development of one or more of these off-campus projects concurrent with implementation of the Project, including five near-term development components, would create the potential for a cumulative construction noise and vibration impact only when such sites are sufficiently proximate. Since sound is only energy that attenuates naturally and rapidly with increasing distance travelled from a source, a potentially impacted noise-sensitive receptor would need to be physically near multiple concurrent projects. Therefore, unless construction of cumulative projects occurs at the same time and in close proximity to Project development sites (i.e., less than 500 feet), noise and vibration from individual construction projects would not likely combine 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 Project would be intermittent, temporary, and would fluctuate over the years as new buildings are constructed and existing buildings are maintained or repaired. Additionally, MM-NOI-1 would require that: construction noise be limited to the less sensitive times of day; proper maintenance of construction equipment; all equipment is properly equipped with noise-reducing air intakes, exhaust mufflers, and engine shrouds; electrical power be used to run power tools and to power temporary structures; siting all stationary construction equipment and staging areas as far away as feasible from residences and educational land uses; and implementing special procedures when construction activities are expected to occur less than 175 feet from existing residences.

Given that construction activities associated with the Project would be dispersed throughout the campus and none of the off-campus projects listed in Table 4.0-1 and shown in Figure 4.0-1 are located within 500 feet of the campus, construction activities would not 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. Further, such off-campus cumulative projects would need to comply with municipal or County requirements for controlling construction noise. Given the above, cumulative impacts related to construction noise and vibration would be *less than significant*.

Operational Noise

Roadway Noise

Consistent with the Transportation Analysis (Appendix H), noise levels were modeled for Cumulative without Project Conditions and Cumulative with Project Conditions (see Table 4.10-14) in addition to modeling conducted for Existing Conditions and Existing with Project Conditions. Table 4.10-14 identifies the cumulative change in roadway noise by comparing the Cumulative with Project to Existing Conditions to determine whether a significant cumulative roadway noise impact could result due to all cumulative development, including the Project. As indicated in Table 4.10-14, potentially significant cumulative roadway noise impacts could result at ST-5 through ST-8 as the threshold would be exceeded. However, as the Project would cause less than a 2 dBA CNEL increase in roadway noise the Project's contribution to this impact would not be cumulatively considerable. As such, the cumulative impact of the Project related to roadway noise would be *less than significant*.

Table 4.10-14
Roadway Noise Modeling Results Summary

Site	Roadway Intersection	Existing CNEL (dBA) (1)	Cumulative without Project CNEL (dBA) (2)	Cumulative with Project CNEL (dBA) (3)	Cumulative Change (3-1)	Cumulative Change due to Project (dB) (3-2)	Cumulative Contribution to Significant Impact?
ST-1	Eighth Street and Second Avenue	61.5	63.7	64.1	2.6	0.4	No

Table 4.10-14
Roadway Noise Modeling Results Summary

Site	Roadway Intersection	Existing CNEL (dBA) (1)	Cumulative without Project CNEL (dBA) (2)	Cumulative with Project CNEL (dBA) (3)	Cumulative Change (3-1)	Cumulative Change due to Project (dB) (3-2)	Cumulative Contribution to Significant Impact?
ST-2	Eighth Street and Injin Road	58.4	62.6	63.5	5.1	0.9	No
ST-3	Eighth Street and Inter-Garrison Road	61.7	63.1	62.9	1.2	-0.2	No
ST-4	Eighth Avenue and Inter-Garrison Road	60.9	62.7	64.2	3.3	1.5	No
ST-5	Second Avenue and Divarty Street	64.1	67.4	67.4	**3.3**	0	No
ST-6	Sixth Avenue and Col. Durham Street	62.7	65.1	65.3	**2.6**	0.2	No
ST-7	Sixth Avenue and Gigling Road	67.4	70.2	71.7	**4.3**	1.5	No
ST-8	Lightfighter Drive and Gigling Road	62	65	65.1	**3.1**	0.1	No

Source: Appendix G
Notes:
CNEL = community noise equivalent level
Bold values indicate predicted roadway noise level increases exceed the threshold

Stationary Noise

Cumulative development listed in Table 4.0-1 and shown in Figure 4.0-1, as well as the Project, would include stationary equipment associated with building mechanical equipment. However, noise from these sources would be localized and would not combine with noise sources from other related projects in the area given the likely distance between sources. Further, off-campus cumulative projects would need to comply with municipal or County requirements for controlling stationary noise. On-campus projects would comply with PDF-D-8 which would require that an acoustical study of sound emission from proposed stationary noise sources be prepared during the schematic design process and as part of selection of these systems to ensure they comply with identified noise thresholds at sensitive receptor locations, as applicable. Therefore, substantial increases in cumulative noise levels from stationary sources would not be expected and the cumulative noise impact from stationary sources would be *less than significant.*

4.10.4 References

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4.11 POPULATION AND HOUSING

This section of the EIR presents an analysis of the potential population and housing impacts associated with development and implementation of the proposed Master Plan, including five near-term development components (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate significant or potentially significant impacts. The information in this section is based on the proposed Master Plan, 2000 and 2010 U.S. Census data, 2017 and 2021 State of California Department of Finance (DOF) estimates, the Association of Monterey Bay Area Governments (AMBAG) Regional Growth Forecasts and the housing elements for the cities of Seaside and Marina and the County of Monterey.

Changes in population, employment, and housing demand are social and economic effects, not environmental effects. Section 15382 of the CEQA Guidelines states: "An economic or social change by itself shall not be considered a significant effect on the environment." According to CEQA, these effects should be considered in an EIR only to the extent that they create adverse impacts on the physical environment. This section of the EIR examines the potential for the Project to result in a substantial increase in employment and population, and a resultant demand for housing that cannot be met by the existing and/or projected housing supply, thus requiring construction of new housing.

The additional employment (indirect and induced jobs) and associated population that would be induced in the region by campus growth under the Project are generally described and reported on in Section 5.4, Growth-Inducing Impacts.

No public and agency comments related to population and housing were received during the public scoping periods in response to the original Notice of Preparation (NOP) or the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods, refer to Appendix B.

4.11.1 Environmental Setting

4.11.1.1 Study Area

The study area for the evaluation of population and housing impacts includes the CSUMB campus and the entire AMBAG region, which includes Santa Cruz, Monterey and San Benito counties, as this region is the basis for growth forecasts and various regional plans that relate to population and housing impacts.

4.11.1.2 Population and Population Growth

CSUMB Population

Total CSUMB population relevant to the analysis in this section consists of students, faculty, and staff, and their dependents. Table 4.11-1 shows the population totals for each group for the baseline academic year, based on Academic Year 2016-2017 data. See Chapter 3, Project Description, Table 3-1, for additional details regarding total existing CSUMB population.

Table 4.11-1
Existing Total CSUMB Population (Academic Year 2016-2017)

Population	FTES[a]	Headcount[b]
Students	6,634	7,021
Faculty/Staff	1,024	1,410
Estimated Faculty and Staff Family Members[1]	2,355	3,243
Total	**10,013**	**11,674**

Sources: a. CSU 2018a; b. CSU 2018b.
Notes:
1. Formula for estimating existing faculty and staff family members uses the 2017 average household size of 3.30 persons per household in Monterey County reported by the DOF (DOF 2017a). Students are assumed not to have family members in residence with them.

The existing CSUMB on-campus residential population consists of students, faculty, staff, Community Housing Partners and their dependents. Table 4.11-2 shows the on-campus residential population totals for each group for the baseline academic year, based on Academic Year 2016-2017 data. See Chapter 3, Project Description, Table 3-5, for additional details regarding existing CSUMB on-campus residential population.

Table 4.11-2
Existing On-Campus Residential Population (Academic Year 2016-2017)

Population	Headcount
Students	3,980
Faculty/Staff	463
Community Housing Partners	280
Estimated Faculty, Staff and CHP Family Members[1]	1,709
Total	**6,432**

Notes:
1. Formula for estimating existing family members uses the 2017 average household size of 3.30 persons per household in Monterey County as reported by the DOF (DOF 2017a). Students are assumed not to have other family members in residence with them.

Regional Population

Table 4.11-3 shows the historical, current, and projected populations of the cities within Monterey County, unincorporated areas of the County, and the County as a whole through 2035, the horizon year for the Project. The 2000 and 2010 data are based on actual counts conducted by the U.S. Census; 2021 data are based on preliminary estimates conducted by the DOF. Population projections to 2035 are forecasts developed by AMBAG, as reported in its 2018 Regional Growth Forecast. These growth forecasts assume 12,000 full-time-equivalent students (FTES)[1] by 2025, based on the proposed Master Plan, and 13,700 FTES by 2040, based on extrapolated student growth rates beyond 2025 (AMBAG 2018). The 2022 Regional Growth Forecast has been prepared and was accepted for planning purposes by AMBAG but will not be adopted formally until June 2022. Therefore, the adopted 2018 AMBAG forecasts are the focus of this section.

Population growth in Monterey County slowed after the closure of Fort Ord and, between 2000 and 2010, the County grew by about 3 percent. During this period, 7 of the County's 13 jurisdictions lost population to varying degrees, as shown in Table 4.11-3: Carmel-by-the-Sea, Del Rey Oaks, Marina, Monterey, Pacific Grove, Salinas, and unincorporated Monterey County. From 2010 to 2021, population grew in all of the County's jurisdictions except for the cities of Seaside and Soledad. The County's overall population increased by approximately 5.4 percent between 2010 and 2021. Positive population growth trends are projected to continue through 2035 in all of the cities within the County, except for Carmel-by-the-Sea, which is projected to decrease in population by approximately 4 percent between 2021 and 2035. Population growth in Monterey County overall is project to increase by 12 percent between 2021 and 2035.

Table 4.11-3
Population Trends in Monterey County

Location	2000[a]	2010[b]	2017[c]	2021[d]	Projected 2035[e]	Percent Increase Between 2021-2035
Carmel-by-the-Sea	4,081	3,722	3,842	4,023	3,869	-4%
Del Rey Oaks	1,650	1,624	1,681	1,670	2,835	70%
Gonzales	7,525	8,187	8,549	8,490	15,942	88%
Greenfield	12,583	16,330	17,866	18,402	21,362	16%
King City	11,094	12,874	14,480	14,977	15,959	7%
Marina	25,101	19,718	21,528	21,920	29,554	35%
Monterey	29,674	27,810	28,828	28,382	30,460	7%
Pacific Grove	15,522	15,041	15,498	15,536	15,808	2%

[1] Full-time equivalent students (FTES) is the unit of measurement used to convert class load to student enrollment. At CSUMB, one FTES is equal to 15 units. Thus, one FTES is equal to one student enrolled in 15 units or three students each enrolled in 5 units. A related unit of measurement is "headcount." In the case of one student taking 15 units, the headcount is 1; in the case of three students collectively taking 15 units, the headcount is 3.

Table 4.11-3
Population Trends in Monterey County

Location	2000[a]	2010[b]	2017[c]	2021[d]	Projected 2035[e]	Percent Increase Between 2021-2035
Salinas	151,060	150,441	162,470	160,206	173,393	8%
Sand City	261	334	384	385	1,190	209%
Seaside	31,696	33,025	34,165	32,121	37,056	15%
Soledad	11,263	25,738	26,065	24,454	29,021	19%
Unincorporated	100,252	100,213	107,009	106,752	106,323	0%
County Total	**401,762**	**415,057**	**442,365**	**437,318**	**489,451**	**12%**

Sources: a. U.S. Census Bureau 2000; b. U.S. Census Bureau 2010; c. DOF 2017; d. DOF 2021; e. AMBAG 2018.

Marina

Of the jurisdictions within Monterey County that lost population between 2000 and 2010, the City of Marina saw the greatest decline, from 25,101 people in 2000 to 19,718 people in 2010 (5,383 people, representing approximately -21 percent over the 10-year period). Since 2010, the population growth in Marina has increased, though the population is still lower than 2000 levels. As of January 1, 2021, the DOF estimate for Marina is 21,920 people. AMBAG projects that Marina's population will add 7,634 people by 2035, growing by approximately 35 percent between 2021 and 2035. This is greater than the projected growth for Monterey County overall between 2021 and 2035 (12 percent).

Seaside

Between 2000 and 2010, the City of Seaside grew by about 4 percent, from 31,696 people in 2000 to 33,025 people in 2010. From 2010 to 2021, population growth decreased by approximately 3 percent, with a DOF population estimate of 32,121 as of January 1, 2021. AMBAG projects that Seaside's population will grow at a slower rate than the City of Marina between 2021 and 2035 but at a slightly higher rate than Monterey County as a whole—to 37,056 by 2035, an increase of approximately 15 percent.

CSUMB Population within Marina and Seaside

AMBAG's 2018 Regional Growth Forecast includes estimates and projections for CSUMB-related population in Marina and Seaside, shown in Table 4.11-4. AMBAG's forecasts, however, do not show estimates and projections for CSUMB-related population in unincorporated Monterey County or elsewhere.

Table 4.11-4
On- and Off-Campus Population in Marina and Seaside

City	2015[1,2]	2020	2025	2030	2035	2015-2035 Percent Change	Average Annual Growth Rate
CSUMB portion in Marina	1,020 (4.98%)	2,513 (10.71%)	3,983 (15.21%)	5,558 (19.49%)	5,933 (20.08%)	482%	24.08%
Marina Total	20,496	23,470	26,188	28,515	29,554	44%	2.21%
CSUMB portion in Seaside	2,936 (8.59%)	3,008 (8.77%)	3,638 (10.32%)	4,163 (11.47%)	4,288 (11.57%)	46%	2.30%
Seaside Total	**34,185**	**34,301**	**35,242**	**36,285**	**37,056**	**8%**	**0.42%**

Source: AMBAG 2018.
Notes:
1. AMBAG does not have data for 2016-2017, which is the baseline for this analysis.
2. 2015 data reflects the actual on-campus residential population located in the cities of Marina and Seaside (Heather Adamson [AMBAG] 2019).

Population projections for 2020 through 2035 reflect both on- and off-campus CSUMB-affiliated population in Marina and Seaside. Population data for 2015 reflects actual on-campus residential population located in the cities of Marina and Seaside. As of 2015, nearly three times as many CSUMB students, faculty, and staff lived on-campus within the City of Seaside (2,936 people) compared with on-campus population within the City of Marina (1,020 people). CSUMB students, faculty, and staff comprised approximately 9 percent of the total population in Seaside and approximately 5 percent of the total population in Marina in 2015.

Over 20 years from 2015 to 2035, AMBAG projects that the CSUMB-related population within Marina will grow at a considerably higher rate than in Seaside. The CSUMB-related populations within Marina and Seaside are expected to grow by 482 percent and 46 percent, respectively. By 2035, AMBAG projects that Marina will contain a greater number and percentage of CSUMB students, faculty, and staff (5,933 people, or about 20 percent of Marina's population) compared with Seaside (4,288 people, or about 12 percent of Seaside's population), which again considers both on- and off-campus population in these jurisdictions.

4.11.1.3 Housing

This section describes on-campus and regional housing and regional residence patterns of CSUMB students, faculty, and staff.

Campus Housing

As of 2016-2017, CSUMB had 3,980 student beds on the Main Campus and Frederick Park I & II in East Campus Housing (see Table 4.11-5). The campus is currently housing 60 percent of its total existing CSUMB student population shown in Table 4.11-1. The remaining 40 percent of the total existing CSUMB student population resides off-campus, most likely in Monterey County, given that a substantial majority of the CSUMB population (nearly 90 percent of students, faculty, and staff) lives in Monterey County (see Section 4.13, Transportation).

Table 4.11-5
Existing (2016-2017) On-Campus Housing Beds/Units

Student Housing	**Beds**
Main Campus	2,600
Existing Main Campus	*1,811*
Existing Promontory	*789*
Existing Frederick Park I & II (East Campus Housing)	1,380[1]
Total Student Beds	**3,980**
% Housed on Campus[2]	***60%***
Faculty and Staff[3] – East Campus Housing (ECH)	**Units**
Existing Schoonover Park I & II – faculty and staff units[4]	463
Existing Schoonover Park I & II – Community Housing Partners units[4]	0
Existing Schoonover Park I & II – other units[4]	0
Existing Frederick Park I & II – student units	0
Total ECH Units Allocated to Faculty and Staff	**463**
Total ECH Units	**1,220**
% Housed on Campus[5]	**45%**

Notes:
1. Students currently occupy 460 Frederick I & II units with 3 beds in each unit = 1,380 beds.
2. 3,980 beds divided by 6,634 FTES in academic year 2016-2017 = 60% housed under existing conditions.
3. Includes CSUMB faculty and staff as well as affiliates, which are companies that have been contracted by the Corporation to provide services that the auxiliary has been asked to provide by the university (e.g., dining, bookstore), and the affiliate's employees work full-time on campus in that capacity. They are also referred to as contractors. The Auxiliary includes staff of the Corporation, Student Union and Foundation.
4. There are currently a total of 754 units in Schoonover Park I & II. Of that total, 396 units are rented, and 67 units are owned by staff, faculty and affiliates = 463 units currently allocated to staff, faculty and affiliates. An additional 280 units are currently occupied by Community Housing Partners (CHP) and 11 units are off-line for wait list or short-term rentals or are being remodeled.
5. 463 units occupied by faculty and staff divided by 1,024 FTE faculty and staff in academic year 2016-2017 = 45% housed under existing conditions.

There is currently a total of 1,220 dwelling units for students, faculty, and staff, although not all are currently available for rent by the campus community (see Table 4.11-5). Of the 1,220 rentable units, 463 are occupied by faculty and staff (including for-sale owned housing), 280 units are currently occupied by Community Housing Partners,[2] and 11 are for waitlisted residents or short-term rentals or are being remodeled. With this housing, CSUMB is currently housing 45 percent of its total existing faculty and staff population shown in Table 4.11-1. The remaining 55 percent of the total existing faculty and staff population resides off-campus, most likely in

2 Community Housing Partners is made up of affiliates (a subcategory of CSUMB staff), educational partners and military partners. Per the housing property conveyance to the CSU, CSU agrees to permit active duty military personnel, Department of Defense civilian employees and their families residing in on-campus housing units to remain until such time as 90% of the units are occupied by students and/or CSU employees and students and/or employees of other area institutions of higher education.

Monterey County, as indicated previously. See Chapter 3, Project Description, for further discussion of existing campus housing.

Regional Housing

The information provided below is based on 2000 and 2010 U.S. Census data, 2021 DOF estimates, and the 2018 AMBAG Regional Growth Forecast. Table 4.11-6 shows historical, current, and projected housing units in Monterey County.

Table 4.11-6
Housing Units in the Study Area

Location	2000[a]	2010[b]	2017[c]	2021[d]	Projected 2035[e]	Percent Increase Between 2021-2035
Carmel-by-the-Sea	2,285	2,095	3,421	3,438	3,456	1%
Del Rey Oaks	704	701	741	741	1,297	75%
Gonzales	1,695	1,906	1,987	1,987	3,792	91%
Greenfield	2,643	3,460	3,914	4,014	4,863	21%
King City	2,736	3,008	3,332	3,480	4,210	21%
Marina	6,745	6,845	7,381	7,862	9,692	23%
Monterey	12,600	12,184	13,662	13,717	14,627	7%
Pacific Grove	7,316	7,020	8,190	8,219	8,431	3%
Salinas	38,298	40,387	43,067	43,579	50,505	16%
Sand City	80	128	177	197	493	150%
Seaside	9,833	10,093	10,915	10,921	11,878	9%
Soledad	2,472	3,664	3,958	4,174	4,926	18%
Unincorporated	33,829	34,455	39,076	39,936	39,981	0%
County Total	**121,236**	**125,946**	**139,821**	**142,265**	**158,151**	**11%**

Sources: a. U.S. Census Bureau 2000; b. U.S. Census Bureau 2010; c. DOF 2017; d. DOF 2021; e. AMBAG 2018

Marina

In 2000, there were approximately 6,745 housing units in Marina, according to the U.S. Census Bureau. About 100 housing units were added in Marina between 2000 and 2010, which represented about 2 percent of all units added (4,710 units) throughout Monterey County in the 2000s (see Table 4.11-6). The DOF estimated that Marina contained 7,862 housing units as of January 1, 2021. AMBAG projects that there will be a total of 9,692 housing units in Marina in 2035, which would represent an increase of 23 percent between 2021 and 2035.

Seaside

In 2000, there were approximately 9,833 housing units in Seaside, according to the U.S. Census Bureau. About 260 housing units were added in Seaside between 2000 and 2010, which represented about 6 percent of all units added (4,710 units) throughout Monterey County in the 2000s (see Table 4.11-6). The DOF estimated that Seaside contained 10,921 housing units as of January 1, 2021. AMBAG projects that there will be a total of 11,878 housing units in Seaside in 2035, which would represent an increase of 9 percent between 2021 and 2035.

As further described below in Section 4.11.2, AMBAG oversees the Regional Housing Needs Determination (RHND) process for Monterey County, and determines each jurisdiction's fair share of the regional housing need. AMBAG's RHND for 2014-2023 is 7,386 housing units in Monterey County as a whole, of which Marina's and Seaside's allocations are 1,308 and 393 new units, respectively. Unincorporated Monterey County is responsible for 1,551 new units (AMBAG 2014). Seaside, Marina and Monterey County are responsible for demonstrating their ability to meet their fair share of the regional housing need in their respective housing elements.

CSUMB Housing within Marina and Seaside

AMBAG's 2018 Regional Growth Forecast includes estimates and projections for CSUMB-related housing units and group quarters,[3] referred to herein as "student housing," in Marina and Seaside, shown in Table 4.11-7. AMBAG's forecasts, however, do not show estimates and projections for CSUMB-related housing in unincorporated Monterey County or elsewhere.

Table 4.11-7
On- and Off-Campus Housing and On-Campus Group Quarters in Marina and Seaside

City	2015[1, 2]	2020	2025	2030	2035	2015-2035 Percent Change	Average Annual Growth Rate
On- and Off-Campus Housing Units							
CSUMB portion in Marina[3]	—	151 (1.81%)	313 (3.44%)	531 (5.39%)	554 (5.41%)	367%	24.46%
Marina Total	7,334	8,172	8,776	9,324	9,692	40%	1.99%
CSUMB portion in Seaside[3]	—	516 (4.64%)	549 (4.87%)	550 (4.78%)	551 (4.64%)	107%	7.12%
Seaside Total	**10,913**	**11,126**	**11,264**	**11,517**	**11,878**	**9%**	**0.44%**
CSUMB portion in Marina and Seaside Total	**—**	**667**	**862**	**1,081**	**1,105**	**NA**	**NA**

3 AMBAG uses the term "group quarters," referred to herein as "student housing," which are places where people live or stay in a group living arrangement that is owned or managed by an entity or organization providing housing and/or services for the residents (AMBAG 2020). On a university campus, typical group quarters are student residence halls.

Table 4.11-7
On- and Off-Campus Housing and On-Campus Group Quarters in Marina and Seaside

City	2015[1, 2]	2020	2025	2030	2035	2015-2035 Percent Change	Average Annual Growth Rate
On-Campus Group Quarters / Student Housing (Bedspaces)							
Marina	1,020	2,020	2,959	3,820	4,128	405%	20.23%
Seaside	1,159	1,509	1,990	2,359	2,491	215%	10.75%
Total	**2,179**	**3,529**	**4,949**	**6,179**	**6,619**	**304%**	**15.19%**

Source: AMBAG 2018.
Notes:
1. AMBAG does not have data for 2016-2017, which is the baseline for this analysis.
2. 2015 data reflects the actual on-campus housing and group quarters/student housing located in the cities of Marina and Seaside (Heather Adamson [AMBAG] 2019).
3. For CSUMB portion, percentages are for 2020-2035, as the value for the CSUMB portion in 2015 was 0 or not recorded.

Housing unit projections for 2020 through 2035 reflect both on- and off-campus CSUMB-affiliated housing in Marina and Seaside. Estimates and projections over the same period for student housing reflect only on-campus housing in residence halls. Housing data for 2015 reflects actual on-campus student housing located in the cities of Marina and Seaside.

In 2020, the City of Seaside had nearly triple the number of housing units related to CSUMB (516 units) as the City of Marina (151 units); CSUMB-related housing units comprised approximately 5 percent of the total housing units in Seaside and approximately 2 percent of the total housing units in Marina. Over 15 years from 2020 to 2035, AMBAG projects that the number of CSUMB-related housing units within Marina, both on- and off-campus, will increase at a considerably higher rate than in Seaside. The CSUMB-related housing units within Marina and Seaside are expected to grow by 367 percent and 107 percent, respectively. By 2035, AMBAG projects that Marina and Seaside will have a similar total number of CSUMB-related housing units, both on- and off-campus (554 and 551 housing units, respectively); these housing units are projected to comprise approximately 5 percent of the total number of housing units in Marina and Seaside.

The projections also show a substantial increase in on-campus student housing in Seaside and Marina, increasing from a total of approximately 2,200 to 6,600 bedspaces between 2020 and 2035, growing by approximately 304 percent during this period.

4.11.1.4 Site Conditions for Near-Term Development Components

The existing population and housing setting for the near-term development component sites is generally described above. Additional information is provided below related to specific conditions on each site, including existing development conditions. Section 3, Project Description provides additional information about the location of each development site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site is located on an existing parking lot and does not contain housing or any other buildings.

Academic IV

The approximately 4.0-acre Academic IV site contains an academic building, parking lots, and landscaping and does not contain housing.

Student Recreation Center

The approximately 8.5-acre Student Recreation Center site is located south of the Main Quad and contains two buildings and portions of two parking lots, as well as undeveloped land; no housing is located on the site.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site is located on a vacant paved lot south of the Promontory and does not contain housing or any other buildings.

Academic V

The approximately 2.7-acre Academic V site is located in the Main Quad and is developed with administration and academic buildings, a parking lot, and landscaping; no housing is located on the site.

4.11.2 Regulatory Framework

This section describes the applicable regulatory plans, policies, and ordinances related to population and housing for the Project.

4.11.2.1 Federal

Metropolitan Planning Organizations (MPOs)

A metropolitan planning organization (MPO) is a federally mandated and federally funded transportation policy-making organization made up of representatives from local government and governmental transportation authorities. They were created to ensure regional cooperation in transportation planning. MPOs were introduced by the Federal-Aid Highway Act of 1962 (32 USC §101-170 *et seq*.), which required the formation of a MPO for any urbanized area (UZA) with a population greater than 50,000, as determined by the U.S. Census. Federal funding for transportation projects and programs is channeled through this planning process.

AMBAG is the federally designated MPO and Council of Governments (COG) for the AMBAG region, which includes Monterey, San Benito and Santa Cruz County. AMBAG was organized in 1968 for the purpose of regional collaboration and problem solving. AMBAG was formed through a Joint Powers Authority (JPA) governed by a twenty-four-member Board of Directors comprised of elected officials from each city and county within the region. AMBAG performs metropolitan level transportation planning on behalf of the region. Among its many duties, AMBAG manages the region's transportation demand model and prepares regional housing, population and employment forecasts, such as the 2018 Regional Growth Forecast, that are utilized in a variety of regional plans prepared by AMBAG, including the Regional Housing Needs Allocation (see Section 4.11.2.2).

4.11.2.2 State

California Education Code

The California Education Code contains provisions to ensure that the CSU system can accommodate all eligible California resident students. 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 §§ 66202 and 66730. (Cal. Educ. § 66202.5.) 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. (Cal. Ed. Code § 66202.5.)

Additionally, 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; or (3) the University of California. (Cal. Ed. Code § 66011(a).)

Regional Housing Needs Assessment

The State of California requires each local jurisdiction to periodically develop a new Regional Housing Needs Assessment to plan for its share of the state's housing need for people of all income levels (Cal. Gov. Code § 65584). While not applicable to the CSU, the Regional Housing Need Allocation process is a state mandate designed to address each local jurisdiction's "fair share" of the statewide housing need for an eight-year planning period. The Regional Housing Need Allocation process requires the State Department of Housing and Community Development (HCD) to determine the total housing need for each local region in the state, and each region's Council of Governments (e.g., AMBAG for the Monterey Bay Area) is then responsible for distributing this need to local governments. Each local jurisdiction's housing element must include a strategy to meet its share of the region's housing need for four income categories that encompass all levels of housing affordability and must be certified by the HCD. In June 2014, AMBAG adopted its *Regional Housing Needs Allocation Plan: 2014-2023*, which identifies the Monterey Bay Area's housing needs determination for the 2014-2023 planning period, as described under Regional Housing in Section 4.11.1.3.

4.11.2.3 California State University

CSU Enrollment and Operating Budget

As the population of California remains steady, the number of high school graduates completing admission requirements for the CSU continues to grow. To meet growing demand for higher education from students, and the longer-term workforce needs of California for more baccalaureate degrees, 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 2012). 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 2012).

Each year, the CSU works 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 2021-2022 California State Budget, the state expected the CSU to accommodate growth in enrollment of 9,434 FTES beginning with the 2022-2023 period. Following this process, 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 that target as they receive state/CSU funding only for the targeted number.

The Public Policy Institute of California projects a shortage of baccalaureate degrees by 2030—in excess of one million degrees (CSU 2017). For the CSU to do its part, the CSU has to graduate an additional 500,000 students by 2030, or about 5,500 additional degrees each year from 2018 through 2030 (CSU 2017). To meet this growing demand, the proposed Project would provide for the growth in facilities needed to support proposed enrollment growth at the campus.

CSUMB Housing Policies

The following information about CSUMB's housing policies is derived from Appendix C, Student Housing and Parking Management Guidelines, and the CSUMB Housing Guidelines (CSUMB 2022).

Undergraduate Students – Housing Rental Rate Lock Policy

As a way to encourage students to live on campus and graduate within four years, CSUMB Student Housing and Residential Life has implemented an undergraduate rental rate lock structure that secures the Main and East Campus Housing rate for a designated number of years while a student progresses academically. The rate lock is secured for a specified amount of time depending on what class level a student enters a Student Housing Academic Year License Agreement (housing agreement). The rate lock applies as long as an enrolled student in good standing lives consecutively on campus each year and applies through the campus' designated housing Reservation Days.

Freshmen and Sophomores – On-Campus Housing Requirement

The campus Student Housing and Parking Management Guidelines (Appendix C) codifies and expands the freshman and sophomore on-campus residential requirement, guarantees on-campus housing to 90 percent of enrolled international student freshmen through senior year (see details in the following section) and directs the campus to phase out on-campus housing student parking permits.

Since 1994, the CSUMB Student Housing and Residential Life office has generally required all freshman and sophomore students not residing in the tri-county area to live on campus. Exceptions are available on a limited basis.

International Students – On-Campus Housing

The Student Housing and Parking Management Guidelines require 90 percent of enrolled international students to live on campus. Before the Student Housing and Parking Management Guidelines were approved, approximately 87 percent of the international students enrolled at CSUMB already lived on campus (fall of 2017). Because acquiring off-campus housing is challenging from abroad and as international students typically do not have access to an automobile, they are guaranteed on-campus housing if they applied by the posted deadlines. Approximately 10 percent live off-campus and are typically upper-division, graduate, or language program students.

Staff and Faculty – Schoonover Park Rental Rate Policy

All Schoonover Park residents paid rent that was more than 20 percent below market rate in 2015. Upon rental rate review, CSUMB adopted a two-tier rate structure, which combined faculty, employees, and affiliates into one tier, and Community Housing Partners into a second tier. Future rental rates for Tier I were capped at 15 percent below market rate for all occupants and a plan was initiated to gradually increase rent by no more than 3 percent annually, until it reaches the 15 percent below market value rate mark. Entering staff and faculty automatically pay 15 percent below market rates.

The rental amount for Tier II occupants will eventually become current market value, gradually increasing by no more than 5 percent annually until it reaches the market rate value. This gradual increase, in combination with the fact that entering Community Housing Partners will only be admitted under special circumstances and will be required to pay market value rates, reduces the desirability of campus housing by outside entities, freeing it up for faculty and staff.

Staff and Faculty – CSUMB Employee Housing, Inc. Purchase Program

The CSUMB Employee Housing, Inc. (CEHI) purchase program was created in 1998 as the first of its kind in the CSU system. University employees may purchase a CEHI home, which are located in East Campus Housing, on a ground lease basis at a very affordable price. Monthly costs compare favorably to market rate rental payments and enhance affordability by removing the land cost from the purchase price. The result is a sales price that is roughly 35 percent lower than a similar off-campus home.

There are currently 66 units in East Campus Housing owned by CSUMB staff and faculty plus the President's home. Upon retirement, owners have three years to sell the property either back to the University (at a discounted real estate transaction cost) or to another CSUMB staff or faculty member. These 66 units are expected to remain under faculty and staff ownership and thus contribute to the number of faculty and staff housed on campus.

Staff and Faculty – Housing Prioritization Procedure

When housing units in East Campus Housing become available, staff and faculty have priority over Community Housing Partners. Typically, there is a turnover rate of between 10 to 15 units a year, which provides some certainty as to the placement of new employees into housing with a minimum waiting period. Priority is given to staff and faculty relocating from outside the tri-county area. Local faculty and staff residents wishing to move onto campus or within campus housing are then provided units as availability allows. As previously noted, Community Housing Partners are passively being phased out via attrition as the campus employee population grows and chooses to live in East Campus Housing.

Tenant eligibility is renewed annually and is valid on a month-to-month, six-month, or annual basis. Occupants have two months to vacate a unit if their employment with the campus ends or if there is a breach in lease terms.

4.11.2.4 Local

As a state entity, CSUMB is not subject to local government permitting and planning regulations, policies, or ordinances, such as the general plans and ordinances for the cities of Marina and Seaside and the County of Monterey. While that is the case, relevant aspects of local general plans are described below where they relate to the provision of housing, as such plans and policies could affect the availability of housing in the region. See also Section 4.9, Land Use and Planning, for an evaluation of environmental impacts due to conflicts with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Monterey County General Plan

The Monterey County General Plan was adopted in 2010 (Monterey County 2010). The 2009-2014 Housing Element contains several goals, policies and implementation measures that aim to improve the housing supply, the range of housing types, and housing affordability levels. For example, Goal H-2 provides polices that support the development of housing affordable to the general workforce of Monterey County and addresses housing needs of special populations and extremely low-income households through a range of housing options. In addition to incentivizing affordable housing, Goal H-3 aims to provide an adequate supply and diversity of housing in the County.

City of Marina General Plan

The Marina General Plan, adopted in 2000, serves as the long-term policy guide for the physical, economic, and environmental growth of the City of Marina. The City's core values are the foundation of the General Plan and the underlying basis for its vision and direction. The Introduction to the General Plan contains the overall community goals of the General Plan, including several related to population and housing, such as provision of housing for all economic levels and a jobs-housing balance that enables people to live and work in Marina. The Housing Element is intended to provide citizens and public officials with an understanding of the housing needs in the community and set forth an integrated set of policies and programs aimed at the attainment of defined goals (City of Marina 2010). The City of Marina Final Housing Element 2008-2014 was adopted on September 1, 2009 by the Marina City Council and certified by the HCD December 16, 2009.

City of Seaside General Plan

The Seaside General Plan, adopted in 2004, contains eight elements that serve as a policy guide for determining the appropriate physical development and character of the City. The 2009-2014 Housing Element includes goals related to maintaining a range of housing opportunities, improving existing housing, and using public-private partnerships to ensure that the community has access to housing (City of Seaside 2003). The City of Seaside is in the process of updating the 2004 General Plan. The public draft General Plan, including the 2015-2023 Housing Element, was released in November 2017. The documents are still in draft form; the CEQA NOP was released in July 2017 but no EIR has yet been published.

4.11.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to population and housing. The section includes the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.11.3.1 Thresholds of Significance

The significance criteria used to evaluate the impacts of the Project related to population and housing are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to population and housing would occur if the Project would:

A. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
B. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

4.11.3.2 Analytical Method

Program- and Project-Level Review

The population and housing impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs). The analysis also includes a project-level analysis under CEQA of the five near-term development components that would be implemented under the proposed Master Plan. The analysis is based on existing conditions (2016-2017), as of the date of the original NOP, and projected (2035) FTE and headcount student, faculty and staff population, as applicable. See Section 4.0, Introduction to Analysis, for additional information about the use academic year 2016-2017 as the basis for assessing population growth with the Project.

Many new CSUMB students and staff already live in Monterey County at the time of their enrollment or employment at CSUMB, while faculty are more likely to be recruited from outside the area. Nonetheless, this analysis conservatively assumes that all population growth associated with Project implementation would be new to the study area (i.e., would relocate into Monterey County from other areas). For the purposes of the impact analysis, students are assumed to have no household members given that the number of student families is relatively low, and faculty and staff are assumed to have 3.30 household members, which is the average household size in Monterey County reported by the California Department of Finance (DOF 2017a). In the event significant adverse environmental impacts would occur with the implementation of the Project even with incorporation of applicable regulations and proposed PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

See Section 5.4, Growth-Inducing Impacts, for an analysis of the indirect increase in employment and population in the region through the future expenditures made by the CSUMB population.

Project Design Features

There are a number of PDFs that are incorporated into the technical analysis of population and housing, including those summarized below (see Chapter 3, Project Description for specific text of each applicable PDF):

- *PDF-MO-1* indicates that CSUMB will house at least 65 percent of faculty and staff in on-campus housing. This measure also indicates that CSUMB will continue to offer housing to staff and faculty at a minimum of 15 percent below market rate at units in Schoonover Park.
- *PDF-MO-2* indicates that CSUMB will continue to house at least 60 percent of enrolled students in on-campus housing and require first and second year undergraduate students not residing in the tri-county area to live on campus. The measure also requires that on-campus housing be provided for 90% of International Students.
- *PDF-MO-3 and PDF-MO-4* provide for mixed-use campus development with amenities and a mix of on-campus student housing types to support and improve campus life.

Appendix C and the CSUMB Housing Guidelines (CSUMB 2022) provide additional information about meeting the identified housing goals.

4.11.3.3 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of population and housing impacts associated with the Project.

Impact POP-1:	**Induce Substantial Unplanned Population Growth (Threshold A).** The Project would not induce substantial unplanned population growth in the area, either directly or indirectly. (*Less than Significant*)

Master Plan

Direct population growth related to the proposed Master Plan could result from development of academic uses, student services, and other campus uses that would allow CSUMB to increase its student enrollment. An increase in student enrollment would also result in an increase in faculty, staff, and their families. Indirect population growth related to the proposed Master Plan could result if roads or infrastructure were extended into currently unserved off-campus areas or if the capacity of the facilities, roadways, or utilities exceeds that required to serve proposed growth. Direct and indirect population growth is evaluated below.

Direct Population Growth

As stated in the Section 4.11.2, 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 CSUMB, 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 CSUMB. 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 CSUMB, the 2007 Master Plan, and now the proposed Master Plan, set the proposed future enrollment capacity for the campus.

Implementation of the proposed Master Plan would provide for new facility space, an increase in student enrollment, and an associated increase in faculty and staff. Table 4.11-8 provides a comparison of the existing and projected CSUMB-related population. Based on the proposed enrollment cap increase to 12,700 FTES, student enrollment is projected to increase by 6,066 FTES, and faculty and staff are projected to increase by 752 FTE compared to existing conditions in 2016-2017, for a total net population increase of 6,818 FTE students, faculty, and staff. Additionally, increased population levels are anticipated to be associated with household members and dependents of CSUMB affiliates, as described in Section 4.11.3.2, Analytical Methods. Overall, the population increase would result in a net increase in CSUMB population of approximately 8,550 students, faculty, staff, and family members by 2035, based on FTE population numbers and approximately 9,740 students, faculty, staff, and family members by 2035, based on headcount population numbers. This net population growth is conservatively assumed to be new to the study area (i.e., would relocate into Monterey County from other areas) even though many new CSUMB students and staff already live in Monterey County at the time of their enrollment or employment at CSUMB. CSUMB's population growth associated with the proposed Master Plan would represent approximately 1.7 or 2.0 percent of the total projected population in Monterey County[4] in 2035 (489,451 people), based on FTE and headcount population, respectively.

As indicated in Section 4.11.1.2, the 2018 AMBAG Regional Growth Forecast assumes 12,000 FTES by 2025, based on the proposed Master Plan, and 13,700 FTES by 2040, based on extrapolated student growth rates beyond 2025 (AMBAG 2018).[5] As indicated in Section 4.11.2.1, the AMBAG Regional Growth Forecasts are the basis for various regional plans, including but not limited to the Regional Housing Needs Assessment. Therefore, the proposed enrollment cap increase to 12,700 FTES by 2035 is accounted for in AMBAG's Regional Growth Forecast and related regional plans and is not considered unplanned growth. Faculty and staff employment growth is also accounted for in AMBAG's Regional Growth Forecasts, which is projected to add 57,400 jobs between 2015 and 2040 (AMBAG 2018; Heather Adamson 2019). Therefore, the impact of the Project related to direct inducement of substantial unplanned population growth in the area would be *less than significant*.

Table 4.11-8
Existing and Projected CSUMB-Related Population

Population	Existing Conditions (2016-2017)		Future CSUMB Population (2035)		Net Increase in Population Compared to 2016-2017	
	FTE	Headcount	FTE	Headcount	FTE	Headcount
Students	6,634[b]	7,021[a]	12,700	13,344	6,066	6,323
Faculty and Staff[c, 1-4]	1,024	1,410	1,776	2,446	752	1,036

4 This analysis is based on Monterey County because a substantial majority of the CSUMB population (nearly 90 percent of students, faculty, and staff) lives in Monterey County.

5 The general plans of surrounding jurisdictions (Marina, Seaside, and Monterey County) were adopted between 2000 and 2010. Projections in these general plans were not used in this analysis due to the age of the documents and the availability of the 2018 Regional Growth Forecast (AMBAG 2018).

Table 4.11-8
Existing and Projected CSUMB-Related Population

Population	Existing Conditions (2016-2017)		Future CSUMB Population (2035)		Net Increase in Population Compared to 2016-2017	
	FTE	Headcount	FTE	Headcount	FTE	Headcount
Faculty and Staff Family Members[5]	2,355	3,243	4,085	5,626	1,730	2,383
Total Population	**10,013**	**11,674**	**18,561**	**21,416**	**8,548**	**9,742**

Sources: a. CSU 2018a; b. CSU 2018b; c. CSUMB IAR
Notes:
1. The total CSUMB faculty and staff population includes campus affiliate and auxiliary employees. Affiliates (or contractors) are those people that provide services that support CSUMB through arrangements with the university or an auxiliary. The Auxiliary includes the staff of the Corporation, Student Union and Foundation.
2. The total CSUMB faculty and staff population was compiled by CSUMB's Institutional Assessment and Research (IAR) department. According to IAR, 1 FTE = full time faculty or staff + part time faculty or staff divided by 3.
3. Affiliate head count (HC) populations were converted to FTE by multiplying by 0.726, which is approximately the ratio of HC to FTE population conversion provided by IAR for the baseline year 2016/17.
4. Future staff/faculty to student ratios were projected out based on the 2016/17 ratios.
5. Formula for estimating existing and future family members uses the 2017 average household size of 3.30 persons per household in Monterey County reported by the DOF (DOF 2017a). Students are assumed not to have families.

Indirect Population Growth

Development under the proposed Master Plan would consist of infill development on parking lots or previously disturbed areas including redevelopment of existing low-density building sites with higher-density buildings to accommodate the proposed enrollment cap increase and related population growth. No new external roads would be constructed as part of the Project. An extension of Fifth Street between Eighth Street and General Jim Moore Boulevard would be implemented on the campus with the Project. The extension would be designed as a "restricted access street" (see Section 3, Project Description, Figure 3-9) to provide access for shuttle, transit, service, and emergency vehicle access only. This extension would serve proposed housing development along Fifth Street and would not indirectly induce additional unplanned growth. Restricted access is also proposed on other roads through the campus core to create a more bicycle- and pedestrian-oriented environment. All utility connections and improvements would be sized to accommodate proposed buildings and projected campus population growth (see Section 4.14, Utilities and Energy). As such, the proposed Master Plan would not result in indirect inducement of substantial unplanned population growth, and the impact would be *less than significant*.

Near-Term Development Components

Academic IV, Academic V, and the Student Recreation Center Phases I and II would provide for FTE building capacity such that CSUMB could incrementally increase student enrollment on the campus. This enrollment growth and associated growth in faculty, staff, and their families would be a component of the growth identified above for the proposed Master Plan. As the proposed

Master Plan enrollment cap increase to 12,700 FTES, and related growth, is accounted for in AMBAG's 2018 Regional Growth Forecast and related regional plans, the student enrollment and related population growth associated with near-term development components would also not be considered unplanned growth. All internal campus roadway improvements would serve proposed near-term development components and would not indirectly induce additional unplanned development. Additionally, all utility connections and improvements associated with the near-term development components would be sized to accommodate proposed buildings and their population capacity. Therefore, the near-term development components would not result in direct or indirect inducement of substantial unplanned population growth and the impact would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

Impact POP-2:	**Displacement of People or Housing (Threshold B).** The Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. (*Less than Significant*)

Master Plan

Development allowed by the proposed Master Plan would not result in the permanent removal of any housing on campus, nor would it result in the substantial displacement of people on the campus. Proposed PDF-MO-1 and PDF-MO-2 indicate that the campus would continue to house 60 percent of FTES on campus and increase on-campus housing for FTE faculty and staff to 65 percent. Proposed PDF-MO-3 and PDF-MO-4 indicate that a diversity of housing types with a mix of uses would be provided to increase the desirability of on-campus housing to the CSUMB population.

Table 4.11-9 summarizes existing and proposed on-campus housing stock. To accommodate on-campus housing objectives under the above PDFs, the proposed Master Plan would result in a net increase of 3,820 student beds and 757 faculty and staff units. This would entail construction of new student housing on the Main Campus, as well as conversion of existing student housing in Frederick Park I & II to faculty and staff housing and conversion of existing housing for Community Housing Partners to faculty and staff housing. The conversion of Frederick Park I & II at East Campus Housing from student housing to faculty and staff housing would not take place until comparable new student housing is constructed on the Main Campus. Likewise, the units currently occupied by Community Housing Partners in East Campus Housing would be gradually converted to faculty and staff housing as they ultimately move off campus. Therefore, temporary or permanent displacement of students in Frederick Park I & II or Community Housing Partners throughout East Campus Housing due to the conversion of this housing for faculty and staff would not occur.

Table 4.11-9
Existing and Proposed On-Campus Housing Beds/Units

Housing Type	Existing (2016-2017)	Total Future (2035)	Net Increase
Student Housing	**Beds**	**Beds**	**Beds**
Main Campus			
Existing Main Campus - Other	1,811	1,811	0
Existing Main Campus - Promontory	789	789	0
New Student Housing Phase IIB	—	400	400
New Student Housing Phase III	—	600	600
New Student Housing Phases IV-X	—	4,200	4,200
Existing Frederick Park I & II (East Campus Housing)[1]	1,380	0	-1,380
Total Student Beds	**3,980**	**7,800**	**3,820**
% Housed on Campus[2]	***60%***	***61%***	***1%***
Housing Goal	***60%***		
Faculty and Staff[3] – East Campus Housing (ECH)	**Units Allocated to Faculty & Staff**	**Units Allocated to Faculty & Staff**	**Net Increase in Units Allocated to Faculty & Staff**
Existing Schoonover Park I & II – faculty and staff units[4]	463	463	0
Existing Schoonover Park I & II – Community Housing Partners units[4]	0	280	280
Existing Schoonover Park I & II – other units[4]	0	11	11
Existing Frederick Park I & II – student units[5]	0	466	466
Total ECH Units Allocated to Faculty and Staff	**463**	**1,220**	**757**
Total ECH Units	**1,220**	**1,220**	**1,220**
% Housed on Campus[6]	***45%***	***69%***	***24%***
Housing Goal	***65%***		

Notes:

1. Students currently occupy 460 Frederick I & II units with 3 beds in each unit = 1,380 beds.
2. 3,980 beds divided by 6,634 FTES in academic year 2016-2017 = 60% housed under existing conditions. 7,800 beds divided by 12,700 FTES in 2035 = 61% housed under future conditions.
3. Includes CSUMB faculty and staff as well as affiliates, which are companies that have been contracted by the Corporation to provide services that the Auxiliary has been asked to provide by the University (e.g., dining, bookstore), and the affiliate's employees work full-time on campus in that capacity. They are also referred to as contractors. The Auxiliary includes staff of the Corporation, Student Union and Foundation.
4. There are currently a total of 754 units in Schoonover Park I & II. Of that total, 396 units are rented and 67 units are owned by staff, faculty and affiliates = 463 units currently allocated to staff, faculty and affiliates. An additional 280 units are currently occupied by Community Housing Partners and 11 units are off-line for wait list or short-term rentals or are being remodeled. In the future, all 754 units could be rented or owned by faculty, staff or affiliates since it is assumed the 280 CHP would ultimately move off campus. Thus, the total number of new Schoonover Park units available to staff, faculty and affiliates would be 280 + 11 = 291 units.
5. Converting 460 Frederick I & II student rental units plus six office units reallocates 466 units for faculty and staff housing. No new faculty and staff housing units will be constructed with the proposed Master Plan.
6. 463 units occupied by faculty and staff divided by 1,024 FTE faculty and staff in academic year 2016-2017 = 45% housed under existing conditions. 1,220 units occupied by faculty and staff divided by 1,776 FTE faculty and staff in 2035 = 69% housed under future conditions. 1,154 units of housing allocated for faculty and staff are required to meet the housing goal of 65% for faculty and staff.

Table 4.11-10 shows the projected portions of the CSUMB-related headcount population living on and off campus in 2035. The additional on-campus housing provided under the proposed Master Plan would result in a corresponding net increase of an estimated 6,318 additional people (headcount students, faculty, staff, and their families) living in CSUMB housing on campus. The remainder of students, faculty, and staff would live off campus. The net increase in headcount population that would require off-campus housing is estimated to be a maximum of 3,424, which includes the family members of faculty and staff. As indicated in Section 4.11.3.2, many of these people likely already live in the Monterey County and would not seek new housing; however, they are considered new for the purposes of providing a worst-case analysis.

Table 4.11-10
Projected 2035 CSUMB Headcount Population Housed On and Off Campus

Population	2035 Population		Proposed On-Campus Housing (Beds/Units)		Population Housed On Campus[1]		Population Housed Off Campus	
	Total	Net Increase	Total	Net Increase	Total	Net Increase	Total	Net Increase
Students	13,344	6,323	7,800	3,820	7,800	3,820[2]	5,544	2,503
Faculty and Staff	2,446	1,036	1,220	757	1,220	757	1,226	279
Faculty and Staff Family Members	5,626	2,383	—	—	2,806	1,741	2,820	642
Total	**21,416**	**9,742**	**7,800/ 1,220**	**3,820/ 757**	**11,826**	**6,318**	**9,590**	**3,424**
Net Increase in Off-Campus Housing Units Associated with Project[3]								**1,038**

Note:
1. Number housed on campus assumes 1 student per bed and 3.30 persons per faculty/staff unit.
2. The net increase in students housed on campus in 2035 falls within the projected group quarters/student housing in Marina and Seaside identified in the AMBAG's 2018 Regional Growth Forecast, as shown in Table 4.11-7, which shows a net increase of 4,440 group quarters by 2035.
3. The net increase in off-campus housing units resulting from the Project is based on an average household size of 3.30 in Monterey County. 3,424 persons ÷ 3.30 persons per household = 1,038 households.

It is assumed that net new students looking for off-campus housing would most likely live with roommates as part of the resident populations of surrounding jurisdictions. Therefore, assuming 3.30 students, faculty, staff, and family members per housing unit (based on the average household size in Monterey County), the Project would generate a net increase in demand for approximately 1,038 off-campus housing units in the study area.

Given the proximity of jurisdictions within Monterey County to the CSUMB campus, it is anticipated that students, faculty, and staff living off campus would most likely be distributed among jurisdictions in Monterey County. AMBAG forecasts, which contemplate proposed Master Plan student and related population growth (see Impact POP-1), anticipate the addition of 15,886 net new housing units to Monterey County between 2021 and 2035. The projected number of total housing units in Monterey County in 2035 is 158,151 (see Table 4.11-6). The estimated net increase in demand for 1,038 housing units associated with the Project is included in the projected total housing stock in Monterey County by 2035 and would comprise 0.7 percent of that total.

The estimated net increase in CSUMB-related population seeking housing off campus would be well within AMBAG's projections described in the 2018 Regional Growth Forecast (AMBAG 2018) and estimated off-campus housing demand generated by the Project would constitute a negligible portion of the projected supply of housing stock throughout Monterey County. Therefore, the increase in population allowed by the proposed Master Plan would not displace a substantial number of people or housing, necessitating the construction of replacement housing elsewhere and the impact would be *less than significant*.

Near-Term Development Components

None of the near-term development components would physically displace housing, as no housing exists on any of the near-term development component sites. Near-term development components would provide for FTE building capacity such that CSUMB could incrementally increase student enrollment and associated growth in faculty, staff, and their families. This would be a component of the growth and associated increase in housing demand described above for the proposed Master Plan. The proposed Master Plan growth and increase in demand for off-campus housing is accounted for in AMBAG's 2018 Regional Growth Forecast. As the near-term development components would not displace a substantial number of people or housing, necessitating the construction of replacement housing elsewhere, the impact would be *less than significant.*

Mitigation Measures

Mitigation measures are not required because a significant impact has not been identified.

4.11.3.4 Cumulative Impacts

This section provides an evaluation of population and housing impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis and included in the 2018 AMBAG Regional Growth Forecast. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact POP-3:	**Cumulative Population and Housing Impacts (Thresholds A and B).** The Project would not have a cumulatively considerable contribution to substantial unplanned population growth or displacement of people or housing in the region. (*Less than Significant*)

The geographic context for the analysis of cumulative impacts related to population and housing, includes the AMBAG region (i.e., Santa Cruz, Monterey and San Benito counties), with a focus on Monterey County, given the location of the Project.

Population

As described above in Section 4.11.1.2, the region's population growth is accounted for in the 2018 AMBAG Regional Growth Forecast. The population within Monterey County is projected to reach 489,451 people by 2035. The implementation of the proposed Master Plan to accommodate 12,700 FTES and related growth in faculty and staff would result in a net increase in CSUMB population of approximately 8,550 students, faculty, staff, and family members by 2035, based on FTE population numbers, and approximately 9,740 students, faculty, staff, and family members by 2035, based on headcount population numbers (see Table 4.11-8). As indicated in Impact POP-1, the increase in CSUMB population growth is accounted for in the 2018 AMBAG Regional Growth Forecast, which assumes 12,000 FTES by 2025, based on the proposed Master Plan, and 13,700 FTES by 2040, based on extrapolated student growth rates beyond 2025 (AMBAG 2018). Therefore, the proposed enrollment cap increase to 12,700 FTES, and related growth, is accounted for in AMBAG's Regional Growth Forecast and related regional plans and is not considered unplanned growth. Likewise, other growth in the AMBAG region anticipated in current city and county general plans is also accounted for in the 2018 AMBAG Regional Growth Forecast and related regional plans, such as the Regional Housing Needs Assessment. However, it is possible the pending updates to general plans in the AMBAG region or projects requiring general plan or zoning changes could result in unplanned population growth resulting in potentially significant cumulative impacts. While that's the case, the proposed Master Plan would not result in a considerable contribution to such cumulative population impacts and therefore the impact would be *less than significant*.

Housing

As discussed in Impact POP-2, the Project would result in a net increase in demand for off-campus housing in the region, estimated at approximately 1,038 off-campus housing units. AMBAG forecasts, which contemplate proposed Master Plan student and related population growth (see Impact POP-1), anticipate that 15,886 net new housing units will be added to Monterey County between 2021 and 2035 and that a total of 158,151 units will be available by 2035. The estimated increase demand for 1,038 housing units associated with the Project are included in the projected total housing stock in Monterey County by 2035 and would comprise 0.7 percent of that total. Furthermore, this analysis assumes that no CSUMB students, staff or faculty lived in the region prior to enrollment or employment at the university. The estimated net increase in CSUMB-related population seeking housing off campus would be well within AMBAG's projections. Likewise, other growth in the AMBAG region anticipated in current city and county general plans and housing elements is also accounted for in the 2018 AMBAG Regional Growth Forecast and related regional plans. However, it is possible the pending updates to general plans in the AMBAG region or projects requiring general plan or zoning changes could result in displacement of a substantial number of people or housing, necessitating the construction of replacement housing elsewhere and could result in potentially significant cumulative impacts. While that's the case, the proposed Master Plan would not result in a considerable contribution to such cumulative housing impacts and therefore the impact would be *less than significant*.

4.11.4 References

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4.12 PUBLIC SERVICES AND RECREATION

This section of the EIR presents an analysis of the potential public service and recreation impacts of the proposed Master Plan, including five near-term developments (Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate any significant or potentially significant impacts. The information in this section is based in part on information obtained by public service providers.

Agency comments related to public services and recreation were received during the public scoping period in response to the original Notice of Preparation (NOP). These comments address potential increases in demand for police services due to increased population in the Project vicinity, and coordination of fire protection services with adjacent municipal jurisdictions.

No additional public or agency comments related to public services and recreation were received during the public scoping period in response to the Revision to Previously Released NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.12.1 Environmental Setting

4.12.1.1 Study Area

The study area for the evaluation of impacts on public services and recreation includes the 1,396-acre CSUMB campus and the fire service areas of the Seaside Fire Department (FD) and Police Department (PD), Monterey County Sheriff's Office (MCSO), Marina FD and Marina PD, and Monterey County Regional Fire District (MCRFD), as well as the Monterey Peninsula Unified School District (MPUSD) boundaries.

4.12.1.2 Campus and Vicinity Existing Setting

Police Protection Services

The University Police Department (UPD) operates 24 hours a day, 365 days a year, and shares concurrent law enforcement jurisdiction on all adjacent public streets, areas, and in communities surrounding the CSUMB campus and cooperates fully with all local, state and federal law enforcement agencies with jurisdiction in the area (CSUMB 2019). The UPD currently operates with 18 sworn police officer positions, including the Chief, Deputy Chief, and Investigator. As of April 2021, three of these positions were vacant. The UPD does not have specific service standards, such as response times or staffing levels; instead, staffing is driven by the growth and service needs of the CSUMB campus community (Lawson pers. comm. 2019b). UPD police officers are certified by the California Commission on Peace Officer Standards and Training.

The UPD provides full-service law enforcement services, which include responding to criminal incidents and disturbances, emergency management, "NightWalk" escorts between main campus locations, fingerprinting, animal control, lost and found, and community classes and outreach services (CSUMB 2019). The UPD has mutual aid agreements with local law enforcement agencies (i.e., Seaside PD, Marina PD, and MCSO) to provide additional law enforcement resources if a significant incident occurs that requires additional assistance from other agencies (Lawson pers. comm. 2019b). Mutual aid is coordinated in accordance with nationally standardized Incident Command System protocol and does not include formal written agreements. For smaller incidents, the campus follows Monterey County Chief Law Enforcement Officers' Association Protocols for providing Local Assistance that is immediate, short-term backup assistance (Monterey County Chief Law Enforcement Officers Association 2018)

The Seaside PD services the entire City of Seaside and is co-located with the Seaside City Hall at 440 Harcourt Avenue. The Seaside PD currently operates with 51 members, comprising 40 sworn and 11 non-sworn personnel (Seaside 2017a). The population of the City of Seaside is approximately 34,165 (DOF 2017), so the Seaside PD currently has 1.2 sworn officers per 1,000 residents. Seaside PD's existing police facilities are not sufficient to accommodate Seaside PD's existing officers and personnel (Seaside 2019).

The Marina PD services the entire City of Marina. The Marina PD is located at 211 Hillcrest Avenue, which fronts on Palm Avenue, and is co-located with the Marina FD. The Marina PD currently operates with 29 sworn and 8 non-sworn personnel (Marina 2019). The population of the City of Marina is approximately 21,528 (DOF 2017), so the Marina PD currently has 1.3 sworn officers per 1,000 residents. While the City of Marina does not have specific service standards related to staffing, the City of Marina's General Plan indicates that the police force should be sufficiently staffed and deployed to maintain an average emergency response time of four minutes (Policy 2.106) (Marina 2010).

MCSO serves unincorporated Monterey County areas adjacent to the campus. The MCSO is located at 1414 Natividad Road in Salinas. The campus is not within the jurisdiction of the MCSO.

Fire Protection Services

Existing Fire Protection Services and Facilities

The CSUMB campus falls within three fire service jurisdictions. For the Main Campus (west of 7th Avenue), fire protection services are provided by the Marina FD and Seaside FD on the parts of campus that fall within their respective city limits. Both cities have agreements in place with one another, as well as with the Presidio of Monterey Fire Department (POMFD), to provide automatic or mutual aid relative to fire protection services (Lawson pers. comm. 2019a; Dempsey pers. comm. 2019; Citygate 2021). Currently, Seaside FD calls for service on campus are handled by POMFD through mutual aid and automatic aid agreements, due to their proximity to the campus (Larson pers. com. 2021). Along the eastern edge of Main Campus and East Campus (east of 7th Avenue within Monterey County), fire service is provided by the MCRFD. Seaside FD, Marina FD, and MCRFD are signatories to the Master Mutual Aid Agreement and Monterey County Fire Mutual Aid Plan.

Monterey County utilizes National Incident Management System (NIMS) and Standard Emergency Management System (SEMS) and has agreed to be part of the California Master Mutual Aid (CMMA) Agreement. Under the CMMA, mutual aid is managed by several systems. The 3 main components of the agreement are: 1) Fire and Rescue Mutual Aid Plan, 2) Law Enforcement Mutual Aid Plan, and 3) Emergency Management Mutual Aid (EMMA) Plan. The State of California is divided into 6 mutual aid regions to facilitate the coordination of mutual aid. Monterey County is part of the Coastal Region II in the State of California (Monterey County 2020).

As indicated in Section 4.7, Hazards, Hazardous Materials, and Wildfire, the developed portions of the campus are located in Local Responsibility Areas (LRAs) where local government is responsible for wildfire protection. In this case, Marine FD, Seaside FD, or MCRFD have responsibility for wildfire protection on campus in their respective areas of jurisdiction. However, based on state and County mutual aid agreements, the entities involved in wildland fires are determined based on the size of the fire. For example, small-scale fires are handled by the local fire service agency with geographic jurisdiction (i.e., the LRA), mid-size fires are responded to by multiple agencies via County mutual aid agreements, and large-scale fires are responded to via state mutual aid from the California Department of Forestry and Fire Protection (CAL FIRE) (Lawson pers. comm. 2019a, Dempsey pers. comm. 2019). See Section 4.7, Hazards, Hazardous Materials and Wildfire, for additional information about wildland fire response.

The closest fire stations to the campus are located at 4400 General Jim Moore Boulevard in Seaside (POMFD), 1635 Broadway Avenue in Seaside (Seaside FD), 211 Hillcrest Avenue in Marina (Marina FD), and 13630 Sherman Boulevard in East Garrison in unincorporated Monterey County (MCRFD East Garrison Fire Station).

The Seaside FD is staffed with 25 firefighting personnel (Dempsey pers. comm. 2019). The response time goal for Seaside FD is 5 minutes (Dempsey pers. comm. 2019; Seaside 2017a). To achieve this goal, the 2004 Seaside General Plan calls for a standard of 1.0 firefighters per 1,000 residents as a desirable staffing level (Seaside 2004). The City's current ratio is below the current standard at 0.7 firefighters per 1,000 residents, based on a population of 34,165 (DOF 2017). Excluding mutual aid calls, the average response time is 3.5 minutes (Seaside 2017a).

The Marina FD is staffed with 11 full-time firefighters, 2 chief officers, 15 reserve firefighters, and 1 administrative assistant. The response time goal is 5 minutes for a medical incident and 5 minutes, 20 seconds for a fire (McCoun pers. comm. 2019). Average response time in the former Fort Ord area was approximately 6.5 minutes in 2014 (Marina FD 2014).

The MCRFD's recently completed East Garrison Fire Station has full-time staffing of two to three paramedics/firefighters and has a 5-minute response time goal (Urquides pers. comm. 2019). CSUMB campus lands within the MCRFD's service area are within 5 minutes of the new East Garrison station (Urquides pers. comm. 2019).

Potential New Fire Protection Facilities

The Seaside FD and Marina FD recently retained Citygate Associates, LLC (Citygate) to identify a fire station location to jointly serve the areas of both cities with existing and future planned development beyond a 4-minute travel time from existing fire stations.[1] Prospective fire station locations that could provide the optimal 4-minute travel time coverage for each jurisdiction were also evaluated, independent of the joint station analysis (Citygate 2021).

While an available site along 2nd Avenue between Lightfighter Drive and Imjin Parkway was identified as a suitable joint station location, both City Managers and Fire Chiefs decided to move forward independently on future fire station location planning, to provide better travel time and station spacing (Citygate 2021). Marina is moving forward on siting a temporary fire station facility at 2nd Avenue and 8th Street, with a permanent station to be ultimately sited at another location in Marina (Citygate 2021; McCoun 2021). Seaside is moving forward with a site on Gigling Road and 1st Avenue, and its City Council has approved a request for siting and architectural design for a station on this site (Citygate 2021; City of Seaside 2021; Gutierrez 2021).

The POMFD is located adjacent to campus in the Campus Town Specific Plan area and because of the approved plans for the Specific Plan area the City of Seaside notified the Department of Defense in 2021 of its intent to not renew the fire station site lease upon expiration in August 2023. The POMFD is considering relocation of its station to the former Fort Ord Chapel site at 4280 General Jim Moore Boulevard and Chapel Road (Citygate 2021; Monterey Herald 2020).

Schools

Existing Schools and Capacity

The MPUSD includes 11 elementary schools, 3 middle schools, 1 elementary/middle school, 3 high schools, 2 charter schools, and 2 alternative education schools within the cities of Marina, Monterey, and Seaside (MPUSD 2018b). Table 4.12-1 shows enrollment and capacity for MPUSD schools for which such information is available. Both enrollment and capacity information were not available for International School of Monterey, Learning for Life Charter, Monterey Bay

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[1] Travel time is the time interval from the start of apparatus travel until arrival at the emergency incident and it correlates with a total response time of 7 to 8 minute, which includes call processing, dispatch, and crew turnout (Citygate 2021).

Charter School, Community Day High, and Community Day Middle and therefore such information for these schools is not included in Table 4.12-1.

The MPUSD had a total enrollment of 10,204 students in the 2016-2017 school year and 9,357 students in the 2021-2021 school year for schools that have both enrollment and capacity information available (CDE 2018a; CDE 2021). MPUSD had an overall capacity for approximately 14,000 students in 2020-2021 (MPUSD 2021). Thus, the MPUSD's facilities capacity exceeds student enrollment at all school levels. As shown in Table 4.12-1, all schools within the MPUSD are below capacity. The MPUSD has experienced declining enrollment for most years since the closure of Fort Ord; annual enrollment projections indicate continued declining enrollment well into the future (MPUSD 2021). If enrollment declines continue as predicted, remaining available capacity would increase in the future as shown in Table 4.12-5 in Section 4.12.3, Impacts and Mitigation Measures.

Table 4.12-1
Monterey Peninsula Unified School District Schools, Enrollment, and Capacity[1]

School Name	Address	Grades	2016-2017 Enrollment[a]	2020-2021 Enrollment[b]	2020-2021 Capacity[c]	Remaining Existing Capacity
Elementary Schools						
Del Rey Woods Elementary	1281 Plumas Ave, Seaside	K-5	474	376	587	211
Foothill Elementary	1700 Vía Casoli, Monterey	K-6	322	248	467	219
George C. Marshall Elementary	300 Normandy Rd, Seaside	K-5	544	397	630	233
Highland Elementary	1650 Sonoma Ave, Seaside	K-5	385	288	598	310
Ione Olson Elementary	261 Beach Rd, Marina	K-5	409	323	546	223
J. C. Crumpton Elementary	460 Carmel Ave, Marina	K-5	423	488	605	117
La Mesa Elementary	1 La Mesa Way, Monterey	K-5	474	339	663	324
Marina Vista Elementary	390 Carmel Ave, Marina	K-5	439	425	585	160
Martin Luther King, Jr. Elementary	1713 Broadway Ave, Seaside	K-5	458	381	987	606
Monte Vista Elementary	251 Soledad Dr, Monterey	K-5	312	352	498	146
Ord Terrace Elementary	1755 La Salle Ave, Seaside	K-5	504	417	749	332

Table 4.12-1
Monterey Peninsula Unified School District Schools, Enrollment, and Capacity[1]

School Name	Address	Grades	2016-2017 Enrollment[a]	2020-2021 Enrollment[b]	2020-2021 Capacity[c]	Remaining Existing Capacity
Elementary/Middle Schools						
Dual Language Academy of the Monterey Peninsula	225 Normandy Rd, Seaside	K-8	441	374	709	335
Middle Schools						
Los Arboles Middle	294 Hillcrest Ave, Marina	6-8	583	557	797	240
Seaside Middle	999 Coe Ave, Seaside	6-8	675	740	1,055	315
Walter Colton Middle	100 Toda Vista, Monterey	6-8	694	509	889	380
High Schools						
Marina High	298 Patton Pkwy, Marina	9-12	585	648	688	40
Monterey High	101 Herrmann Dr, Monterey	9-12	1,280	1,292	1,342	50
Seaside High	2200 Noche Buena St, Seaside	9-12	1,127	1,026	1,138	112
Central Coast High	200 Coe Ave, Seaside	9-12	75	177	435	258
Total Enrollment/Capacity	—	—	**10,204**	**9,357**	**13,968**	**4,611**

Source: a. CDE 2018a; b. CDE 2021; c. MPUSD 2021.
Notes:
1. Both enrollment and capacity information were not readily available for International School of Monterey, Learning for Life Charter, Monterey Bay Charter School, Community Day High, and Community Day Middle and therefore these schools are not included above.

Parks and Recreational Facilities

On-Campus Parks and Recreational Facilities

The campus contains numerous facilities for both active and passive recreation. Approximately 30 acres on the campus are dedicated to existing athletics and recreation facilities and formal open space (see Table 4.13-2), which are primarily located southwest of the campus core in the southwest quadrant of campus between Second Avenue and General Jim Moore Boulevard, south of Inter-Garrison Road. Existing facilities include the Otter Sports Center providing indoor athletic and recreational facilities, Otter Soccer Complex with 2 soccer fields, Aquatic Center with 1 pool and pool house, Freeman Stadium with 6,000 seats, a football field with a 6-lane track and a field house, and baseball and softball fields. The Student Recreation Field is located north of the Main Quad and is used for flag football, soccer, ultimate frisbee, and rugby. Intramural recreation, physical education, and athletics share many multipurpose outdoor fields and indoor facilities. A Challenge Course is located in the Southern Oak Woodland. Tennis courts, baseball fields, trails, and a dog park are located in the East Campus Housing area.

The campus also contains both natural open space areas. The prominent natural open spaces used for passive recreation on the campus include the Northern and Southern Oak Woodlands, Cypress Grove, and the East Campus Open Space. The East Campus Open Space contains an informal system of trails through natural areas surrounding the housing area. Overall, existing uses in the natural open space and connecting landscape include stormwater management and informal recreation such as hiking and cycling trails, disc golf and the rope challenge course. Within the Main Campus, East Campus Open Space and in the East Campus Housing areas there are approximately 553 acres of natural open space.[2]

The Main Quad is the central formal open space in the campus core. It is surrounded by one- to three-story academic and residential buildings and contains pedestrian paths, large grassy areas, and shrubs and trees. Other formal open space on the campus includes the Crescent, which is located just south of the campus core. Smaller academic and residential courtyards and quads are found adjacent to several academic and student life buildings, providing more intimate outdoor gathering areas. North Quad Housing's residential open spaces incorporate outdoor recreation amenities such as sand volleyball, basketball, barbecues, and seating areas.

Off-Campus Parks and Recreational Facilities

There are a variety of recreational resources off campus, including federal preserves, state beaches, and small neighborhood parks. Fort Ord National Monument is located less than 1 mile south of the East Campus Housing area. The National Monument was created in 2012, is jointly managed by the Bureau of Land Management (BLM) and the U.S. Army, and offers hiking, biking, and equestrian trails for residents and visitors to Monterey County. The National Monument contains over 14,600 acres; however, only 7,200 acres are open to the public. The remainder of the area is undergoing munition hazard cleanup by the U.S. Army and will come under BLM administration once appropriate environmental remediation is completed (BLM 2018).

Public access to beaches, dunes, and hiking trails is available from numerous locations along the coast. Fort Ord Dunes State Park encompasses 4 miles of coastline about 0.4 miles west of the CSUMB campus and contains 979 acres of dunes. More than 21 miles of coast link Fort Ord Dunes State Park with 6 other state beaches (State Parks 2014), including the 171-acre Marina State Beach to the north and the 100-acre Monterey State Beach to the south. The Monterey Peninsula Regional Park District's (MPRPD's) Monterey Bay Coastal Recreation Trail is a paved,

[2] Approximate existing natural spaces on campus include Main Campus 131 acres, East Campus Open Space 322 acres and East Campus Housing 100 acres.

18-mile path that extends from Castroville to Pacific Grove, connecting all of the beaches in between. The trail passes approximately 0.3 miles west of the campus, and is open to walking, jogging, cycling, skating, and similar activities.

The cities of Marina and Seaside and the County of Monterey also contain numerous parks and recreational facilities. The City of Marina contains approximately 97 acres of developed park and recreational facilities, including a sports center, teen center, equestrian center, multiple parks, and school playfields (Marina 2010). Table 2.1 of the Marina General Plan also identifies an additional 527 acres of undeveloped land for recreational purposes in the former Fort Ord Reuse area. Accordingly, the City has a total of 624 acres of parkland (Marina 2010). The City has a standard of 5.3 acres of improved parkland for every 1,000 residents (Marina 2010). Based on the current population of Marina of 21,528 people (DOF 2017), there are approximately 4.5 acres of improved park lands per every 1,000 residents, which excludes designated but undeveloped parklands.

The City of Seaside owns and/or maintains 28 park and recreation areas totaling approximately 51 acres but has a total of 458 acres of land designated as parks and recreation facilities within the city limits (Seaside 2017b). Based on the adopted General Plan, the City has a standard of 2 acres per 1,000 residents for mini-parks and neighborhood parks and 1 acre per 1,000 residents for community parks (Seaside 2003). The General Plan Update Public Draft indicates that the City should strive to meet a citywide park standard ratio of 12 acres per 1,000 residents, excluding the Fort Ord National Monument (Seaside 2017b). Based on the current population of Seaside of 34,165 people (DOF 2017), there are approximately 13.4 acres of parks and open space per every 1,000 residents of Seaside; however, the City's Public Draft General Plan acknowledges 12 acres of park space per 1,000 residents as the current ratio (Seaside 2017b).

The Monterey County Resource Management Agency Special Districts also manages a number of neighborhood parks in the East Garrison community, which is near the campus (see Table 4.12-2). The County has thousands of acres of parks and open space in its jurisdiction, managed by various federal, state and local agencies. The County's General Plan identifies a park standard of 3 acres per 1,000 people (Monterey County 2010).

As indicated in Table 4.12-2, approximately 9,191 acres of on- and off-campus parks and recreational facilities are present and available for use on or in proximity to the CSUMB campus. The total includes approximately 583 acres of on-campus facilities provided by CSUMB, and 8,608 acres of off-campus facilities in proximity to campus.

Table 4.12-2
On- and Off-Campus Parks and Recreational Acreage in Proximity to CSUMB

Agency	Facility Descriptions	Approximate Acreage
Bureau of Land Management	Fort Ord National Monument	7,200[1]
California Department of Parks and Recreation	Fort Ord Dunes State Park	979
California Department of Parks and Recreation	Marina State Beach	171
California Department of Parks and Recreation	Monterey State Beach	100
California State University Monterey Bay	Indoor and outdoor athletics and recreational facilities (baseball, softball, soccer, recreation field, volleyball)	20
	Formal open spaces on Main Campus (Main Quad, North Quad, Promontory and Crescent)	10
	Natural open space and outdoor passive recreational uses (trails and disc golf, East Campus Open Space and East Campus Housing)	553
	CSUMB Subtotal	*583*
City of Marina	Numerous parks and recreational facilities throughout the City	97
City of Seaside	Numerous parks and recreational facilities throughout the City	51
County of Monterey (East Garrison)	Several parks and recreational facilities in the East Garrison area of the County	10
	Total Acreage	**9,191**

Sources: BLM 2018; State Parks 2014; Marina 2010; Seaside 2017b; Monterey County 2010.
Notes:
1. Of 14,600 total acres in Fort Ord National Monument 7,200 acres are currently open to the public.

Additionally, the following parks and recreational facilities are located within 1 mile of the CSUMB campus:

- Marina Equestrian Center Park: This 30.5-acre park is located at 2830 5th Avenue in Marina and offers horse-riding lessons.
- Fort Ord Community Dog Park: This park is located southwest of the intersection of Gigling Road and Parker Flats Cut Off Road in Seaside and contains an approximately 0.4-acre gated dog play area.
- Lincoln Park: This 6.8-acre park is located at 13900 Sherman Boulevard in East Garrison and contains a soccer field, playground, baseball field, basketball court, and picnic areas.
- Douglas MacArthur Park: This approximately 0.9-acre park is located at 17325 Logan Street in East Garrison and contains a playground and grassy field.
- West Camp Park: This approximately 0.3-acre park is located at 16820 Wilcox Street in East Garrison and contains a volleyball court and playground.

- Eleanor Roosevelt Park: This approximately 1.0-acre park is located northwest of the Warren Avenue/McClellan Circle intersection in East Garrison and contains a gazebo and concert lawn.
- Cordell Hull Park: This approximately 0.75-acre park is located at 13415 Warren Avenue in East Garrison contains a basketball court, playground, and grassy playfields.

4.12.1.3 Site Conditions for Near-Term Development Components

The existing public services and recreation setting for the near-term development component sites is generally described above. Additional information is provided below related to specific development conditions on each site. Chapter 3, Project Description provides additional information about the location of each development site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site is mostly paved with an existing surface parking lot and an unused paved area. Vegetation and paved pathways border the development site on the west and south. No parks or recreational facilities exist on the site.

Academic IV

The approximately 4.0-acre Academic IV site is mostly paved or developed. An existing building and two parking lots are located on the site and vegetation and paved pathways border the development site on all sides. The potential staging area on the west is a paved parking lot and the potential staging area on the east is mostly unpaved. No parks or recreational facilities exist on the site.

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center site is partially paved or developed. Two existing buildings and portions of two parking lots are located on the site and vegetation and paved pathways border the development site on the north and west sides of the site. The potential staging area to the south is mostly unpaved and vegetated open space. No parks or recreational facilities exist on the site.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase IIB site and potential staging area are mostly paved. Vegetation borders a portion of the entire site on the north, west, and south. No parks or recreational facilities exist on the site.

Academic V

The approximately 2.7-acre Academic V site is partially paved or developed. Three existing buildings and a parking lot are located on this site and vegetation and paved pathways border the development site on all sides. Construction staging for this development would use the same potential staging area as that identified for the Student Recreation Center, which does contain some open space. No parks or recreational facilities exist on the site.

4.12.2 Regulatory Framework

4.12.2.1 State

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services (Cal. Code Regs. tit. 8, §§ 1270 and 6773). The standards include, but are not limited to, 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.

Emergency Response/Evacuation Plans

The Office of Emergency Services (OES) is authorized to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster. As indicated in Section 4.12.1.2, Campus and Vicinity Existing Setting, SEMS is used in Monterey County, along with the National Incident Management System (NIMS).

California Building, Fire, and Health and Safety Codes

The Integrated California State University Administrative Manual (ICSUAM) provides required procedures to be used during planning, design and construction of buildings and other facilities on CSU campuses (CSU 2004). Based on procedures provided in the ICSUAM, CSUMB is required to comply with current California Building, Fire, and Health and Safety Code regulations intended to reduce risk of damage to property and persons for all new development. Applicable regulations address building standards including roofing and roof access, fire flow (water) infrastructure, design of hydrant systems, fire protection systems (sprinklers and alarms), fire extinguishers, and structure egress. New development must also comply with access requirements (primary and secondary), provide adequate fire lanes, and maintain defensible space.

The State Fire Marshal is responsible for reviewing plans to ensure compliance with applicable California Fire Code standards (CSU 2004).

California Fire Code

California Code of Regulations, Title 24, Part 9, incorporates adoption of the 2015 International Fire Code of the International Code Council with necessary California amendments. The California Fire Code establishes minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations. The California Fire Code applies to construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure within the State of California (Cal. Code Regs. tit. 24 Part 9).

Leroy F. Greene School Facilities Act

A qualified agency, such as a local school district, may impose fees on new residential construction to compensate for the impact that a residential[3] project will have on existing school facilities or services. The California Legislature passed Senate Bill (SB) 50 in 1998 to insert new language into California Government Code §§ 65995.5-65985.7, which authorized school districts to impose fees on new residential construction in excess of mitigation fees authorized by California Government Code § 66000. School districts must meet a list of specific criteria, including the completion and annual update of a School Facility Needs Analysis, in order to impose additional fees under the Government Code. Under the terms of this statute, payment of statutory fees for new residential construction is considered to mitigate in full, for the purposes of CEQA, any impacts to school facilities associated with a qualifying project. The fees are assessed based upon the proposed square footage of the new or expanded residential development. These statutory fees do not apply because as a state entity, CSU/CSUMB is not subject to these fees for this type of development at CSU campuses.

Quimby Act

California Government Code § 66477, commonly known as the Quimby Act, was intended to help local communities generate the resources necessary to provide park and recreational facilities. The Quimby Act preserves open space and parkland in urbanizing areas of the state by

[3] "Residential units" and "residences" as used in the related Government Code sections means the development of single-family detached housing units, single-family attached housing units, manufactured homes and mobile homes, as defined in subdivision (f) of Section 17625 of the Education Code, condominiums, and multifamily housing units, including apartments, residential hotels, as defined in paragraph (1) of subdivision (b) of Section 50519 of the Health and Safety Code, and stock cooperatives, as defined in Section 4190 of the Civil Code.

authorizing local governments to establish ordinances that require private developers of new subdivisions to dedicate land for parks, pay an in-lieu fee, or a combination of the two. The Quimby Act was designed to ensure "adequate" open space acreage in jurisdictions adopting Quimby Act standards. The Act requires 3 acres of park area per 1,000 persons residing within a subdivision, unless the amount of existing neighborhood and community park area already exceeds that limit, in which case the City may adopt a higher standard not to exceed 5 acres per 1,000 residents. The Act requires that standards for recreational facilities be adopted in the local general plan recreation element if a parkland dedication/fee ordinance is to be enacted. The Quimby Act does not apply to the CSU, including CSUMB, because CSUMB is not a local government entity, does not assess fees from private developers, and therefore, is exempt.

While the Quimby Act does not apply to the CSU system, standards under the Act are used as a proxy for what would constitute adequate park and recreational space for Project-related on-campus residents in the impact analysis presented in Section 4.12.3, Impacts and Mitigation Measures.

4.12.2.2 Local

As a state entity, CSUMB is not subject to local government permitting and planning regulations, policies or ordinances, such as the general plans and ordinances for the cities of Marina and Seaside and the County of Monterey. While that is the case, local plans relating to public services are summarized below to provide context for the analysis of off-campus public service facilities in Section 4.12.3, Impacts and Mitigation Measures.

Seaside General Plan

The 2004 Seaside General Plan includes goals to provide and maintain the City of Seaside's public services and facilities (City of Seaside 2004). Key public service policies from the 2004 Seaside General Plan Land Use Element relevant to the analysis presented here include:

- *Policy LU-4.1:* Require that all new development: 1) funds its share of community services and facilities (e.g., parks, roads, trails, and utilities); 2) uses quality design and materials; and 3) is compatible with surrounding uses, the site, and available infrastructure
- *Policy LU-9.1:* Adopt and maintain level of service (e.g., response times, call handling) and staffing standards for the Fire Department.
    - *Implementation Plan LU-9.1.1*: Review the level of services, facilities, and funding levels at budget time, adjusting when necessary to ensure that adequate levels of service and facilities are provided and maintained.
- *Policy LU-9.2:* Implement and enforce regulations, such as the most recent building codes, minimum street widths, and clearance areas.

  - *Implementation Plan LU-9.2.1:* Ensure the project developer has paid all appropriate fees, installed all required fire prevention and suppression devices, and that the circulation and water systems are adequate to serve the site.

- *Policy LU-10.1:* Adopt and maintain level of service (e.g., response times, call handling) and staffing standards for the Police Department.
  - *Implementation Plan LU-10.1.1:* Review the level of services, facilities, and funding levels at budget time, adjusting when necessary to ensure that adequate levels of service and facilities are provided and maintained.
- *Policy LU-10.12:* Ensure the project developer has paid all appropriate fees, can be adequately served by the Police Department, and is designed in a manner that will prevent criminal behavior at the site.
- *Policy LU-11.1:* Consider impacts of proposed projects on school enrollment and facilities.
  - *Implementation Plan LU-11.1.1:* During the review of development proposals, mitigate all potential impacts to schools in accordance with State laws and impact fee limits.

Marina General Plan

The Marina General Plan was adopted on October 31, 2000 and updated with amendments through August 4, 2010 (Marina 2010). The Marina General Plan lays out broad goals and specific policies related to public facilities and services. The following are the primary policies of the Marina General Plan from the Community Land Use Element that are relevant to the analysis presented here:

- *Policy 2.12:* To meet the needs of existing and future Marina residents and persons employed within the City, outdoor park and recreation space shall be provided consistent with the standards of Table 2.2. (Table 2.2 includes a range of different park and recreation standards by number of housing units and residents for sub-neighborhoods, playgrounds, neighborhood parks, playfields, community parks, and recreational trails.)
- *Policy 2.13:* At present the City of Marina has a total of 96.7 acres devoted to local and community-serving park and recreation use, including the sports center, teen center, equestrian center, and school playfields. The present ratio of City park and recreation land to population, excluding former Fort Ord sites, is 5.3 acres per 1,000 residents. This ratio is consistent with the current City standard of 5.3 acres of improved parkland for every 1,000 residents.
- *Policy 2.16.4:* In former Fort Ord, with certain specified exceptions, no further dedication of land for park and recreation purposes is required other than that designated for park and recreation use by former Fort Ord conveyances. Instead, all new residential,

commercial and industrial development shall be required to pay in-lieu fees to finance the improvement of existing unimproved park and recreation sites and other General Plan designated sites serving that area.

- *Policy 2.91.3:* Provide adequate new school sites to meet the projected year 2020 enrollment figures.
- *Policy 2.105:* Police and fire services to all parts of the City are provided from the City of Marina's Public Safety Building on Palm Avenue. A site and building at the Marina Municipal Airport has also been acquired for use as a fire station. This small facility was transferred to the City of Marina in 1996. An additional site in former Fort Ord (on Imjin Road, between Imjin Parkway and Eighth Street) has been approved as a station for future emergency services to provide fire and police protection to the surrounding communities.
- *Policy 2.106:* As the population of Marina grows, the police force should be sufficiently staffed and deployed to maintain an average emergency response time of four minutes. Similarly, a maximum response time for fire protection of three to four minutes should be maintained. Where new development would be located beyond a three-to-four-minute response time, consideration should be given to the need for Class A fire-resistant roofing.

Additionally, the General Plan includes mitigation measures identified in the EIR on the General Plan that were not otherwise incorporated into General Plan policies. Mitigation Measure 10.4 indicates that "when the construction of a new fire/police substation is formally proposed, said project shall be required to undergo environmental review to determine the extent of any physical effects associated with the construction of the proposed facility that could have adverse impacts on the environment. If such effects are identified through the site-specific environmental review process, then the City of Marina shall identify and implement appropriate measures which would mitigate these effects to a level of less than significant."

Monterey County General Plan

The Monterey County General Plan, released on October 26, 2010, presents a long-range vision for the County, looking forward 25 years into the future (County of Monterey 2010). The goals and polices in the Public Service and Safety Elements relevant to the analysis presented here are listed below:

- *Policy PS-1.1:* Ensure that adequate public facilities and services needed to support new development are available to meet or exceed the level of service of "Infrastructure and Service Standards" (Table PS-1) concurrent with the impacts of such development. (Table PS-1 provides maximum emergency response times for fire, sheriff, and ambulance.)

- *Policy PS-7.1:* The need to reserve sites for future schools in or near areas of development shall be considered and addressed, in consultation with the affected districts, in the County's planning and development review processes.
- *Policy PS-7.8:* New development shall assist in land acquisition and financial support for school facilities, as required by state law. Where school districts have adopted appropriate resolutions, written confirmation from the school district that applicable fees and contributions have been paid or are ensured to the satisfaction of the district shall be required prior to the issuance of building permits. The County shall, as a condition of approval of development projects, require the project applicant to pay the fees required by statute (Government Code section 65996, as it may be periodically amended) to mitigate the impact of the proposed development on school facilities.
- *Policy PS-11.2:* Park acquisition, development, and maintenance guidelines based upon acreage, population, parkland ratios, and consideration of natural resource values that will provide adequate park and recreation facilities for existing and future residents shall be established.
- *Policy PS-11.9:* A wide range of mechanisms to acquire and maintain parkland, including a variety of funding sources such as land donations, public conveyances from other agencies, and development impact fees shall be utilized.
- *Policy PS-11.10:* Pursuant to the provisions of the State Subdivision Map Act, residential subdivision projects shall be conditioned to provide and maintain park and recreation land and facilities, or pay in-lieu fees, in proportion to the extent of need created by the development.
- *Policy S-6.1:* The availability of sheriff, ambulance, and fire services, resources personnel and equipment shall be considered prior to approving the creation of new lots or the intensification of use on an existing lot, pursuant to Table PS-1.
- *Policy S-6.3:* A Development Impact Ordinance shall be established to provide adequate protection coverage and emergency services (sheriff, fire, etc.) facilities consistent with State law and the standards in Table PS-1.
- *Policy S-6.4:* Establishment of new or expansion of existing Community Areas shall not be allowed in areas where emergency response times would exceed the standards in Table PS-1.
- *Policy S-6.5:* Service level goals for fire and ambulance/emergency service are:
    a. 8 minutes or less, 90% of the time in urban areas and Community Areas;
    b. 12 minutes or less, 90% of the time in suburban areas and Rural Centers; and
    c. 45 minutes or less, 90% of the time in rural areas.

4.12.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to public services and recreation. The section includes the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.12.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to public services and recreation are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to public services and recreation would occur if the Project would:

A. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
   - Fire protection;
   - Police protection;
   - Schools;
   - Parks; and
   - Other public facilities.
B. 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.
C. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.12.3.2 Analytical Method

Program- and Project-Level Review

The public services and recreation impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs). The analysis also includes a project-level analysis under CEQA of the five near-term development components.

Campus development under the Project would result in population growth and an associated increase in demand for public services and recreational facilities. The analysis of impacts to public services and recreation is based on a comparison of existing and projected demands for services and the resulting need, if any, for new, expanded, or modified facilities to provide for the increased demand. Under CEQA, impacts are considered to be significant if a project would require new or expanded public service or recreational facilities, the construction of which could cause significant environmental impacts (i.e., substantial adverse physical impacts). In addition, the project would cause a significant impact if it resulted in substantial physical deterioration of existing park or recreational facilities.

The analysis presented here conservatively assumes that all population growth associated with Project implementation would be new to the study area (i.e., persons would relocate into Monterey County from other areas). This is a very conservative analysis given that many new CSUMB students and staff already live in Monterey County at the time of their enrollment or employment at CSUMB (see Section 4.11, Population and Housing). In the event significant adverse environmental impacts would occur with the implementation of the Project, including applicable PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Population and Housing Assumptions

The analysis below evaluates the effects of the Project-related growth both on- and off-campus to determine whether the Project would result in the need for new or physically altered governmental facilities including fire, police, schools, parks, recreation, and other facilities. The analysis relies in part on the population and housing information in Table 4.12-3. Similar to Section 4.11, Population and Housing, this analysis conservatively assumes that all population growth associated with Project implementation would be new to the study area (i.e., would relocate into Monterey County from other areas), when it is likely that at least some of the future increase in students, faculty and staff anticipated to live off campus will already reside in the study area.

Table 4.12-3
Projected 2035 CSUMB Headcount Population Housed On and Off Campus

Population	2035 Population		Proposed On-Campus Housing (Beds/Units)		Population Housed On Campus[1]		Population Housed Off Campus	
	Total	Net Increase	Total	Net Increase	Total	Net Increase	Total	Net Increase
Students	13,344	6,323	7,800	3,820	7,800	3,820	5,544	2,503
Faculty and Staff	2,446	1,036	1,220	757	1,220	757	1,226	279
Faculty and Staff Family Members	5,626	2,383	—	—	2,806	1,741	2,820	642
Total	**21,416**	**9,742**	**7,800 / 1,220**	**3,820 / 757**	**11,826**	**6,318**	**9,590**	**3,424**
Net Increase in Off-Campus Housing Units Associated with Project[2]								**1,038**

Notes:

1. Number housed on campus assumes 1 student per bed and 3.30 persons per faculty/staff unit.
2. The net increase in off-campus housing units resulting from the Project is based on an average household size of 3.30 in Monterey County. 3,424 persons ÷ 3.30 persons per household = 1,038 households.

Project Design Features

There are a number of PDFs that are incorporated into the technical analysis, including the following open space PDFs (see Chapter 3, Project Description for the specific text of each applicable PDF):

- *PDF-OS-1* provides for the management and designation of open space types to connect and protect habitats and sensitive species, avoid fragmenting landscapes, percolate storm water runoff, visually unify the campus, and connect bicycle and pedestrians to the built and natural environments through trail connections, peripheral streetscape improvements and the protection and access to viewsheds.
- *PDF-OS-2* provides for the maintenance, enhancement and/or restoration of natural open spaces, native habitats and sensitive species in accordance with the Fort Ord Habitat Management Plan requirements, while allowing for educational and passive recreation uses, such as trails.
- *PDF-OS-8 through PDF-OS-10* provides for expanding outdoor seating options in landscaped open spaces, establishing the Sustainability Commons, and creating academic opens spaces as part of academic building projects.

4.12.3.3 Issues Not Evaluated Further

Section 4.12.3.4, Project Impacts and Mitigation Measures, evaluates the impact of the Project on fire projection, police protection, schools, and parks and recreation. The Project would not have impacts with respect to the following threshold of significance related to library services or other public services not evaluated below and therefore this topic is not further evaluated:

- <u>Library Services (Threshold A).</u> The increase in campus population resulting from the Project would not be expected to generate substantial demand for other on- or off-campus public facilities, such as libraries or community centers, because these types of facilities are currently and would continue to be available on campus. For instance, the existing Tanimura and Antle Family Memorial Library is one of the newer buildings on the CSUMB campus and is well-suited to support student needs and use by the public. The newly constructed Otter Student Union provides student organization, gathering and study spaces on campus. The proposed Project includes other new facilities to support student life on campus, including the Campus Arts and Auditorium and general Student Life Space, which would be incorporated into planned buildings. The net increase in population resulting from the Project would comprise approximately 2 percent of Monterey County's projected 2035 population (see Section 4.11, Population and Housing). This limited increase would not result in substantial increased use of public facilities such as libraries and, thus, would not require the need for new or expanded facilities. Therefore, this issue is not discussed further.

4.12.3.4 Project Impacts and Mitigation Measures

This section provides an evaluation of potential impacts to public services and recreation associated with the Project.

Impact PSR-1:	**New or Physically Altered Fire Protection Facilities (Threshold A).** The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives. *(Less than Significant)*

Master Plan

Project-Related On-Campus Population and Facilities

As explained in Section 4.12.1, Environmental Setting, the CSUMB campus falls within three fire service jurisdictions. For the Main Campus (west of 7th Avenue), fire protection services are provided by the Marina FD and Seaside FD on the parts of campus that fall within their respective city limits. Along the eastern edge of Main Campus and East Campus (east of 7th Avenue within Monterey County), fire service is provided by the MCRFD. Automatic or mutual aid agreements are in place with all of these entities and also include the POMFD. Currently, Seaside FD calls for service on campus are handled by POMFD through mutual aid and automatic aid agreements, due to their proximity to the campus. As indicated in Section 4.12.1, Environmental Setting, Seaside FD, Marina FD, and MCRFD are signatories to the Master Mutual Aid Agreement and Monterey County Fire Mutual Aid Plan. Monterey County utilizes National Incident Management System (NIMS) and Standard Emergency Management System (SEMS) and has agreed to be part of the California Master Mutual Aid (CMMA) Agreement.

Campus growth accommodated by the Project would result in an increase of approximately 6,066 FTES (6,323 total headcount) and 752 FTE faculty/staff (1,036 total headcount faculty/staff and 2,383 family members) over existing levels. The Project also would result in a net increase of approximately 2.6 million gross square feet (GSF) of new academic and support facilities, including housing, administration, student life, recreational, and institutional partnership buildings. On-campus housing is projected to increase by 3,820 student beds, along with the conversion of 757 existing residential units for faculty and staff (see Table 4.12-3).

Growth of the CSUMB on-campus population and facilities development could result in an incremental increase in demand for fire protection services, which would be provided by the MCRFD, Marina FD, and Seaside FD, as well as POMFD via mutual aid. If increased demand for on-campus fire protection services from the Project would result in the need for new or physically altered fire protection facilities to maintain acceptable service ratios, response times, or other similar performance objectives, the construction of such new or altered facilities could result in significant impacts depending on the specific characteristics and location of such a new facility.

Although the proposed Master Plan would result in an increase in campus buildings and facilities, such development activities would occur within the Main Campus, would be considered infill development, and would not result in an expansion of the Main Campus beyond its existing boundaries. 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, the Project is not anticipated to result in a substantial increase in service calls on campus.

In accordance with the ICSUAM, all new buildings proposed under the Project would be designed to meet minimum fire and emergency safety requirements identified in the California Building, Fire, and Health and Safety Codes. These requirements include appropriate fire safety measures and equipment, including but not limited to, the following: fire retardant building materials; roof access; emergency water infrastructure (fire hydrants and sprinkler systems) and adequate fire flow (water); smoke detectors, fire extinguishers and fire alarms; emergency response notification systems; adequate building egress; adequate emergency access ways for emergency vehicles; and maintenance of defensible space. The State Fire Marshal is responsible for reviewing building plans to ensure compliance with applicable California Fire Code standards (CSU 2004).

Independent of the proposed Master Plan, three new or replacement fire stations are currently being planned by Marina FD, and Seaside FD, and POMFD, as indicated in Section 4.12.1, Environmental Setting. The Marina FD and Seaside FD stations are needed to address, respectively, response time objectives for the Marina FD in the southern part of its service area and for Seaside FD in the northern part of its service area (Citygate 2021), both of these areas include the Main Campus. The POMFD station is needed to replace the existing POMFD station given the expiration of their lease in August 2023 (Citygate 2021). Of specific relevance to this analysis, the Seaside FD and Marina FD stations have been planned and will be built to serve existing and future planned growth in the area, and are not needed solely to serve on-campus population and facilities development under the proposed Master Plan (McCoun pers. comm. 2021; Gutierrez pers. comm. 2021). Additionally, the MCRFD can serve the projected increase in on-campus population and facilities in its service area through its new East Garrison Fire Station, which is located within five minutes of the campus areas that are within its jurisdiction (Urquides pers. comm. 2019). Therefore, implementation of the proposed Master Plan, in and of itself, would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, to maintain acceptable response times and the impact would be *less than significant*.

Project-Related Off-Campus Population

As indicated in Table 4.12-3, approximately 1,038 housing units associated with the Project are projected to be located off-campus in Marina, Seaside, and elsewhere in Monterey County by 2035. Housing for the anticipated increase in students, faculty and staff that are expected to live off-campus is likely to comprise a combination of already existing dwelling units and new units to be constructed in the future by unrelated third parties. Any prediction about the specific extent and location of the area's overall future housing patterns would be speculative, although a summary of planned housing projects in proximity to the campus is presented in Section 4.0, Introduction to Analysis.

To the extent the population increase associated with the Project would reside off campus in already existing dwelling units, the Project would not result in an increase in demand for fire services and, correspondingly, the Project would not require the construction of new or physically altered fire protection facilities in order to maintain acceptable response times. As to any new housing that might indirectly result from the Project's increase in off-campus population, when new housing is built, fees for fire protection services are typically included in building permits as part of the jurisdiction's development fee impact program, as demonstrated by the General Plan policies of Seaside, Marina, and Monterey County (see Section 4.12.2, Regulatory Framework). Through the use and collection of development impact fees, any potential increases in the demand for public services associated with CSUMB-related off-campus housing located in new housing tracts, including fire protection facilities, would be addressed in the respective jurisdiction (e.g., Marina, Seaside, and County of Monterey) in which the new population resides. Such impact fees would provide for new or physically altered fire protection facilities, if needed, to maintain response times. Moreover, to the extent new housing is constructed in the future, such construction would undergo its own environmental review under CEQA. As part of the review, the need for new or expanded fire protection facilities would be assessed and would be required to comply with applicable regulatory requirements and permits at the time that such fire stations are proposed; any assessment of such future need at this time would be speculative. Therefore, the Project's impact associated with the provision of new or physically altered fire protection facilities to serve the Project's off-campus population would be *less than significant*.

Near-Term Development Components

The Project's near-term development components include the addition of new residential, academic, and recreation buildings on the Main Campus. These components would be developed as part of the proposed Master Plan and as such comprise infill development and would not result in an expansion of the Main Campus beyond its existing boundaries. Additionally, the near-term development components would be designed to meet minimum fire and emergency safety requirements identified in the California Building, Fire, and Health and Safety Codes, as required by the ICSUAM. These requirements include appropriate fire safety measures and equipment, including but not limited to, the following: fire retardant building materials; roof access; emergency water infrastructure (fire hydrants and sprinkler systems) and adequate fire flow (water); smoke detectors, fire extinguishers and fire alarms; emergency response notification systems; adequate building egress; adequate emergency access ways for emergency vehicles; and maintenance of defensible space. The State Fire Marshal would review near-term development component building plans to ensure compliance with applicable California Fire Code standards (CSU 2004).

As part of the proposed Master Plan analyzed in the previous subsection, these near-term development components are not anticipated to result in a substantial increase in on-campus service calls. Accordingly, construction and operation of the near-term development components would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, to maintain acceptable on-campus response times and the impact would be *less than significant*.

As for off-campus impacts, given the limited scope of the near-term development components, the increased off-campus populations associated with these components would not result in the need for additional fire protection facilities to maintain response times and, therefore, impacts would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to fire protection services and facilities has not been identified.

Impact PSR-2:	**New or Physically Altered Police Protection Facilities (Threshold A).** The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives. *(Less than Significant)*

Master Plan

Project-Related On-Campus Population and Facilities

As explained in Section 4.12.1, Environmental Setting, UPD provides law enforcement services to CSUMB. As indicated in Section 4.12.1, Environmental Setting, the UPD has mutual aid agreements with local law enforcement agencies (i.e., Seaside PD, Marina PD, and MCSO) to provide additional law enforcement resources if a significant incident occurs that requires additional assistance from other agencies. Mutual aid is coordinated in accordance with nationally standardized Incident Command System protocol and does not include formal written agreements. For smaller incidents, the campus follows Monterey County Chief Law Enforcement Officers' Association Protocols for providing Local Assistance that is immediate, short-term backup assistance.

Campus growth under the proposed Master Plan, described in Impact PSR-1, could result in an incremental increase in the demand for University police protection services by increasing the call volume for services on campus. The size of the existing UPD facility is sufficient for police operations with proposed Master Plan growth, however, other operations within UPD may require more space (Parking Services, Health and Safety) as the campus grows (Lawson pers. comm. 2019). If expansion of police facilities to support these functions were needed, such need would be filled either by existing space or by new building space planned under the proposed Master Plan, the impacts of which are evaluated in this EIR. Thus, new or physically altered police protection facilities are included in the Project and evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan. The proposed Master Plan would have *no impacts* associated with the provision of new or physically on-campus police protection facilities beyond what is identified throughout this Draft EIR.

Project-Related Off-Campus Population

As shown in Table 4.12-3, approximately 1,038 housing units associated with the Project are projected to be located off-campus in Marina, Seaside, and elsewhere in Monterey County by 2035. Housing for the anticipated increase in students, faculty and staff that are expected to live off-campus is likely to comprise a combination of already existing dwelling units and new units to be constructed in the future by unrelated third parties. Any prediction about the specific extent and location of the area's overall future housing patterns would be speculative, although a summary of planned housing projects in proximity to the campus is presented in Section 4.0, Introduction to Analysis.

To the extent the population increase associated with the Project would reside off campus in already existing dwelling units, the Project would not result in an increase in demand for police services and, correspondingly, the Project would not require the construction of new or physically altered police protection facilities in order to maintain acceptable response times. Specific to Seaside, the existing lack of sufficient police facilities to accommodate existing officers and personnel, as described in Section 4.12.1, Environmental Setting, pre-dates the Project and, as such, the off-campus population associated with the Project in and of itself does not require the construction of new or replacement facilities. As to any new housing that might indirectly result from the Project's increase in off-campus population, when new housing is built, fees for police protection services typically are included in building permits as part of the jurisdiction's development fee impact program, as demonstrated by the General Plan policies of Seaside, Marina, and Monterey County (see Section 4.12.2, Regulatory Framework). Through the use and collection of development impact fees, any potential increases in the demand for public services associated with CSUMB-related off-campus housing located in new housing tracts, including police protection facilities, would be addressed in the respective jurisdiction (e.g., Marina and Seaside and County of Monterey) in which the new population resides. Such impact fees would provide for new or physically altered police protection facilities, if needed, to maintain response times or other performance objectives. Moreover, to the extent new housing is constructed in the future, that housing would undergo its own environmental review under CEQA. As part of the review, the need for new or expanded police protection facilities would be assessed and would be required to comply with applicable regulatory requirements and permits at the time that such police stations are proposed; any assessment of such future need at this time would be speculative. Therefore, the Project's impact associated with the provision of new or physically altered police protection facilities to serve the Project's off-campus population would be *less than significant*.

Near-Term Development Components

The Project's near-term development components include the addition of new residential, academic, and recreation buildings. The size of the UPD facility is sufficient for police operations with the Project's growth, which includes the near-term development components. However, other operations within UPD may require more space as the campus grows. Any new UPD facilities would involve existing or planned building space under the Project, for which impacts are evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan. The near-term development components would have *no impacts* associated with provision of new or physically altered on-campus police protection facilities beyond what is identified throughout this Draft EIR.

As for off-campus impacts, given the limited scope of the near-term development components, the increased off-campus population associated with these components would not result in the need for additional police protection facilities to maintain response times and, therefore, impacts would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to police protection services and facilities has not been identified.

Impact PSR-3:	**New or Physically Altered Schools (Threshold A).** The Project would not result in substantial adverse physical impacts associates with the provision of new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain performance objectives. *(Less than Significant)*

Master Plan

The most recent estimated student yield rate for the MPUSD is 0.6 for single-family units and 0.2 for multi-family units (MPUSD 2017a). The proposed Master Plan is conservatively anticipated to result in an overall net increase of 757 faculty and staff living on campus and 279 faculty and staff living off campus (see Table 4.12-3). Faculty and staff living on campus would live in housing units in East Campus Housing, which are multi-family units located within the geographic attendance area for J. C. Crumpton Elementary (grades K-5), Los Arboles Middle (grades 6-8), and Marina High (grades 9-12). Table4 shows the estimated student generation attributable to the net increase in faculty/staff living on and off campus.

Table 4.12-4
Student Generation Associated with Proposed Master Plan

Faculty and Staff Housing	Number of New or Converted Units[1]	Student Generation Rate[2]	Total Student Generation	Remaining Existing District-Wide Capacity[3]	Remaining Future District-Wide Capacity[4]
On-Campus Housing	757	0.2	151	—	—
Off-Campus Housing	279	0.6	167	—	—
Total	**1,036**	**—**	**318**	**4,611**	**5,538**

Notes:
1. See Table 4.12-3 for the source of this information.
2. The most recent estimated student yield rate for the MPUSD is 0.6 for single-family units and 0.2 for multi-family units (MPUSD 2017a). On-campus housing units are all multi-family. Off-campus student generation is conservatively estimated using the assumption that all net new faculty and staff living off campus would reside in single-family units.
3. See Table 4.12-1 for the source of this information.
4. See Table 4.12-5 for the source of this information.

As shown in Table, based on the MPUSD's student generation rate of 0.2 students per multi-family unit, the Project would result in a net increase of approximately 151 students due to the proposed conversion of on-campus housing for faculty and staff. As shown in Table 4.12-1 and Table 4.12-5, the three schools that would serve on-campus housing have excess capacity ranging from 397 students in 2020-2021 to 755 students in 2029-2030 (the latest year with available projection data) and would, therefore, be able to accommodate school-age children generated by on-campus housing under the proposed Master Plan.

As to faculty/staff residing off-campus, using the conservative assumption that all net new faculty and staff living off campus would reside in single-family units, 279 net new households would generate an estimated 167 additional students, based on the MPUSD's student generation rate of 0.6 students per single-family unit. As shown in Table 4.12-5, based on the most recent available capacity data for 2020-2021 and projected enrollment for 2030, the MPUSD has an overall projected remaining capacity for approximately 5,500 school-age students, excluding charter schools and alternative education schools for which capacity information was not available. Actual remaining capacity would be slightly higher when considering charter schools and alternative education schools.

Table 4.12-5
Monterey Peninsula Unified School District
Projected 2030 Enrollment and Remaining Capacity

School Name	2016-2017 Enrollment[a]	2020-2021 Enrollment	Projected 2029-2030 Enrollment[b,1]	% Change from 2020 to 2030	2020-2021 Capacity[c]	Projected 2030 Remaining Capacity
Del Rey Woods Elementary	474	376	292	-22%	587	295
Foothill Elementary	322	248	212	-15%	467	255
George C. Marshall Elementary	544	397	765	93%	630	-135
Highland Elementary	385	288	255	-11%	598	343
Ione Olson Elementary	409	323	255	-21%	546	291
J. C. Crumpton Elementary	423	488	394	-19%	605	211
La Mesa Elementary	474	339	411	21%	663	252
Marina Vista Elementary	439	425	374	-12%	585	211
Martin Luther King, Jr. Elementary	458	381	286	-25%	987	701
Monte Vista Elementary	312	352	332	-6%	498	166
Ord Terrace Elementary	504	417	372	-11%	749	377
Dual Language Academy of the Monterey Peninsula	441	374	301	-20%	709	408
Los Arboles Middle	583	557	432	-22%	797	365
Seaside Middle	675	740	672	-9%	1,055	383
Walter Colton Middle	694	509	340	-33%	889	549
Marina High	585	648	509	-21%	688	179
Monterey High	1,280	1,292	1,049	-19%	1,342	293
Seaside High	1,127	1,026	1,077	5%	1,138	61
Central Coast High	75	177	102	-42%	435	333
Total Enrollment/Capacity[1]	**10,204**	**9,357**	**8,430**	**-10%**	**13,968**	**5,538**

Source: a. CDE 2018a; b. CDE 2021; MPUSD 2021.
Notes:
1. Both enrollment and capacity information were not readily available for International School of Monterey, Learning for Life Charter, Monterey Bay Charter School, Community Day High, and Community Day Middle and therefore these schools are not included above.

The total estimated student generation resulting from the Project of approximately 318 school-age students (see Table 4.12-4) would comprise approximately 6 percent of the remaining future capacity of the existing MPUSD schools. As described in Section 4.12.1.2 and shown in Table 4.12-51, annual enrollment projections indicate continued declining enrollment well into the future (MPUSD 2021). Therefore, the MPUSD has sufficient capacity to accommodate the Project and new or expanded schools would not need to be constructed; this analysis is conservative because there are private schools in the region, not part of the MPUSD, providing additional capacity, which some students generated by the Project could attend. As the Project would not require new or physically altered school facilities, the impact related to schools would be *less than significant*.

Near-Term Development Components

As they relate to school facilities, the near-term development components include Student Housing Phases IIB, which would include apartments for sophomores, juniors, and seniors; and Student Housing Phase III, which would include a range of student housing types, including dormitories and/or apartments. Neither of these developments are planned to include family housing for faculty, staff or students and they would be rented by the bedspace, not by the apartment unit. Therefore, these housing developments are designed to accommodate single students without children and would not result in the addition of new school-age children. However, these two housing projects would allow for the portion of the existing student housing in East Campus Housing to be converted to faculty and staff use and such use could contribute to the net increase in school-age students. The MPUSD has sufficient capacity to accommodate school-age students that may reside in converted faculty and staff housing at East Campus Housing, as described above. As the near-term development components would not require new or physically altered school facilities the impact related to schools would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to school facilities has not been identified.

Impact PSR-4	**New or Physically Altered Parks (Threshold A).** The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered parks, the construction of which could cause significant environmental impacts. *(Less than Significant)*

Master Plan

Project-Related On-Campus Population and Facilities

The CSUMB campus has substantial existing recreational facilities, as described in Section 4.12.1, Environmental Setting, as well as planned recreational facilities with implementation of the proposed Master Plan. The proposed Master Plan would result in the addition of 15 outdoor fields, courts, and pools to serve the CSUMB campus population of 12,700 FTES and related growth in faculty and staff (see Table 4.12-66). A total of approximately 58 acres of land would be dedicated to new and redeveloped outdoor athletics and recreational facilities, and formal open space, for a net increase of approximately 28 acres of new outdoor facilities. As the ICSUAM guidelines recommend 34 acres of outdoor athletics and recreation field space to support the proposed enrollment of 12,700 FTE, the proposed Master Plan provides sufficient outdoor recreation space to serve planned growth, as indicated in Chapter 3, Project Description. The proposed Master Plan would also include the addition of 59,679 GSF of athletics and recreation support buildings associated with a new stadium and 165,343 GSF of recreation buildings, including a Recreation Center and a Wellness Center (see Chapter 3, Project Description, Table 3-3). The amount of recreation and athletics building space that would be provided is also based on the ICSUAM guidelines and would accommodate the proposed enrollment growth to 12,700 FTE (Page 2020).

Additionally, proposed PDFs (i.e., PDF-OS-1, PDF-OS-2, and PDF-OS-8 through PDF-OS-10), would provide for designated natural, connecting, and formal open space on campus, which would allow for natural open spaces, trail and path connections through campus, and formal open areas including: the Main Quad, Divarty Mall, Inter-Garrison Road through the campus core, the Crescent, Sustainability Commons, academic and residential neighborhood open spaces, athletics and recreation areas, and campus entries. The proposed Master Plan and above PDFs would thus maintain and enhance the recreational use of the existing campus open space and provide approximately 28 acres of net new outdoor athletic and recreational facilities and formal open space lands.

Table 4.12-6
CSUMB Outdoor Athletics and Recreation Program Fields, Courts, and Pools

Facility Type	Existing	Future Addition	Total at Buildout
Stadium Field and Track[1]	1	1	1
Multi-Purpose Field	1	1	2
Soccer Field[2]	2	1	3
Baseball Field	1	0	1
Softball Field	1	0	1
Tennis Courts	0	10	10
Swimming Pool	1	0	1
Olympic Pool	0	2	2
Total Fields, Courts, and Pools[3]	**7**	**15**	**21**

Notes:
1. A new 10,000-seat stadium, including field and track, would replace the existing 6,000-seat stadium.
2. Soccer fields are located in the Athletics and Recreation District, with the exception of one field located north of the campus core near Eighth Street.
3. Additional basketball, sand volleyball and other recreational courts are and would continue to be provided in campus residential areas.

In addition to the enrollment increase to 12,700 FTE, on-campus housing is projected to increase by 3,820 student beds and 757 residential units for faculty and staff to be achieved through the conversion of existing student housing, existing campus units that are currently not rentable, and existing campus units occupied by Community Housing Partners, which will collectively result in an associated increase in on-campus residential headcount population of approximately 6,318 (see Table 4.12-3). Based on the amount of acreage of designated athletics and recreation space and formal open space that would be available on campus (58 acres) for 11,826 total on-campus residents, the proposed Master Plan would provide approximately 4.9 acres of parks and recreational land per 1,000 on-campus residents, which is greater than the state's standards under the Quimby Act (3 acres per 1,000 residents).[4] Additionally, a total of 583 acres of open space exists on campus, which includes natural open space lands, as well as the 58 acres of formal open space and recreation lands, as shown in Table 4.12-2.

As the Project would provide adequate outdoor and indoor recreational space in accordance with the ICSUAM, would exceed the state's standards under the Quimby Act, and would provide additional natural open space lands for passive recreation, on-campus recreational facilities would accommodate the recreational needs of campus residents and the daily campus population. Therefore, the construction of additional parks and recreation facilities beyond those described in this Draft EIR would not be required. New or physically altered recreational facilities are included in the Project and evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan. The

[4] While the Quimby Act does not apply to the CSU system because it is not a local government entity, does not assess fees from private developers, and is exempt, standards under the Act are used as a proxy for what would constitute adequate park and recreational space with the Project.

proposed Master Plan would have *no impacts* associated with the provision of new or physically altered on-campus recreational facilities beyond what is identified throughout the Draft EIR.

Project-Related Off-Campus Population

With respect to off-campus park and recreation facilities, Marina and Seaside have different park standards, as reported in Section 4.12.1, Environmental Setting. Marina has a standard of 5.3 acres of improved parkland for every 1,000 residents (Marina 2010), which is not currently met. Seaside's General Plan Update Public Draft indicates that the City should strive to meet a citywide park standard ratio of 12 acres per 1,000 residents, excluding the Fort Ord National Monument and this standard is currently met (Seaside 2017b). It should be noted that the current park ratios in Marina and Seaside account for only a small portion of the approximately 9,191 acres of parks and open space lands on and in the vicinity of the CSUMB campus (see Table 4.12-2). The County's General Plan identifies a park standard of 3 acres per 1,000 people (Monterey County 2010); it is unclear whether the County's park standard is currently met.

As shown in Table 4.12-3, the increase in off-campus population (3,424 people) and housing (1,038 units) associated with the Project would occur primarily within Seaside, Marina, and elsewhere within Monterey County by 2035. Housing for the anticipated increase in students, faculty and staff that are expected to live off-campus is likely to comprise a combination of already existing dwelling units and new units to be constructed in the future by unrelated third parties. Any prediction about the specific extent and location of the area's overall future housing patterns would be speculative, although a summary of planned housing projects in proximity to the campus is presented in Section 4.0, Introduction to Analysis.

To the extent the population increase associated with the Project would reside off campus in already existing dwelling units, the Project would not result in an increase in demand for parks and recreation facilities and, correspondingly, the Project would not require the construction of new or physically altered park and recreation facilities. As to any new housing that might indirectly result from the Project's increase in off-campus population, when new housing is built, fees for park and recreation facilities are typically included in building permits as part of the jurisdiction's development fee impact program, as demonstrated by the General Plan policies of Seaside, Marina, and Monterey County (see Section 4.12.2, Regulatory Framework). Through the use and collection of development impact fees, any potential increases in the demand for public services associated with CSUMB-related off-campus housing located in new housing tracts, including park and recreation facilities, would be addressed in the respective jurisdiction (e.g., Marina, Seaside and County of Monterey) in which the new population resides. Such impact fees would provide for new or physically altered park and recreation facilities, if needed, to maintain park standards. Moreover, to the extent new housing is constructed in the future, that housing would undergo its own environmental review under CEQA. As part of the review, the need for new or physically altered park and recreation facilities would be assessed and would be required to comply with applicable regulatory requirements and permits at the time that such park and recreation facilities are proposed; any assessment of such future need at this time would be speculative. Therefore, the Project's impact associated with the provision of new or physically altered park and recreation facilities to serve the Project's off-campus population would be *less than significant*.

See Impact PSR-5 below for a discussion of the use of existing parks and recreational facilities.

Near-Term Development Components

With respect to on-campus parks and recreation facilities, as discussed, the near-term development components would result in the addition of new residential, academic and recreation buildings that would contribute to the on-campus residential and daily population. Student Housing Phase IIB and Student Housing Phase III would result in 1,000 new student beds on campus. The new housing would include new outdoor recreational amenities such as half courts (basketball and/or sand volleyball), outdoor social spaces, and connections to pedestrian bicycles paths and trails, as components of those developments. The Student Recreation Center would consist primarily of multi-use indoor courts and fitness facilities and would be available for use by the new student residents. Other existing facilities and open space lands on campus would also be available for use by the new residents and daily campus population associated with the near-term development components (583 acres as shown in Table 4.12-2).

The above recreational facilities and lands would be adequate to serve the new student residents and daily campus population associated with the near-term development components and the construction of additional facilities would not be required. New recreational facilities associated with Student Housing Phases IIB and III and the Student Recreation Center are included in the Project and evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures this Draft EIR as a component of development under the proposed Master Plan. The proposed Master Plan would have *no impacts* associated with the provision of new or physically altered on-campus recreational facilities beyond what is identified throughout the Draft EIR.

As for off-campus impacts, given the limited scope of the near-term development components, the increased off-campus population associated with these components would not result in the need for additional park and recreation facilities and, therefore, impacts would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to park and recreation facilities has not been identified.

Impact PSR-5:	**Deterioration of Neighborhood and Regional Parks (Thresholds B and C).** The Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. *(Less than Significant)*

Master Plan

Project-Related On-Campus Population and Facilities

As concluded in the analysis related to Impact PSR-4, adequate on-campus outdoor and indoor recreational space would be provided under the Project in accordance with the ICSUAM and would also exceed state standards under the Quimby Act. Therefore, on-campus recreational facilities would accommodate the recreational needs of campus residents and the daily campus population. Given the adequacy of recreational facilities to serve the needs of campus residents and the daily campus population under the Project, and CSUMB's responsibility for maintaining such facilities, the Project would not be expected to result in substantial physical deterioration of on-campus recreational facilities. Additionally, given the adequacy of on-campus recreational facilities, the CSUMB population is not expected to regularly use off-campus neighborhood parks in the areas surrounding the campus, as identified in Section 4.12.1.2. These neighborhood parks are dispersed from the campus, separated by roadways, and primarily contain limited amenities intended to serve their respective surrounding residential communities. Therefore, the on-campus residential and daily population associated with the Project would not result in substantial physical deterioration of on-campus recreational facilities or of nearby off-campus neighborhood parks and the impact would be *less than significant*.

Project-Related Off-Campus Population

As also discussed in the analysis related to Impact PSR-4, the increase in off-campus population (3,424 people) and housing (1,038 units) associated with the Project would occur within Seaside, Marina, and elsewhere within Monterey County by 2035 (see Table 4.12-3). Housing for the anticipated increase in students, faculty and staff that are expected to live off-campus is likely comprised of a combination of already existing dwelling units and new units to be constructed in the future by unrelated third parties. Any prediction about the specific extent and location of the area's overall future housing patterns would be speculative, although a summary of planned housing projects in proximity to the campus is presented in Section 4.0, Introduction to Analysis.

To the extent the population increase associated with the Project would reside off campus in already existing dwelling units, the Project would not result in an increase in the use of parks and recreation facilities and, correspondingly, the Project would not result in substantial physical deterioration of off-campus park and recreational facilities. As to any new housing that might indirectly result from the Project's increase in off-campus population, when new housing is built, fees for park and recreation facilities are typically included in building permits as part of the jurisdiction's development fee impact program, as demonstrated by the General Plan policies of Seaside, Marina, and Monterey County (see Section 4.12.2, Regulatory Framework). Through the use and collection of development impact fees, any potential increases in the demand for public services associated with CSUMB-related off-campus housing located in new housing tracts, including park and recreation facilities, would be addressed in the respective jurisdiction (e.g., Marina, Seaside and County of Monterey) in which the new population resides. Such impact fees would provide for new or physically altered park and recreation facilities, if needed, to maintain park standards. Moreover, to the extent new housing is constructed in the future, that housing would undergo its own environmental review under CEQA. As part of the review, the need for new or expanded park and recreation facilities would be assessed and would be required to comply with applicable regulatory requirements and permits at the time that such park and recreation facilities are proposed. Additionally, to the extent that Project-related off-campus residents purchase existing or new homes, they would pay property taxes, which would support on-going maintenance of park and recreational lands in these jurisdictions.

Also as previously noted, the study area contains several regional parks and recreational areas serving Monterey County, including Fort Ord National Monument, Fort Ord Dunes State Park, and the Monterey Bay Coastal Recreation Trail within less than one mile of the campus. On-campus and off-campus residents associated with the Project would likely visit these recreation areas, as well as others in Monterey County; however, the Project would not be expected to result in increased use of these facilities such that it would cause substantial deterioration, given the sizes of the facilities and the nature of activities at these areas, which include hiking, bicycling, and beach activities. Given the above, the Project-related off-campus population would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated, and the impact would be *less than significant*.

Near-Term Development Components

The Project's near-term development components would result in the addition of new residential, academic and recreation buildings that would contribute to the on-campus residential and daily population. As previously noted, Student Housing Phase IIB and Student Housing Phase III would result in 1,000 new student beds on campus. The new housing would include new outdoor recreational amenities such as half courts (basketball and/or sand volleyball), outdoor social spaces, and connections to pedestrian bicycles paths and trails, as components of those developments. The Student Recreation Center would consist primarily of multi-use indoor courts and fitness facilities and would be available for use by the new student residents. Other existing facilities and open space lands on campus would also be available for use by the new residents and daily campus population associated with the near-term development components (583 acres as shown in Table 4.12-2).

The above recreational facilities and lands would be adequate to serve the new student residents and the daily campus population associated with the near-term development components and the construction of additional facilities would not be required. Existing and new recreational facilities would be maintained by CSUMB. Given the adequacy of the on-campus recreational facilities to serve the new population associated with the near-term development components, the CSUMB population is not expected to regularly use off-campus neighborhood parks in the areas surrounding the campus. These neighborhood parks are dispersed from the campus, separated by roadways, and primarily contain limited amenities intended to serve their respective surrounding residential communities. Therefore, the on-campus residential and daily population associated with the near-term development components would not result in substantial physical deterioration of on-campus recreational facilities or of nearby off-campus neighborhood parks and the impact would be *less than significant*.

Mitigation Measures

Mitigation measures would not be required as the Project would not result in significant impacts related to the physical deterioration of existing park and recreational facilities.

4.12.3.5 Cumulative Impacts

This section provides an evaluation of public services and recreation impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and based on other possible growth accounted for in the 2018 AMBAG Regional Growth Forecast, which accounts for all growth under current local agency general plans. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact PSR-6:	**Cumulative Public Services Impacts (Thresholds A, B and C).** The Project would not have a cumulatively considerable contribution to significant cumulative impacts related to the construction of new or expanded fire, police, schools, and park and recreational facilities. (*Less than Significant*)

The geographic context for the analysis of cumulative impacts related to public services focuses on the CSUMB campus, the cities of Seaside and Marina, and Monterey County.

Project-Related On-Campus Population and Facilities

This portion of the analysis addresses the cumulative impacts of on-campus population and facilities growth resulting from the Project and other cumulative development on public services and facilities. Given that UPD serves only the campus and not surrounding jurisdictions, cumulative off-campus development would not influence the need for new and physically altered UPD police protection services. Therefore, on-campus police protection services and facilities are not evaluated below. Off-campus police protection services are, however, evaluated in the subsequent section below addressing "Project Off-Campus Population."

Fire Protection Facilities

As indicated in Impact PSR-1, independent of the proposed Master Plan, three new or replacement fire stations are currently being planned by Marina FD, and Seaside FD, and POMFD. The Marina station is needed to address response time objectives for the Marina FD in the southern part of its service area, and the Seaside station is needed for the Seaside FD in the northern part of its service area (Citygate 2021), both of these areas include the Main Campus. The POMFD station is needed to replace the existing POMFD station given the expiration of their lease in August 2023 (Citygate 2021). Marina FD is moving forward on siting a temporary fire station facility at 2nd Avenue and 8th Street, with a permanent station to be ultimately sited (Citygate 2021; McCoun 2021). Seaside is moving forward with a site on Gigling Road and 1st Avenue, with City Council approving a request for siting and architectural design for a station on this site (Citygate 2021; City of Seaside 2021; Gutierrez 2021).

The new fire stations would be required to comply with all applicable general plan polices, regulations, and permit requirements. Additionally, environmental review under CEQA of these stations is pending and will be conducted by the City of Marina and the City of Seaside for the respective station. It is expected that potentially significant environmental impacts of constructing and operating these new stations could be addressed and reduced to less than significant through the implementation of feasible mitigation measures, given the limited size, type, and location of such facilities in an urban environment. Regardless, as previously noted, while the Seaside FD and Marina FD stations are needed to serve existing and future planned growth in these areas, they are not needed solely to serve on-campus population and facilities development under the proposed Master Plan, as indicated in Impact PSR-1. Further, the Project would involve infill development on the Main Campus, would not result in the expansion of the Main Campus boundaries, and all proposed development would be designed to meet minimum fire and emergency safety requirements identified in the California Building, Fire, and Health and Safety Codes, per the ICSUAM. Therefore, the Project's contribution to the need for new fire protection facilities would not be cumulatively considerable and cumulative impacts would be *less than significant*.

School Facilities[5]

Project and cumulative development are not expected to exceed future remaining capacity in the MPUSD, and therefore the construction of new or physically altered school facilities is not expected to be required to serve planned growth. As determined in the analysis relative to Impact PSR-3, the Project would result in the addition of approximately 318 school-age students from both on- and off-campus housing. Projected enrollment data for the MPUSD shows a continuing decline in total enrollment of 10 percent within the MPUSD by 2030 (the latest year with available projection data) compared to the 2020-2021 school year for schools with available projection data (see Table 4.12-5). As concluded relative to Impact PSR-3, there would be remaining future capacity in the MPUSD in 2030 for approximately 5,500 students (see Table 4.12-5).

Based on a review of the MPUSD's 2018 Facilities Master Plan, all pending development, including new classroom buildings at various schools; new and renovated gyms and related facilities; new theaters and performing arts centers; and a wide range of other renovation and modernization projects, would be located at existing school sites (MPUSD 2018a). There are no new schools identified in the Facilities Master Plan. The *Campus Town Specific Plan Draft Environmental Impact Report* reported that MPUSD would address any possible shortfalls in capacity through intra-district transfers and, where needed, through the installation of new portable classrooms (Seaside 2019). Installation of portable classrooms at existing school sites would not be anticipated to result in significant environmental effects due to the limited area that is typically required to install portable (modular) classrooms and due to the developed characteristics of existing school sites. Given the remaining capacity within the MPUSD in 2030 and the portable classrooms that would be used if there were any possible shortfalls in capacity, cumulative impacts related to the provision of new or physically altered school facilities would be *less than significant***.**

Parks and Recreational Facilities

As determined in the analysis related to Impact PSR-4, new on-campus population associated with the Project would be adequately served by existing and proposed recreational facilities and

[5] The analysis in this subsection addresses both on- and off-campus Project and cumulative development.

open space on campus. Other cumulative growth outside the campus boundaries would not, in and of itself, require new recreational facilities on campus as CSUMB does not provide regular recreational services to development outside its boundaries; however, it is acknowledged that some local residents do use CSUMB facilities. Accordingly, cumulative growth would not require construction of new on-campus parks and recreation facilities, beyond those analyzed in this Draft EIR, and the cumulative impact would be *less than significant***.**

Project-Related Off-Campus Population

Off-campus Project and other cumulative growth could contribute to the need for new or physically altered fire protection facilities, police protection facilities, and park and recreational facilities in Marina, Seaside, or Monterey County by 2035. The Project could incrementally contribute to such a need by resulting in new off-campus population that resides in off-campus housing units likely comprised of a combination of already existing dwelling units and new units to be constructed in the future by unrelated third parties. Cumulative development would contribute to such a need for new or expanded public facilities by resulting in the development of new housing and new employment. Any prediction about the specific extent and location of the area's overall future housing patterns would be speculative, although a summary of planned housing projects in proximity to the campus is presented in Section 4.0, Introduction to Analysis.

To the extent the off-campus population increase associated with the Project and cumulative development would reside in already existing dwelling units, such development would not result in an increase in demand for public services and facilities and, correspondingly, the Project and cumulative development would not require the construction of new or physically altered fire and police protection facilities or parks and recreation facilities. As to any new housing that might indirectly result from the Project's increase in off-campus population and from population resulting from cumulative development, when new off-campus housing is built, fees for fire protection, police protection, and parks and recreation facilities are typically included in building permits as part of the jurisdiction's development fee impact program, as demonstrated by the General Plan policies of Seaside, Marina, and Monterey County (see Section 4.12.2, Regulatory Framework). Through the use and collection of development impact fees, any potential increases in the demand for public facilities associated with Project-related and other off-campus housing located in new housing tracts would be addressed in the respective jurisdiction (e.g., Marina, Seaside and County of Monterey) in which the new population resides. Such impact fees would provide for new or physically altered fire and police protection facilities, and park and recreation facilities, if needed, to meet service standards and objectives. Moreover, to the extent new housing is constructed in the future, that housing would undergo its own environmental review under CEQA. As part of the review, the need for new or expanded fire and police protection facilities and park and recreation facilities would be assessed and would be required to comply with applicable regulatory requirements and permits at the time that such facilities are proposed;

any assessment of such future need at this time would be speculative. Therefore, the Project's impacts would not be cumulatively considerable relative to the provision of new or physically altered public service facilities to serve the Project's off-campus population and cumulative population growth, and cumulative impacts would be *less than significant*.

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4.13 TRANSPORTATION

This section of the EIR presents an analysis of the potential transportation impacts associated with development and implementation of the proposed Master Plan, including five near-term development components (collectively, Project). This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate significant or potentially significant impacts. The analysis presented in this section is based on the *Transportation Analysis* technical report (Appendix H) prepared by Fehr & Peers. Additional discussion of freeway and intersection Level of Service (LOS) in the study area was prepared by Fehr & Peers for information purposes only and is also provided in Appendix H.

The original May 2017 Notice of Preparation (NOP) for this EIR indicated that intersection and freeway LOS would be the basis for the evaluation of potential transportation impacts related to vehicle travel in the EIR. However, in response to Senate Bill 743 and the associated revisions to the California Environmental Quality Act (CEQA) Guidelines that became effective December 28, 2018, the proposed analysis methods were modified. As the lead agency for the preparation of the EIR for the Project, the Board of Trustees of the California State University (Trustees) prepared a Revision to Previously Issued NOP in August 2019 to notify agencies, organizations, and other interested parties that the methodology to be used in the EIR in assessing potential transportation-related impacts had been modified from that indicated in the original NOP to reflect changes in the law. Accordingly, the transportation impact analysis presented in this section is based on an evaluation of vehicle miles traveled (VMT). As indicated above, intersection and freeway LOS discussion is provided for information purposes only in Appendix H and does not serve as the basis of transportation impact determinations nor is LOS discussed further in this section.

Consequently, NOP comments received during the original scoping period that pertain to LOS analysis were considered but are not reflected in the impact analysis presented in this section. Other transportation-related comments that were received in response to the original NOP and Revision to Previously Issued NOP included comments related to: provision of additional transit and shuttle services, increased bicycle and pedestrian access on campus with connectivity with neighboring communities including the Fort Ord Regional Trail and Greenway (FORTAG), incentives that support bicycles and pedestrians, minimizing motor vehicles in the inner campus, identification and analysis of proposed transportation demand management (TDM) strategies, inclusion of additional TDM strategies, determining intersection control type for intersections identified as “Campus Entry,” consideration of a roundabout at Second Avenue and the CSUMB athletics area, and design recommendations for transit and wayfinding.

To the extent that issues identified in public comments involve potentially significant effects on the environment according to the California Environmental Quality Act (CEQA), they are identified and addressed in this EIR. For a complete list of all public comments received during the public scoping periods refer to Appendix B.

4.13.1 Environmental Setting

4.13.1.1 Study Area

The CSUMB Main Campus is located within the geographic boundaries of the cities of Marina and Seaside and Monterey County and is generally bounded by Eighth Street, Colonel Durham Street, Lightfighter Drive, and Second Avenue. The East Campus Open Space is located east of Eighth Avenue and south of Inter-Garrison Road, and East Campus Housing is located north of Inter-Garrison Road. Figure 4.13-1 shows the location of the Project site and the surrounding transportation network.

The study area for the vehicle miles traveled (VMT) analysis presented in this section is the area that comprises Monterey County because a substantial majority of the campus population (nearly 90 percent of students, faculty, and staff) lives and, therefore, commutes to CSUMB, within the County geographic area. The study area for the other transportation analyses consists of the campus and areas immediately adjacent to the campus in the City of Seaside, the City of Marina, and the County of Monterey.

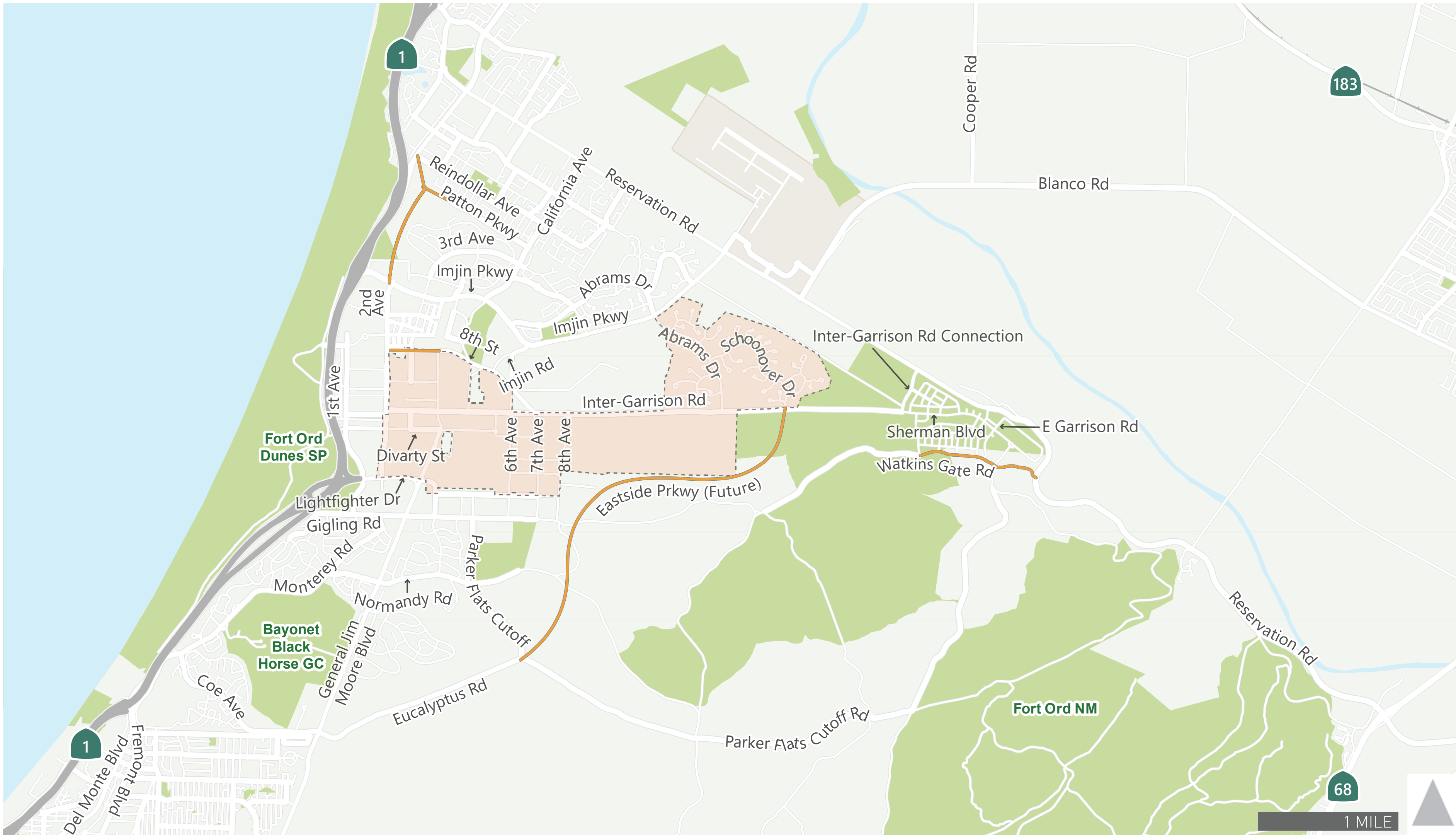
4.13.1.2 Environmental Setting

The following section uses travel data and describes those conditions existing prior to the formal shelter-in-place order issued March 17, 2020 relative to the COVID-19 Pandemic by the Monterey County Public Health Department. These conditions most accurately represent "existing conditions" (i.e., typical conditions) within the meaning of CEQA.

Existing Transportation Facilities

Existing Street System

Regional access to the CSUMB Main Campus is provided by State Route (SR) 1. Primary local access to the CSUMB campus is provided by Imjin Road from the north, Inter-Garrison Road from the west and east, and General Jim Moore Boulevard from the south. The Main Campus entrance at Lightfighter Drive and General Jim Moore Boulevard is marked by a gateway entrance sign. Traffic from Seaside or the Monterey Peninsula accesses the campus from the General Jim Moore Boulevard entrance; traffic from Salinas or Marina accesses the campus via either the Second Avenue, Imjin Road or Inter-Garrison Road entrances; while traffic from Santa Cruz County accesses the campus entrances at either Inter-Garrison and Second Avenue or Imjin Road. These roadways are described below and illustrated in Figures 4.13-1 and 4.13-2.



California State University Monterey Bay Campus

New/Extended Roadway

DUDEK

SOURCE: CSUMB 2017, Fehr & Peers 2021

FIGURE 4.13-1
Project Location

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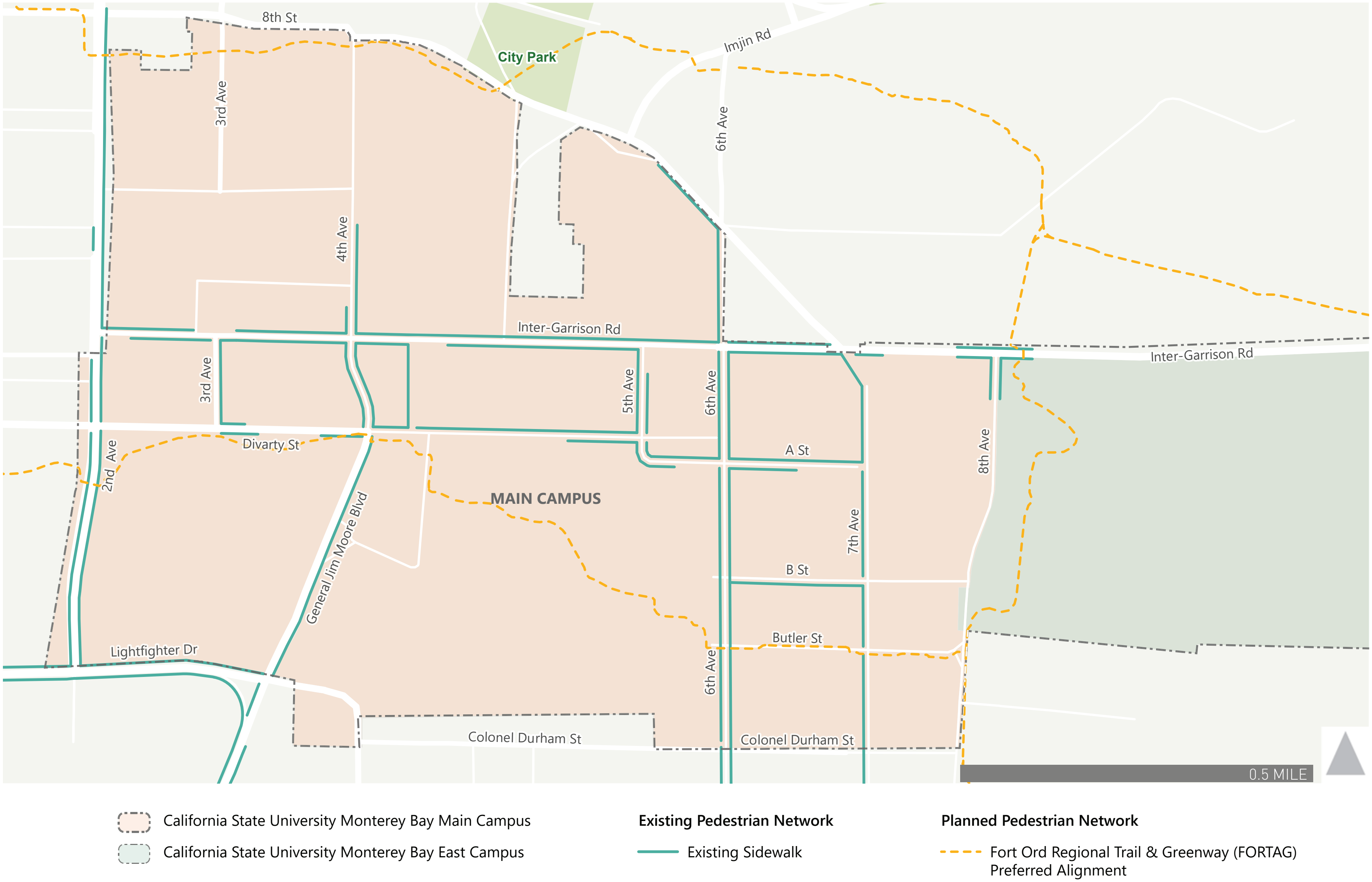

SOURCE: CSUMB 2017, Fehr & Peers 2021

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FIGURE 4.13-2

Existing and Planned Pedestrian Facilities

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State Route 1 (SR 1) is a state highway within Monterey County, providing access to Watsonville and Santa Cruz to the north via Seaside, Marina, and Castroville, and to San Luis Obispo to the south via Monterey and Carmel. Through its connection to SR 156 in Castroville, SR 1 also provides access to US 101 and the greater San Francisco Bay Area. Through Marina and Seaside, SR 1 has a posted speed limit of 65 miles per hour (mph) and provides four lanes north of the Del Monte Boulevard interchange, six lanes south of Del Monte Boulevard interchange to the Fremont Boulevard/Del Monte Boulevard interchange and returns to four lanes south of the Fremont Boulevard/Del Monte Boulevard interchange. SR 1 average daily traffic (ADT) counts range between 51,560 to 96,960 for the segments between Del Monte Boulevard and Canyon Del Rey Boulevard, with the highest ADT between Imjin Parkway and Del Monte Boulevard.

Reservation Road is a major arterial extending from the Pacific Ocean at Marina State Park west of Dunes Drive, through the City of Marina. East of Del Monte Boulevard, Reservation Road is a four-lane divided street. At East-Garrison Road, east of Imjin Parkway, it narrows to a two-lane rural highway. Reservation Road is under the jurisdiction of the City of Marina west of Blanco Road and the County of Monterey east of Blanco Road. The ADT on Reservation Road ranges from 6,220 to 26,570 vehicles with the lowest ADT south of Blanco Road and the highest ADT between Imjin Road and Blanco Road.

Imjin Parkway is an arterial street within the City of Marina limits. Imjin Parkway is a two-lane road at its interchange with SR 1 and a four-lane divided street with left-turn channelization east of the northbound SR 1 ramps and two lanes east of Imjin Road. Imjin Parkway has bike lanes on each side of the road starting east of Second Avenue, with the eastbound bike lane ending at Reservation Road. The speed limit on Imjin Parkway is 45 mph. Imjin Parkway has an ADT of 22,500 east of Second Avenue and an ADT of 28,220 west of Second Avenue toward SR 1.

California Avenue/Fifth Avenue is a two-lane arterial from central Marina to Imjin Parkway, and a local street south of Imjin Parkway ending at Inter-Garrison Road. California Avenue connects Reservation Road with Imjin Parkway and CSUMB. Bicycle lanes are provided along California Avenue/Fifth Avenue between Imjin Parkway and Reservation Road. The speed limit on California Avenue is 25 mph. The ADT on California Avenue north of Imjin Parkway is 5,900.

Eighth Street is a two-lane arterial from First Avenue to Inter-Garrison Road that is currently closed (future extension is planned) between Third Avenue and Fifth Avenue. The speed limit along Eighth Street is 35 mph.

Inter-Garrison Road extends from Second Avenue to Reservation Road as a two-lane arterial. The extension of Inter-Garrison Road (referred to as the Inter-Garrison Road Connection in this analysis) to Reservation Road, completed in 2013, provides a regional connection from the Marina-Salinas area to SR 1. The speed limit on Inter-Garrison Road is 35 mph between Eighth

Avenue and Schoonover Road and 25 mph between Second Avenue and Eighth Avenue. Inter-Garrison Road has an ADT of 8,450 between Eighth Avenue and Abrams Drive, and an ADT of 2,630 between Second Avenue and Third Avenue.

Lightfighter Drive starts from the SR 1 ramps as an east-west street that continues as the north-south street Malmedy Road at the intersection of Colonel Durham Street. From the SR 1 interchange to General Jim Moore Boulevard, the street is a four-lane divided major arterial with a speed limit of 40 mph. East of General Jim Moore Boulevard, Lightfighter Drive is a two-lane minor arterial with a speed limit of 25 mph. West of General Jim Moore Boulevard, the ADT on Lightfighter range between 13,250 and 15,000 vehicles.

Divarty Street is a two-lane local street from First Avenue to Fifth Avenue providing access to the core of the CSUMB campus. The speed limit along Divarty Street is 25 mph.

Colonel Durham Street is a two-lane local street that extends between Lightfighter Drive/Malmedy Road to the west and Eighth Avenue to the east. The street has pedestrian facilities along one or both sides west of Sixth Avenue, and although it is a local street, the speed limit is 35 mph along its entirety.

Gigling Road is a two-lane arterial that starts just east of SR 1 at Noumea Road and extends to Eighth Avenue. Gigling Road has a speed limit of 30 mph and an ADT of 6,300 vehicles.

Second Avenue connects Lightfighter Drive in Seaside with Imjin Parkway in Marina, along the western edge of CSUMB. Second Avenue is a north-south arterial street in Marina and Seaside with four lanes from Imjin Parkway to Tenth Street, two lanes from Tenth Street to Divarty Street, and returns to four lanes south of Divarty Street. Second Avenue has right-turn and left-turn channelization on the entire stretch of the street, and bike lanes north of Divarty Street to Imjin Parkway. The speed limit on Second Avenue is 35 mph. The lowest ADT on Second Avenue is 2,500 vehicles south of Divarty Street. Second Avenue's ADT is highest north of Fifth Street, with ADT of 6,330 vehicles.

General Jim Moore Boulevard is a four-lane arterial that extends from Canyon del Rey Boulevard to Lightfighter Drive in Seaside. Once it enters the campus at Lightfighter Drive, the street becomes a two-lane arterial to Fifth Street with a posted speed limit of 25 mph on campus. The ADT on General Jim Moore Boulevard ranges between 5,230 to 9,600 vehicles, with the lowest ADT north of Lightfighter Drive (on campus) and highest ADT between Lightfighter Drive and Gigling Road (south of campus).

Sixth Avenue is a north-south local street that extends from Gigling Road to Eighth Street. The two-lane connector has restricted access from CSUMB's Student Services building, 250 feet south of A Street to B Street.

Seventh Avenue is a north-south two-lane local street that extends from Gigling Road to the south to Eighth Street/Inter-Garrison Road to the north.

Eighth Avenue is a north-south two-lane local street that extends from Gigling Road on the south to Inter-Garrison Road in the north.

Abrams Drive is a two-lane connector between Imjin Parkway and Inter-Garrison Road, with a posted speed limit of 30 mph and ADT of 5,050. Abrams Drive is the main street through East Campus Housing and connects to Bunker Hill Drive, Manassas Drive, and Schoonover Road.

Schoonover Road is a two-lane connector between Abrams Drive and Inter-Garrison Road, with a posted speed limit of 25 mph. The street travels through the eastern side of the East Campus Housing.

Existing Truck Routes

SR 1 is identified as part of the regional truck network. The freeway is intended to move goods efficiently within the cities of Marina and Seaside, between outlying agricultural uses, and packing/distribution centers. Additionally, the freeway serves to separate truck traffic from local streets where the larger vehicles may conflict with other uses.

Both the City of Marina and City of Seaside designate and describe streets that permit commercial vehicles exceeding three tons as truck routes with appropriate signage. Neither city has an existing truck route network; though, in the Circulation Element of the Seaside General Plan, the City identified establishing a truck route network as an ongoing goal to reduce impacts on residential neighborhoods. In the City of Marina, commercial trucks are prohibited from entering local residential streets and collectors except for the purpose of local deliveries.

Existing Pedestrian Facilities

The CSUMB campus has a variety of pedestrian accommodations, such as sidewalks, pedestrian malls, and trails. Some portions of the campus, such as existing pedestrian malls on Divarty Street and Sixth Avenue, which are street segments reserved for primarily pedestrian use with limited transit and service vehicle usage, have a high-quality walking environment with many destinations within a close walking distance, while other areas of campus lack sidewalks. Figure 4.13-2 shows the locations of existing sidewalks and sidewalk gaps on and near the CSUMB campus.

Arterial roads such as Lightfighter Drive, Second Avenue, and Gigling Road have sidewalks on one or both sides of the street. Several local streets within and near the campus do not have sidewalks, creating gaps in the pedestrian network.

While CSUMB has made improvements to the on-campus pedestrian network, a limited number of direct, accessible, and protected pedestrian connections are in place through parking lots and to the existing sidewalk network. Additionally, there are no existing sidewalks along Inter-Garrison Road connecting the Main Campus to the East Campus Housing area east of Eighth Avenue. In many areas, the natural topography exceeds a five percent grade, making the construction of Americans with Disabilities Act (ADA)-accessible pathways difficult along some streets such as Fifth Avenue, Sixth Avenue, and portions of Inter-Garrison Road. Distances between major destinations that are more than a 10-minute walk, coupled with a mild yet windy and foggy coastal climate, can deter pedestrian movement.

Existing Bicycle Facilities

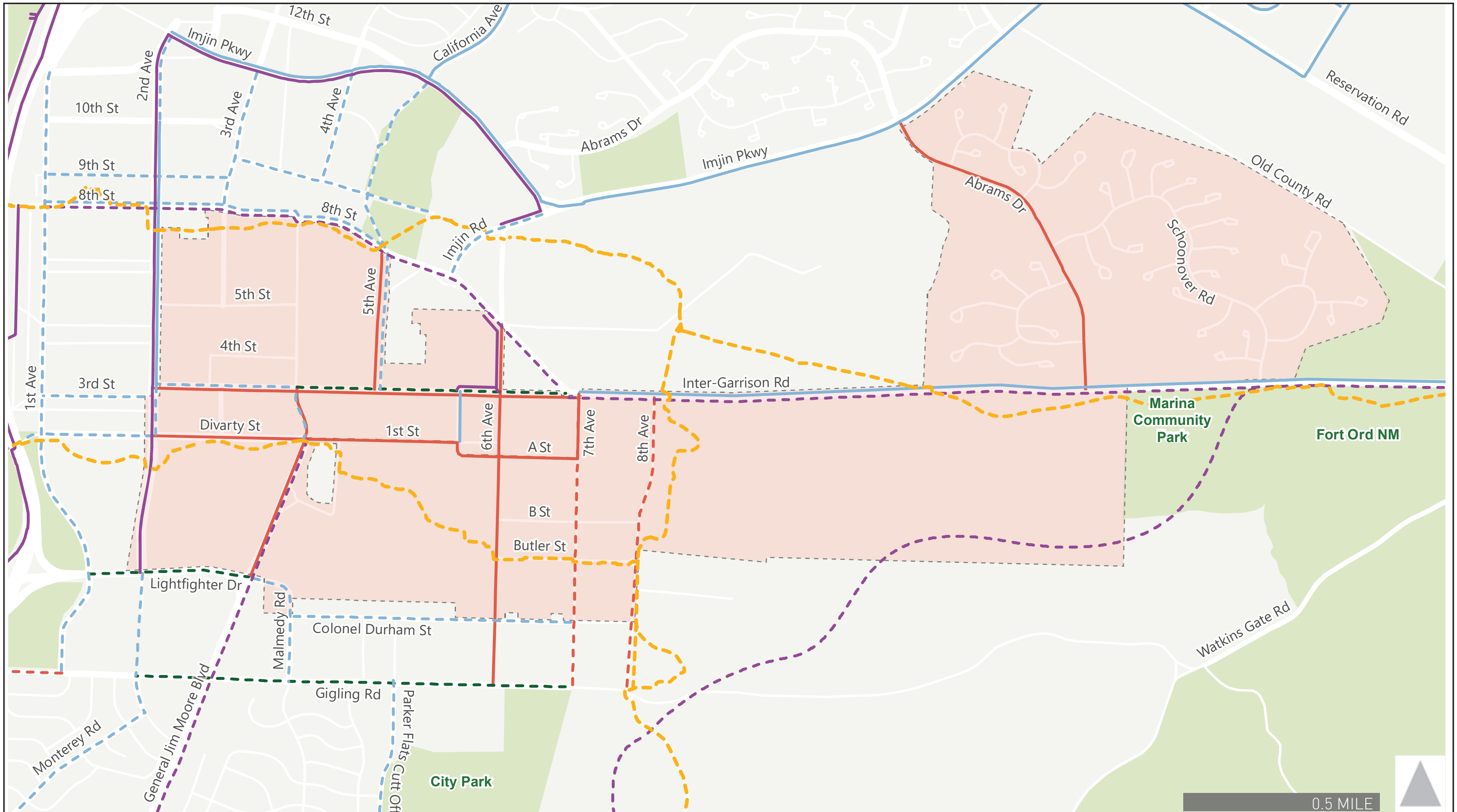
There are several existing bicycle facilities on the CSUMB campus and in surrounding areas, comprised of bike routes or boulevards, bike lanes, and separated bike paths or trails. On campus and surrounding the campus, there are 3.8 miles of bike boulevards, which are low-speed and low-volume streets designated with pavement markings for shared bicycle use with motor vehicles, and other bike facilities along roadways. The campus has parking for 580 bicycles, which includes 36 indoor secure spots within the Bike Bunker parking facility, that are typically well utilized during the academic year.

Figure 4.13-3 shows the existing and regionally planned bicycle facilities as described in the *2011 Transportation Agency for Monterey County Bicycle and Pedestrian Master Plan*, *2016 FORA Regional Urban Design Guidelines*, and *2018 Monterey County Active Transportation Plan*.

Bikeway planning and design in California typically relies on guidelines and design standards established by the California Department of Transportation (Caltrans) in the Highway Design Manual (Caltrans 2020). The Highway Design Manual provides for three distinct types of bikeway facilities that are applicable to the campus, as described below and shown in Appendix H.

Class I Bikeways (Shared-Use Paths) provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians, with vehicle and pedestrian crossflow minimized. The campus recently constructed its first separated bike path, or a Class I facility, between the Promontory housing and Inter-Garrison Road. On the campus periphery, separated bicycle paths exist on the east side of Second Avenue between Lightfighter Drive and Imjin Parkway and off campus, along Imjin Parkway between Second Avenue and Imjin Road, at which point it transitions to an in-road shared bicycle route.

Class II Bikeways (Bicycle Lanes) are dedicated lanes for bicyclists generally adjacent to the outer vehicle travel lanes, that have special lane markings, pavement legends, and signage. Bicycle lanes, also known as Class II facilities, are provided on Second Avenue, General Jim Moore Boulevard from Lightfighter Drive to Inter-Garrison Road, Fifth Avenue from Divarty Street to Inter-Garrison Road and Inter-Garrison Road from Seventh Avenue to Schoonover Drive.



California State University Monterey Bay Campus

Existing Bicycle Facilities

- Class I - Shared Use Path
- Class II - Bicycle Lane
- Class III - Bicycle Route

Planned Bicycle Facilities

- Fort Ord Regional Trail & Greenway (FORTAG) Preferred Alignment
- Class I - Shared Use Path
- Class II - Bicycle Lane
- Class III - Bicycle Route
- Class IV - Cycle Track/Separated Bikeway

SOURCE: CSUMB 2017, Fehr & Peers 2021

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FIGURE 4.13-3

Existing and Planned Bicycle Facilities

CSU Monterey Bay Master Plan EIR

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Class III Bikeways (Bike Boulevards/Bicycle Routes) are designated by signs or pavement markings for shared use with motor vehicles but have no separated bike right-of-way or lane striping. On-campus bike routes, known as Class III facilities, include approximately 3.8 miles of bicycle boulevards on the following road segments: Divarty Street from Second Avenue to A Street, A Street from Divarty to Seventh Avenue, Seventh Avenue from Inter-Garrison Road Colonel Durham Street, and Inter-Garrison Road from Seventh Avenue to Second Avenue.

Class IV Bikeways (Cycle Tracks or "Separated" Bikeways) provide a right-of-way designated exclusively for bicycle travel within a roadway and are protected from other vehicle traffic by physical barriers, including, but not limited to, grade separations, flexible posts, inflexible vertical barriers such as raised curbs or parked cars. None of the existing facilities in the study area classify as Class IV bikeways.

Existing Transit Service[1]

The public transit system that connects the CSUMB campus to the greater Monterey and Salinas area is operated by Monterey Salinas Transit (MST). Students, staff, and faculty receive free boarding and unlimited access on all MST regular bus routes with their CSUMB Otter ID card. Eight bus routes serve stops in or along the boundary of the CSUMB campus throughout the academic year: Routes 12, 16, 18, 19, 25, 26, 67, and 74.

Seven bus routes travel along Fourth Avenue and connect with a main stop that is centrally located adjacent to CSUMB's Alumni and Visitor Center and west of the Main Campus. Routes serve a total of 21 campus bus stops – 11 stops in the Main Campus and ten stops in the East Campus Housing. Most of the stops are located along Inter-Garrison Road, Second Avenue, and Sixth Avenue. Routes 12, 16, 19, 25, 26, and 74 travel through the campus and provide service to the stops located at the East Campus Housing. Figure 4.13-4 shows the map of the transit services that run through the academic year, and Table 4.13-1 presents weekday bus route information and route access from CSUMB to major points of interest throughout the region.

[1] As indicated in the introduction to Section 4.13.1.2, Environment Setting, information in this section reflects pre-COVID-19 Pandemic existing conditions. During the first full academic year of the COVID-19 Pandemic (Fall 2020 - Spring 2021), the CSUMB campus was depopulated and learning was performed remotely, which meant suspension of contracted transit services with MST. Access to MST services renewed with the repopulation of campus in Fall 2021. In Spring 2022, on-campus shuttle service provided by MST (Line 26) was replaced and frequencies increased by a new vendor, MST late night weekend service to Monterey (Line 19) was discontinued, and Otter ID card access to the MST network remained in place. CSUMB will coordinate with MST with the objective to maintain convenient access for all CSUMB students to the MST bus network, as indicated in Chapter 3, Project Description.

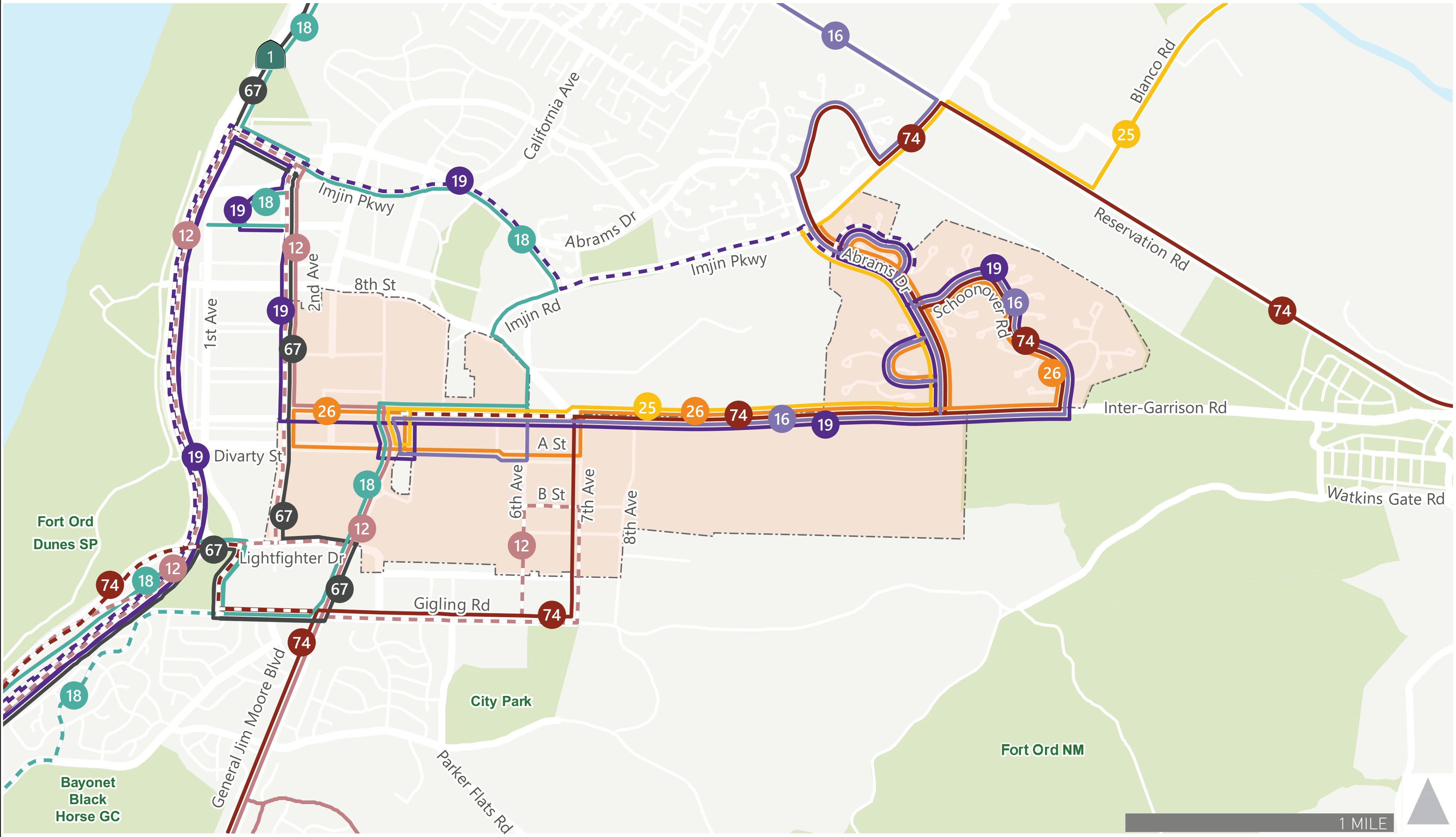
Routes 12, 16, 18, and 74 run vehicles with a capacity between 46 to 59 passengers, and Routes 19, 25, and 26 run vehicles with a capacity of 21 passengers. None of these routes are at or near capacity. Students make up more than 50 percent of the ridership on an average day for Routes 16, 19, 25, and 26. Students make up a small percentage of the passengers of Route 74. See Appendix H, Tables 4 and 5 for additional information about existing transit services.

Table 4.13-1
Existing Weekday MST Transit Service Summary

Route	Description	From	To	Hours of Operation	Average Weekday Headway
12	The Dunes - NPS	CSUMB Alumni & Visitor Center	Naval Postgraduate School	6:45 AM to 5:40 PM	Limited
16	Marina – The Dunes	CSUMB Alumni & Visitor Center	Marina Transit Exchange	5:35 AM to 10:30 PM	Every 60 Minutes
18	Monterey – The Dunes	CSUMB Alumni & Visitor Center	Monterey Transit Plaza	6:00 AM to 10:40 PM	Every 60 Minutes
19	Del Monte Center – CSUMB East Campus	CSUMB Alumni & Visitor Center	Del Monte Center	Fridays & Saturdays: 1:00 PM to 2:55 AM Sundays: 6:00 PM to 11:50 PM	Every 60 Minutes before 7:00 PM Every 120 minutes after 7:00 PM
25	CSUMB – Salinas	CSUMB Alumni & Visitor Center	Salinas Transit Center	6:20 AM to 10:35 PM	Every 60 Minutes
26	CSUMB – East Campus Express	CSUMB Alumni & Visitor Center	East Campus	6:30 AM to 12:25 AM	Every 20 minutes
67	Presidio – Marina	Otter Sports Center	Reservation & Beach	Fridays: 2:15 PM to 10:10 PM Weekends: 10:15 AM to 10:10 PM	Every 120 minutes
74	Presidio – Toro Park	CSUMB Alumni & Visitor Center	Portola and Anza	6:30 AM to 6:00 PM	Limited

Source: Appendix H, Table 4

Students, faculty, and staff with physical disabilities have access to the MST para-transit program, RIDES. This service operates on a point-to-point basis with no restrictions on purpose of the trip and appointments are required to guarantee service. The para-transit service accommodates travel to and from locations that are up to three-quarters of a mile from any of MST's regular bus routes and the service is available during the hours of operation of MST's regular fixed-route bus service. CSUMB also offers a wheelchair accessible cart that is available for University Departments/Group tours, campus-wide orientations, and major events such as Commencement.



Note: Transit Routes shown for Academic Year, 2017

California State University Monterey Bay Campus

Monterey-Salinas Transit (MST)
Regular Service Routes
Express/Select Trips

Headways
20 minutes: 26
60 minutes: 16, 18, 19, 25
120 minutes: 67
Limited: 12, 74

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SOURCE: CSUMB 2017, Fehr & Peers 2019

FIGURE 4.13-4
Existing Transit Services to CSUMB

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Existing Campus Parking

The campus parking facilities are designated as academic parking or residential parking. Academic parking serves students (students residing on- and off-campus), staff, employees, and visitors, and is not restricted to on-campus residents as is residential parking, described below. Academic parking also includes handicapped, electric vehicle, and motorcycle parking that serves all the populations. Residential parking is parking reserved for on-campus residents only. Residential parking includes handicapped, electric vehicle, and motorcycle parking that is reserved for on-campus residents.

To assess the existing level of parking occupancy on-campus and the related available inventory, a parking occupancy survey was conducted over a 3-day period for the academic and residential parking areas located within the Main Campus on typical non-holiday days. This parking occupancy survey also provided a parking inventory of the existing parking lots on the campus. The details of the survey results are provided in Appendix H.

The campus currently has 40 parking lots with a total of 4,721 academic and residential spaces (3,730 academic spaces and 991 residential spaces). Academic and residential parking occupancy percentages depict the amount of existing parking utilized compared to the amount of existing parking available on the campus. Peak occupancy for the academic parking spaces is approximately 65 percent and occurs between approximately 10:00 AM and 3:00 PM. For the residential spaces, peak occupancy is approximately 55 percent and occurs at approximately 7:00 AM.

In terms of direct observations, the peak observed academic parking demand for the entire campus was 2,396 vehicles, or 64 percent occupied, at 11:00 AM. The peak observed residential parking demand for the entire campus was 525 vehicles, or 53 percent occupied, at 7:00 AM. The overall academic and residential demand of 2,921 vehicles is lower than existing parking supply of 4,721 parking spaces and represents an overall occupancy rate of approximately 62 percent.

Existing Vehicle Miles Traveled

VMT is a metric that accounts for the number of vehicle trips generated plus the length or travel distance of those trips. As indicated in Section 4.13.2.2, Senate Bill (SB) 743 changed the way transportation impacts are identified under CEQA. Based on revisions to the CEQA Guidelines that resulted from SB 743, the metric for assessing passenger vehicle-related impacts has changed from LOS to VMT; thus, as previously indicated, an assessment of traffic congestion based on the LOS metric is no longer the basis upon which significant impacts are identified under CEQA.

To determine existing daily total VMT for the CSUMB campus and Monterey County, and boundary VMT for Monterey County, the transportation engineers Fehr & Peers utilized the AMBAG regional travel forecasting model.[2] As shown in Table 4.13-2, under existing conditions, the CSUMB campus total VMT per service population is 22.31; the Monterey County total VMT per service population is 28.12; and the Monterey County boundary VMT per service population is 13.23. See Appendix H for additional information about how the VMT information was determined.

Table 4.13-2
VMT under Existing Conditions

	Existing Conditions
Campus/County Total VMT	
CSUMB Campus	
VMT (A)[1]	178,500
Service Population (B) [1,2]	8,000
VMT per Service Population (A/B =C)	22.31
Monterey County	
VMT(A)[1]	19,158,300
Service Population (B) [1,2]	681,200
VMT per Service Population (A/B =C)	28.12
Boundary VMT	
Monterey County	
VMT (A)[1]	9,011,700
Service Population (B)[1,2]	681,200
VMT per Service Population (A/B=C)	13.23

Source: Appendix H, Tables 10, 11 and 17
Notes:
1. Rounded service population and VMT to nearest 100.
2. Service population is defined as the sum of all employees, residents and students (Kindergarten through University).

Existing Mode Share

CSUMB conducted a person travel survey to gather data on existing travel mode shares and to better understand the travel choices of CSUMB students, faculty and staff (see Appendix H for details). The results of the survey showed that under existing conditions, the combined drive-alone and shared ride mode share for travel to and from campus is 62.5 percent for all CSUMB students, faculty and staff (e.g., Main Campus, East Campus Housing, and off-campus), and 85.0 percent for CSUMB East Campus Housing and off-campus residents, as shown in Table 4.13-3.

[2] The transportation analysis presented in this section of the EIR uses total VMT and boundary VMT metrics for specific geographic areas. Total VMT per service population is used to evaluate the CSUMB campus VMT rate due to the Project (i.e., the direct impacts). Boundary VMT is used to evaluate the Project's effect on VMT on the entire roadway system, which is evaluated as part of the cumulative analysis.

The remaining 37.5% and 15% of students, faculty, and staff, respectively, travel by transit, walking, and bicycling.

Table 4.13-3
Existing AM Peak Period Inbound Person Mode Share

Mode	All CSUMB Students, Faculty & Staff	CSUMB East Campus and Off-Campus Residents Only
Drive Alone[1]	53.8%	75.0%
Shared Ride[2]	8.7%	10.0%
Drive Sub-Total	***62.5%***	***85.0%***
Transit	9.6%	12.2%
Walk	24.2%	0.5%
Bicycle	3.1%	2.1%
Other	0.6%	0.1%

Source: Appendix H, Tables 24 and 25
Notes:
1. Drive alone includes motorcycles
2. Shared ride includes carpooling, vanpooling, drop-off, Transportation Network Companies like Uber and Lyft, and taxis.

Existing Transportation Demand Management Program

The existing CSUMB TDM program complements the on-campus housing of students, faculty, and staff and enhances the quality of pedestrian, bicycle, and transit facilities on campus. Housing and high-quality transportation infrastructure helps to promote walking, bicycling, and transit use, which reduces vehicle trips to/from the campus.

The following existing TDM strategies provide resident and off-campus students, faculty, and staff with transportation options that reduce vehicle trip generation under existing conditions:

- Otter Cycle Center – on-campus bicycle repair shop that also offers bicycle rentals and other services to facilitate bicycle ridership.
- Bicycle Storage and Amenities – several hundred bicycle racks have been installed on campus outside of residence halls and popular academic, recreation and administrative buildings. Additionally, a secure bicycle bunker storage room has been installed, as well as two 'fix-it' stations that provide 24/7 access to bicycle repair tools and air pumps. Bicycle registration is also available through the University Police Department to simplify that process. Skateboard storage racks also have been installed in the popular destinations on campus.
- Paid Parking – to discourage CSUMB and non-CSUMB related vehicle trips the campus manages parking on campus via a parking permit fee structure presently based upon campus, community or vehicle type and parking timeframes. The fees have increased

several times over the last two decades to more accurately match the true cost of providing managed parking.

- Monterey Salinas Transit (MST) – the campus has entered into an agreement with MST that is annually renewed and provides universal access on the MST bus network for all active CSUMB ID card holders, three supplemental campus-serving and subsidized bus routes, and funding for a shared transit marketing student intern.
- Emergency Ride Home Program – campus community members can sign up for a program run by TAMC that reimburses taxi or ridesharing trips home in emergency situations for commuters who use alternative means of transportation.
- Carsharing and Ridesharing – CSUMB hosts four cars for carsharing. These are cars stationed on the campus available for use by carshare members on the campus. Additionally, CSUMB students, faculty and staff can use Go831, a regional ride share program.
- Transportation Services Website – information for most of the available TDM strategies is included on a campus website to facilitate information dissemination.
- Delivery Vehicle Limitations – to discourage delivery vehicle trips, drivers providing frequent delivery services to campus, such as office supply deliveries, have been instructed to limit their deliveries to campus to no more than three days per week.
- Bicyclist/Pedestrian Malls – to encourage pedestrian and bicycle use, a section of Divarty Street and a section of Sixth Avenue are closed to regular vehicular traffic to better accommodate pedestrians and bicyclists.
- Traffic Calming – to discourage automobile use and provide increased safety, speed humps and flashing beacon crosswalk devices have been installed on several campus roadways to reduce vehicle speeds, particularly near high traffic pedestrian crosswalks.

4.13.1.3 Site Conditions for Near-Term Development Components

The existing transportation setting for the near-term development component sites is generally as described above. Additional information specific to each site is provided below. Chapter 3, Project Description, provides additional information about the location of each development site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site is located on an existing parking lot that does not contain housing or any other buildings. Existing driveway access to the parking lot is provided from General Jim Moore Boulevard, just north of the intersection with Inter-Garrison Road. As illustrated in Figures 4.13-2 and 4.13-3, pedestrian and bicycle facilities are available near this site; however, as indicated previously, some sidewalk gaps exist on the Main Campus in proximity to this site. Additionally, this site is in close proximity to MST bus service, as is most of the Main Campus (see Figure 4.13-4).

Academic IV

The approximately 4.0-acre Academic IV site contains an academic building, parking lots, and landscaping. Existing driveway access to the parking lots is provided on A Street and Sixth Avenue. As illustrated in Figures 4.13-2 and 4.13-3, pedestrian and bicycle facilities are available near this site. Additionally, this site is near MST bus service (see Figure 4.13-4).

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center site is located south of the Main Quad and contains two buildings and portions of two parking lots, as well as undeveloped land. Existing driveway access to the parking lots is provided from Divarty Street and Engineer Lane. As illustrated in Figures 4.13-2 and 4.13-3, pedestrian and bicycle facilities are available near this site. Additionally, this site is near MST bus service (see Figure 4.13-4).

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site is located on a vacant paved lot south of the Promontory. Existing driveway access to the parking lot is provided from Eighth Street, just north of the intersection with Sixth Avenue. As illustrated in Figures 4.13-2 and 4.13-3, pedestrian and bicycle facilities are available near this site. Additionally, this site is near MST bus service (see Figure 4.13-4).

Academic V

The approximately 2.7-acre Academic V site is located in the Main Quad and is developed with administration and academic buildings, a parking lot, and landscaping. Existing driveway access to the parking lot is provided from Divarty Street. As illustrated in Figures 4.13-2 and 4.13-3, pedestrian and bicycle facilities are available near this site. Additionally, this site is near MST bus service (see Figure 4.13-4).

4.13.2 Regulatory Framework

The following is an overview of federal, state and regional plans, policies and ordinances relevant to the transportation analysis presented here.

4.13.2.1 Federal

There are no federal plans, policies, regulations, or laws related to transportation that would affect the Project.

4.13.2.2 State

California Department of Transportation

Caltrans is the public agency responsible for designing, building, operating, and maintaining California's State highway system, which consists of freeways, highways, expressways, toll roads, and the area between the roadways and property lines. Caltrans is also responsible for permitting and regulating the use of State roadways. Caltrans' construction practices require temporary traffic control planning during any activities that interfere with the normal function of a roadway.

Senate Bill 743

As previously noted, Senate Bill (SB) 743 changed how transportation impacts are analyzed under CEQA. SB 743 removed the use of automobile delay or traffic congestion as measured by LOS for determining transportation impacts in environmental review. Instead, the CEQA Guidelines now specify that vehicle miles traveled, or VMT, is the appropriate metric to evaluate transportation impacts. In short, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving.

SB 743, which is codified in Public Resources Code (Cal. Pub. Resources § 21099), required changes to the guidelines implementing CEQA (CEQA Guidelines) regarding the analysis of transportation impacts and the metric upon which to assess those impacts. Pursuant to § 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Section 21099 also provides that following the certification of the CEQA Guidelines implemented pursuant to SB 743, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment" pursuant to CEQA.

The legislation directed the State of California's Office of Planning and Research (OPR) to look at different metrics for identifying transportation impacts and make corresponding revisions to the CEQA Guidelines. Following several years of draft proposals and related public comments, OPR settled upon VMT as the preferred metric for assessing passenger vehicle-related impacts and issued revised CEQA Guidelines in December 2018, along with a *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) (OPR 2018) to assist practitioners in implementing the CEQA Guidelines revisions to use VMT as the new metric (see further information below). Under the revised Guidelines, vehicle LOS is no longer to be used as a determinant of significant environmental impacts, and an analysis of a project's impacts relative to VMT is the new metric against which significant impacts are to be assessed. As explained below, in the Spring of 2019, CSU issued its *2019 California State University Transportation Impact Study Manual*, which provides a methodology, including significance thresholds, for assessing a project's impacts in terms of VMT.

Office of Planning and Research Technical Advisory

The OPR Technical Advisory, identified previously, is one in a series of advisories provided by OPR as a service to professional planners, land use officials, and CEQA practitioners. This advisory contains technical recommendations regarding the assessment of VMT-related impacts, thresholds of significance, and mitigation measures. OPR issues technical assistance on issues that broadly affect the practice of land use planning and CEQA (Pub. Resources Code, § 21000 *et seq*.). (Ca. Gov. Code, § 65040, subds. (g), (l), (m).) The purpose of the OPR Technical Advisory document is to provide advice and recommendations, which lead agencies and other entities may use at their discretion. The document does not alter lead agency discretion in preparing environmental documents subject to CEQA and the document should not be construed as legal advice.

California State University Transportation Impact Study Manual

As previously noted, in response to the methodological change in required transportation analysis initiated by SB 743, the CSU Office of the Chancellor issued the *2019 California State University Transportation Impact Study Manual* (2019 CSU TISM), which supersedes the *2012 CSU TISM*. The 2019 CSU TISM provides guidance for the preparation of CEQA-compliant transportation impact analysis pursuant to SB 743 and is the operative TISM for the analysis presented here. See Section 4.13.3.2 for additional information about the methods used in the VMT analysis contained in this section, based on the TISM.

Integrated California State University Administrative Manual

The Integrated California State University Administrative Manual (ICSUAM) guidelines require that individual CSU building projects be reviewed by the California State Fire Marshall involving a plan review and approval followed by periodic filed inspections concluding with issuance of a certificate of occupancy to provide for adequate emergency access and building safety features.

Fort Ord Reuse Authority Act

The Fort Ord Reuse Authority Act was implemented to facilitate the transfer and reuse of the Fort Ord military base, and established the Fort Ord Reuse Authority (FORA) as the entity responsible for planning, financing, and carrying out the transfer and reuse of the base in a cooperative, coordinated, balanced, and decisive manner (Cal. Gov. Code § 67650 *et seq.)*. Founded in 1994, FORA was responsible for oversight of the Monterey Bay area economic recovery following the closure and reuse planning of the former Fort Ord military base. Pursuant to the Act, FORA's legislatively defined mission was complete as of June 30, 2020 and FORA has been dissolved per the FORA Resolution No. 18-11.

The FORA Resolution No. I8-11 approved a Transition Plan that was submitted to the Monterey County Local Agency Formation Commission and that assigns assets and liabilities, designates responsible successor agencies and provides a schedule of remaining obligations (FORA 2018). The Transition Plan calls for the cities of Marina, Seaside, Monterey and Del Rey Oaks and the County of Monterey to follow the Reuse Plan policies and programs and states that "…the implementation of the on-site Fort Ord transportation network and transit policies and programs are essential to the long-term success of the economic recovery of the reuse." The Resolution further states that after FORA's ultimate dissolution, any changes to the policies and programs of the Reuse Plan or any part thereof will be made by the respective land use jurisdictions only after full compliance with all applicable laws, including but not limited to CEQA.

After the official closure of Fort Ord in 1994, FORA adopted the Fort Ord Reuse Plan (Reuse Plan) in 1997 (FORA 1997). The Reuse Plan provided a framework for the reuse of more than 45 square miles of the former Fort Ord army base. The Reuse Plan identified transportation improvements to create a balanced transportation system, including pedestrian ways, bikeways, transit, and streets to provide for the safe and efficient movement of people. Responsibility for the remaining capital improvements in the Reuse Plan has been transitioned to the local agencies for implementation. The remaining capital improvements enhance regional access alternatives, provide additional local access routes, and enhance the internal circulation system to reduce through trips on facilities in the higher density or otherwise sensitive areas.

The FORA Regional Urban Design Guidelines (RUDG), adopted on June 10, 2016, establish standards for road design, setbacks, building height, landscaping, signage, and other matters of visual importance (FORA 2016). RUDG emphasizes the application and importance of the complete streets and connected street network, as well as providing well designed transit facilities with improvement in rider experience and economic vitality. To realize and support the complete streets concept, the following objectives are identified within the guidelines:

- Encouraging appropriate development scale and pattern to a village environment
- Minimizing street scale to facilitate pedestrian movement while providing adequate circulation and parking opportunities
- Minimizing street width to provide comfortable pedestrian environment

4.13.2.3 Regional

AMBAG Regional Transportation Plan

The AMBAG is the Metropolitan Planning Organization (MPO) for the three-county region (Monterey County, San Benito County, and Santa Cruz County). As the MPO, AMBAG is responsible for preparing the regional transportation plan and sustainable community strategy plan titled *2040 Metropolitan Transportation Plan and Sustainable Communities Strategy* (2040 MTP/SCS)[3] and published in June 2018 (AMBAG 2018). The 2040 MTP/SCS is a 20-year planning document that is updated every 3 years with the following goals and policy objectives:

- Access and Mobility – Provide convenient, accessible, and reliable travel options while maximizing productivity for all people and goods in the region.
- Economic Vitality – Raise the region's standard of living by enhancing the performance of the transportation system.
- Environment – Promote environmental sustainability and protect the natural environment.
- Healthy Communities – Protect the health of our residents; foster efficient development patterns that optimize travel, housing, and employment choices and encourage active transportation.
- Social Equity – Provide an equitable level of transportation services to all segments of the population.
- System Preservation and Safety – Preserve and ensure a sustainable and safe regional transportation system.

Based on these goals and policies, a financially constrained transportation network (i.e., one recognizing current financial limitations) was prepared by AMBAG to establish the planned improvements that best meet the goals and policy objectives and available funding projections.

4.13.2.4 Local

As a state entity, CSUMB is not subject to local government permitting and planning regulations, policies, or ordinances, such as the general plans and ordinances for the cities of Marina and Seaside and the County of Monterey. While that is the case, local plans relating to transportation are summarized below to provide context for the analysis of potential conflicts with transportation plans, required to address one of the standards of significance presented in Section 4.13.3.1 below.

[3] This document is also called *Moving Forward Monterey Bay 2040*.

Seaside General Plan

Seaside General Plan (2004)

The 2004 Seaside General Plan includes goals to provide and maintain the City of Seaside's transportation network and ensure that its transportation network integrates with the regional transportation system (City of Seaside 2004). The general plan also includes multimodal goals to promote additional transit usage and adequate parking. Key transportation goals and policies from the 2004 Seaside General Plan relevant to the analysis presented here include:

Key Goals:

- *Goal C-1:* Provide and maintain a City circulation system that promotes safety and satisfies the demand created by new development and redevelopment in Seaside.
- *Goal C-2:* Provide a local circulation system that is integrated with the larger regional transportation system to ensure the economic well-being of the community.
- *Goal C-3:* Promote the increased use of multi-modal transportation.
- *Goal C-4:* Ensure adequate parking is provided throughout Seaside.

Key Policies:

- *Policy C-1.1*: Design roadway capacities and ensure transportation facilities that adequately serve planned land uses.
- *Policy C-1.2*: Improve the Seaside circulation system in concert with public and private land development and redevelopment projects to maintain the City standard of Level of Service "C".
- *Policy C-1.3*: Coordinate improvements to and maintenance of the City circulation system with other major transportation and infrastructure improvement programs.
- *Policy C-1.4*: Provide adequate access to the University, golf courses, and other uses in North Seaside.
- *Policy C-1.5*: Use traffic calming methods within residential and mixed-use areas where necessary to create a pedestrian-friendly circulation system.
- *Policy C-1.6*: Apply creative approaches to increase safety and reduce congestion in areas with unique problems, such as: neighborhoods with narrow, one-way streets; areas around schools; neighborhoods with non-essential alleys, businesses with drive-through access; and other special situations.
- *Policy C-1.7*: Reduce impacts on residential neighborhoods from truck traffic and related noise.
- *Policy C-2.1*: Coordinate planning, construction and maintenance of development projects and circulation improvements with adjacent jurisdictions and transportation agencies.

- *Policy C-2.2*: Support programs that help reduce congestion and encourage alternative modes of transportation.
- *Policy C-2.3*: Support development that is compatible with increased operations at the Monterey Peninsula Airport.
- *Policy C-3.1*: Support the provision and expansion of regional transit services and support facilities to serve the City.
- *Policy 3.2*: Work with MST to provide special transit services to meet community needs.
- *Policy C-3.3*: Promote mixed use, higher density residential, and employment-generating development in areas where public transit is convenient and desirable.
- *Policy C-3.4*: Support alternative modes of transportation that encourage physical activity, such as biking and walking.
- *Policy C-4.1*: Require off-street parking in new development and redevelopment projects.
- *Policy C-4.2*: Support the development of well-designed and aesthetically pleasing parking facilities in areas where current parking deficiencies exist or where substantial traffic generating uses are planned.
- *Policy C-4.3*: Ensure well-landscaped parking lots that facilitate pedestrian movement and screen unattractive structures.

Seaside Draft General Plan Update

In addition to the existing general plan approved in 2005, the City of Seaside currently is preparing its next general plan, the 2040 General Plan, *Seaside 2040*, which includes a vision for a multimodal network of complete streets (City of Seaside 2017). The 2040 General Plan is in draft form and has not yet been adopted by the City Council; therefore, the information contained in the draft plan is advisory only. Goal LUD-23 in the *Seaside 2040* Land Use & Community Design section highlights the desire to transform the City's northern area into a "mixed-use, economically-vibrant Campus Town that serves the student population and leverages its geographic adjacency to CSUMB." The area is intended to be high-density with a multimodal focus to improve access and connections for all modes to CSUMB.

Additionally, the 2040 General Plan presents different modal priorities than the currently adopted 2005 General Plan. The 2005 General Plan includes a LOS policy that requires the City of Seaside to maintain a LOS C standard during peak hours. Using this LOS C standard requires the construction of larger intersections, which can have a negative effect on pedestrian and bicycle access and comfort. Thus, the draft 2040 General Plan (November 2017) goals include policies that focus on creating accessible, complete streets for all users of the street system and paths. Key transportation goals and policies relevant to the analysis presented here from the 2040 General Plan include:

Key Goals:

- *Goal M-1:* A citywide network of "complete streets" that meets the needs of all users, including bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, public transportation, and seniors.
- *Goal M-2:* Mobility options that serve the multi-modal access and travel needs generated by new development in a manner suitable to the local context.
- *Goal M-5:* A citywide bicycle network that connects residential, commercial, educational and recreational uses, and earns Seaside the reputation of a bicycle-friendly city.
- *Goal M-6:* Transit service that is frequent and convenient, and maximizes ridership potential for residents, employees and visitors.
- *Goal M-7:* A safe transportation system that eliminates traffic-related fatalities and reduces non-fatal injury collisions.
- *Goal M-9:* Minimize the impact of motor vehicle parking on residential neighborhoods.
- *Goal M-10:* Environmentally sustainable transportation.
- *Goal M-11:* Integrate Seaside's circulation system with the larger regional transportation system to ensure the economic well-being of the community.

Key Policies:

- *Planning for all modes and transportation/ land use integration.* Design streets holistically, using a complete streets approach, which considers pedestrians, bicyclists, motorists, transit users, and other modes together to adequately serve future land uses.
- *Coordination with new development.* Improve the Seaside circulation system in concert with public and private land development and redevelopment projects.
- *Traffic calming*. Consider the implementation of traffic calming measures to reduce speeding and make streets user-friendly for all modes of transportation, including pedestrians and bicyclists.
- *Multi-modal connectivity.* Promote pedestrian and bicycle improvements that improve connectivity between existing and new development.
- *Pedestrian amenities.* Require new development and redevelopment to increase connectivity through direct and safe pedestrian connections to public amenities, neighborhoods, shopping and employment destinations throughout the City.
- *Bikeway network completion.* Strive to complete the citywide bicycle network to create a full network of bicycle facilities throughout Seaside.
- *Transit Priority Corridors.* Provide measures to reduce delay to transit vehicles on priority transit corridors, such as queue-jump lanes and/or bus signal prioritization, where feasible, on transit priority street segments.

- *Transit amenities*. Support right-of-way design and amenities consistent with local transit goals to make it easier to get to transit services and improve transit as a viable alternative to driving.
- *Transit stop maintenance is provided.* Work with local and regional transit agencies to ensure that transit stops are maintained in a safe, clean, and attractive condition to encourage transit ridership.
- *Safety Improvements.* Provide safety improvements, and prioritize pedestrian circulation over other travel modes, along high-injury and fatality streets and intersections.
- *Safety and traffic calming.* Use traffic calming methods within residential and mixed-use areas, where necessary, to create a pedestrian-friendly circulation system.
- *Safety for all modes.* Ensure that planned non-transportation capital improvement projects, on or near a roadway, consider safety for all modes of travel during construction and upon completion.
- *Transportation demand management (TDM).* Promote TDM measures for new development. Measures may include subsidized transit passes, car share spaces, unbundled parking, and secured bicycle parking. Allow the City to provide incentives to new projects that provide TDM measures.
- *TAMC and countywide planning efforts.* Continue to support the overall vision, goals, objectives and policies as a partner in TAMC. The City recognizes the regional significance of connecting bicycle and pedestrian facilities, sharing consistent guidelines, needs, and preferences within the City and the greater Monterey County.
- *Regional transit.* Continue to support and encourage development of TAMC's planned regional transit projects and coordinate service and facilities for new development and redeveloped parts of the City.

Marina General Plan

The Marina General Plan was adopted on October 31, 2000 and updated with amendments through August 4, 2010 (City of Marina 2010). The Marina General Plan lays out broad goals and specific policies on land use, community design, circulation, housing, public facilities, open space, recreation, conservation, noise, seismic and safety, and historic preservation. The following are the primary policies of the Marina General Plan from the Transportation Element that are relevant to the analysis presented here:

- *Policy 3.3.2:* Reduce the length and travel time of work trips generated by local residents by maximizing opportunities for residents to work within the community.
- *Policy 3.3.4:* Reduce the number and length of vehicular trips and limit overall traffic congestion by promoting land use patterns which allow for multipurpose trips and trip deferral during peak travel times.

- *Policy 3.3.5:* The City of Marina shall ensure that walking and bicycling routes are integral parts of street design and form a safe and preferred transportation network. Protect existing and future residential areas from through-traffic that creates safety, noise, and pollution problems.
- *Policy 3.3.7:* The City of Marina shall coordinate with surrounding jurisdictions and agencies, such as TAMC, Caltrans, California Department of Parks and Recreation, Monterey Peninsula Regional Parks District, CSUMB, AMBAG, FORA, BLM [Bureau of Land Management], City of Seaside and Monterey County to pursue projects that develop new pedestrian and bicycle routes and that improve and maintain existing pedestrian and bicycle routes. New routes shall be linked to existing routes wherever possible.
- *Policy 3.3.8:* Link existing and future areas of the City with an integrated system of roads, transit, footpaths and bikeways that connects neighborhoods, commercial areas, schools, parks, and other major community-serving destinations.
- *Policy 3.3.9:* Where necessary and feasible, accept some traffic congestion to achieve other community goals, such as encouraging the integrity of neighborhoods and the use of alternative means of travel.
- *Policy 3.3.10:* Make all transportation decisions within a broad policy context that considers visual, environmental, economic and social objectives rather than being solely responsive to existing or projected traffic problems.

Monterey County General Plan

The Monterey County General Plan, released on October 26, 2010, presents a long-range vision for the County, looking forward 25 years into the future (County of Monterey 2010). The transportation goals and polices in the Circulation Element relevant to the analysis presented here are listed below:

- *Goal C-1* – Achieve an acceptable level of service by 2030.
  - *Policy C-1.1* – The acceptable level of service of County roads and intersection shall be Level of Service D, except as follows:
    - Acceptable level of service for County roads in Community areas may be reduced below LOS D through the Community Plan process.
    - County roads operating at LOS D or below at the time of adopting this General Plan shall not be allowed to be degraded further except in Community areas where the Lower LOS may be approved through the Community Plan process.
    - Area Plans prepared for County Planning Areas may establish an acceptable level of service for County roads other than LOS D. The benefits which justify less than LOS D shall be identified in the Area Plan. Where an Area Plan does not establish a separate LOS, the standard LOS D shall apply.

- *Goal C-2* – Optimize the use of the County's transportation facilities.
  - *Policy C-2.4* – A reduction of the number of vehicle miles traveled per person shall be encouraged.
  - *Policy C-2.6* – Bicycle and automobile storage facilities shall be encouraged in conjunction with public transportation facilities.
- *Goal C-3* – Minimize the negative impacts of transportation in the County.
  - *Policy C-3.1* – Transportation modes shall be planned and strategies developed to: protect air quality; reduce noise; reduce the consumption of fossil fuels; and minimize the acquisition of land for roadway construction.
- *Goal C-4* – Provide a public road and highway network for the efficient and safe movements of people and commodities.
  - *Policy C-4.2* – All new roads and interior circulation systems shall be designed, developed, and maintained according to adopted County standards or allowed through specific agreements and plans.
  - *Policy C-4.5* – New public local and collector roads shall be located and designed to minimize disruption of existing development, discourage through auto traffic and provide for bicycle and pedestrian traffic within the right-of-way.
  - *Policy C-4.7* – Where appropriate and sufficient public right-of-way is available, bicycle paths shall be separated from major roads and highways and be provided between adjacent communities.
- *Goal C-5* – Maintain and enhance a system of scenic roads and highways through areas of scenic beauty without imposing undue restrictions on private property or constricting the normal flow of traffic.
  - *Policy C-5.5* – Agencies involved in officially designating State Scenic Highways and/or County Scenic Roads shall coordinate their efforts for the integrated design and implementation of such designations.
- *Goal C-6* – Promote viable transportation options.
  - *Policy C-6.3* – The County shall encourage new development to concentrate along major transportation corridors and near cities to make transit services to these areas more feasible.
  - *Policy C-6.8* – The County shall encourage coordination between all social service transportation providers.
- *Goal C-8* – Encourage a rail system that offers efficient and economical transport of people and commodities.
- *Goal C-9* – Promote a safe, convenient bicycle transportation system integrated as part of the public roadway system.

- *Policy C-9.2* – Construction of expansion of roadways within major transportation corridors shall consider improved bike routes.
- *Policy C-9.5* – Visitor-serving facilities shall provide adequate bicycle access and secure bicycle parking facilities.

TAMC Congestion Management Program

TAMC is the designated Congestion Management Agency for Monterey County. In 1990, the state passed legislation requiring CMAs like TAMC to implement a Congestion Management Program (CMP). The CMP provides level of service and performance standards, trip reduction techniques, development of deficiency programs, transportation system management, and capital improvement programming for the purpose of minimizing regional traffic impacts of development. As a designated CMA, TAMC reviews land use development proposals in order to ensure that traffic impacts of land use development are mitigated. TAMC also undertakes traffic counting regionally, and projects traffic impacts on regional roadways based on adopted general plans and other land use planning documents.

2018 Monterey County Active Transportation Plan

The *Monterey County Active Transportation Plan 2018 (*ATP 2018*)* is an update of the 2011 Bicycle and Pedestrian Master Plan, which identified all existing and planned bicycle and pedestrian facilities in Monterey County (TAMC 2018). The Plan identifies remaining gaps in the bicycle and pedestrian network and opportunity areas for innovative bicycle facility design, such as a planned separated bikeway (Class IV) improvement along Inter-Garrison Road. These pedestrian and bicycle planned improvements, including the planned Inter-Garrison Road improvement, are shown on Figure 4.13-2 and Figure 4.13-3. The ATP has added more emphasis on "low-stress networks" that serve people of all ages and abilities, such as separate bike paths, protected bike lanes, bicycle boulevards, and bike protection at intersections. Goals set out in the Plan relevant to the analysis presented here include:

- Increasing the proportion of active transportation trips throughout Monterey County.
- Improve bicycle and pedestrian safety.
- Remove gaps and enhance bicycle and pedestrian network connectivity.
- Provide improved bicycle and pedestrian access to diverse areas and populations in Monterey County
- Increase awareness of the environmental and public health benefits of bicycling and walking for transportation and recreation.
- Improve the quality of the bike and pedestrian network through innovative design and maintenance of existing facilities.

Monterey-Salinas Transit Designing for Transit

MST developed the Designing for Transit manual in November 2006 to provide guidance to decision-makers, developers, and community members on planning for safe and efficient transit (MST 2020). This includes guidance on considerations and statements other agencies should consider in their general plans and planning. MST advises these policy statements should be considered in General Plans to achieve a multi-modal transportation network:

- Integrate land use and circulation plans to create an urban environment that supports a multi-modal transportation system;
- Prioritize future development and redevelopment projects that are accessible using the existing multi-modal transportation network;
- Direct development to areas with a confluence of transportation facilities (sidewalks, bike paths, park & rides, and transit centers); and
- Limit development in areas accessible by only a single transportation mode

4.13.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to transportation. The section identifies the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts and the Project's contribution to significant cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.13.3.1 Thresholds of Significance

The significance thresholds used to evaluate the transportation impacts of the Project are based on Appendix G of the CEQA Guidelines and the 2019 CSU TISM (CSU 2019). Based on these two sources, the Project would result in a significant impact related to transportation if:

A. The Project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
B. The Project would result in a VMT-related impact as described below in Table 4.13-4.
C. The Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
D. The Project would result in inadequate emergency access.

For plan conflicts (Threshold A), the programs, plans, ordinances, and policies considered in the analysis presented here are those provided in Section 4.13.2, Regulatory Framework. For VMT impacts (Threshold B), the TISM recommends specific numeric thresholds for project and cumulative conditions as shown in Table 4.13-4. Based on these recommended thresholds, Table 4.13-4 also provides the numeric thresholds applicable to the analysis of Project and cumulative impacts, as described in detail in Section 4.13.3.2, Analytical Method.

Table 4.13-4
CSU TISM VMT Significance Thresholds

Impact Categories	CSU Significance Thresholds	Calculated Numeric Thresholds for Project
Project Impacts	The threshold to be applied in assessing project-specific impacts is 15% below the existing total VMT per service population rate of Monterey County.	The Project would result in a significant project-specific impact if the CSUMB campus total VMT per service population under existing with Project conditions is greater than **23.91.**
Cumulative Impacts	The threshold to be applied in assessing cumulative impacts is no change in the cumulative conditions (future) boundary VMT per service population for Monterey County.	The Project would result in a significant cumulative impact if it causes the cumulative countywide daily boundary VMT per service population to be greater than **14.07**.

Source: CSU 2019.

4.13.3.2 Analytical Method

Program- and Project-Level Review

The transportation impact analysis presented in this section includes a program-level analysis of the Project, as described in Chapter 3, Project Description. The analysis presented here also includes a project-level analysis of the 5 near-term development components that would be implemented under the Master Plan. Both construction and operation of the Project are considered in the impact analysis, where relevant. In the event significant environmental impacts would occur even with incorporation of applicable regulations and proposed project design features (PDFs), mitigation measures are identified to reduce impacts to less than significant, where feasible. PDFs from Chapter 3, Project Description, that are applicable to the transportation analysis are described below.

Project Design Features

Project elements that would affect the transportation system include the proposed increase in student enrollment and associated increase in faculty and staff, the added on-campus housing for students, faculty, and staff, and a Main Campus street and parking system that facilitates and prioritizes walking, bicycling, and transit use over vehicle travel. The related Project design features (PDF) are summarized below. See Chapter 3, Project Description for the details of each PDF.

There are a number of PDFs that are incorporated into the quantitative elements of the technical analysis (i.e., the trip generation rates), including:

- *PDF-MO-1 and PDF-MO-2* provide that CSUMB will accommodate at least 60 percent of enrolled students and 65 percent of faculty and staff in on-campus housing. CSUMB will implement these PDFs to ensure that these campus housing goals are met, which will minimize vehicle commute travel to and from the campus. Appendix C, Student Housing and Parking Management Guidelines, and the CSUMB Housing Guidelines (CSUMB 2022) provide additional information about meeting the identified housing goals.
- *PDF-MO-6(c)* provides that CSUMB will implement strategies and measures to reduce parking demand including that parking will be consolidated and relocated to select areas on the periphery of the campus core. While this PDF includes other measures (e.g., maintaining existing parking supply, prohibiting residential Freshmen and Sophomores from purchasing a parking permit, a "park once" policy), such measures are not assumed in the quantitative analysis.
- *PDF-MO-8* establishes restrictions to general vehicle travel through the campus core and locates vehicle circulation and parking on the campus periphery (see Chapter 3, Project Description, Figure 3-9). Specifically, vehicle access will be limited to CSUMB students, faculty, and staff vehicles on General Jim Moore Boulevard between Eighth Street and Fifth Street. Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles at: Inter-Garrison Road between General Jim Moore Boulevard and Sixth Avenue, Divarty Street between General Jim Moore Boulevard and Seventh Avenue, Fourth Avenue between Divarty Street and Inter-Garrison Road, Fifth Avenue between Divarty Street and Inter-Garrison, A Street between Divarty Street and Seventh Avenue, Sixth Avenue between B Street and north of Divarty Street, and Butler Street between Sixth Avenue and Seventh Avenue. Additionally, Seventh Avenue between Colonel Durham Street and Butler Street will be converted to one-way for vehicles traveling north from Colonel Durham Street to Inter-Garrison Road.

Other mobility PDFs are considered qualitatively in the technical analysis, thereby resulting in overstating impacts, including:

- *PDF-MO-3 through PDF-MO-5* provide for mixed-use campus development with amenities, a mix of on-campus student housing types and a compact campus core that support and improve campus life, reduce vehicle travel off campus and promote on-campus pedestrian and bicycle access.
- *PDF-MO-6* provides for the implementation, enhancement, and expansion of TDM strategies to reduce single-occupant vehicle trips as part of a formal TDM Plan (PDF-MO-6). The TDM plan will address parking management, transit mobility (PDF-MO-12 through

PDF-MO-16), bicycle and pedestrian mobility (PDF-MO-17 through PDF-MO-18), and program monitoring and administration.

- *PDF-MO-7 and PDF-MO-9* provide for the expansion of the campus multi-modal transportation system infrastructure and programs by establishing two multimodal hubs to provide centralized arrival points on campus from the four campus entries with signs that lead to two key arrival areas including: Divarty Street and General Jim Moore Boulevard on the west side (Peninsula Gateway) and Inter-Garrison Road and Sixth Avenue on the east side (Valley Gateway).
- *PDF-MO-10 and PDF-MO-11* provide for expansion and maintenance of a comprehensive regional wayfinding sign sequence from the primary campus entrances, to campus parking locations, along with universally accessible design throughout campus.
- *PDF-MO-12 though PDF-MO-16* provide for continued free or discounted access to campus, local and regional transit services; maintenance of connections to regional transit from Main Campus and East Campus Housing; improvement of the campus shuttle; expansion of the para-transportation services on campus; and implementation of transit design standards.
- *PDF-MO-17 and PDF-MO-18* establish bicycle mobility as an important travel consideration, prioritized before internal vehicle travel in campus development and programs by implementing a range of measures, including but not limited to establishing at least one form of bicycle route facility on or adjacent to all campus roadways. Pedestrian mobility is established as the primary travel consideration in campus development and programs by expanding accessible pedestrian pathways on campus and linking to adjacent commercial developments along the campus periphery and to surrounding destinations.
- *PDF-MO-19* requires the development and implementation of a construction traffic control plan when construction projects require significant work within existing roadways.

Technical Methods

The VMT approach and technical methods were tailored for the Project because of the size of the CSUMB campus, the unique travel behavior of each portion of the CSUMB population, and varied housing locations of the CSUMB population. In establishing conditions tailored for the Project, the Project trip generation is based on observed CSUMB travel characteristics and the assumption that the existing parking management and TDM measures, described in Section 4.13.1.2, Environmental Setting, would remain in place on the CSUMB campus, and those measures continue to be effective in reducing vehicle trip making and encouraging the use of other modes of travel.[4] Rather than calculating the net increase in the Project's total VMT due to

[4] Disruptive trends, including but not limited to, transportation network companies (TNCs), autonomous vehicles (AVs), internet shopping, remote-working or remote-learning, and micro-transit may affect the future effectiveness of these strategies.

the net increase in land uses like most projects, total VMT is estimated for the entire campus under both existing conditions and Project conditions to capture the effects of increasing on-campus housing and shifting student housing from East Campus Housing to Main Campus. Specifically, the Project VMT is the net new CSUMB campus total VMT, which is the difference between the total VMT under existing conditions and the total VMT under Project conditions. For the cumulative conditions analysis, the change in the boundary VMT on the roadway system in Monterey County is evaluated without and with the Project. The subsections below review the VMT assessment and estimation methods used in the VMT analysis. Impact TRA-2 describes the analysis scenarios evaluated in the VMT analysis.

VMT Assessment Methods

As discussed below, the VMT analysis presented in this section and in Appendix H considers the Project's direct impacts, as well as a cumulative analysis that considers the Project's long-term effect on VMT. The VMT analysis methods and thresholds used for this analysis are consistent with both CEQA and the *2019 CSU TISM* and address the unique characteristics of a university campus development project, which are not specifically addressed in the OPR *Technical Advisory*.

While the OPR *Technical Advisory* recommends considering a project's short-term, long-term, and cumulative effects on VMT, it provides limited recommendations on how to prepare a comprehensive VMT analysis for university projects. Accordingly, after careful evaluation of the OPR *Technical Advisory* relative to a university setting, the CSU Chancellor's Office prepared the *2019 CSU TISM* to provide guidance for CEQA compliant transportation impact analyses pursuant to SB 743 for all CSU campuses.

To implement the SB 743 VMT assessment, certain decisions about methods were made relative to the VMT forecasting model, VMT accounting methods, calculation of the baseline and cumulative regional VMT estimates, and VMT thresholds required for a comprehensive analysis. The necessary tasks and the selected tools used to implement each task are as follows:

- Select a VMT calculation tool
  - Use the AMBAG regional travel forecasting model.
- Select the VMT accounting method(s)
  - Total (Project-Generated)[5] VMT per service population (for Direct Impacts): The sum of the "VMT from" and "VMT to" and within a specific geographic area divided

[5] For projects requiring a full VMT assessment, the *2019 California State University Transportation Impact Study Manual* describes the need to evaluate the project-generated VMT per service population. This analysis uses the total VMT metric. The Project's VMT is the difference between the CSUMB campus total VMT under existing with Project conditions and existing conditions. This approach of identifying the Project's total VMT is to capture the effects of increasing on-campus housing and shifting student housing from East Campus Housing to Main Campus.

by the service population, which is the sum of the number of residents, employees, and students in the county.

- Project's effect on VMT per service population (for Cumulative Impacts): An evaluation of the change in travel between without and with Project conditions on all roadways within Monterey County under cumulative conditions divided by the sum of the number of residents, employees, and students in the county.

- Calculate the baseline and cumulative regional VMT estimates
  - The analysis presented here uses VMT from all trip purposes and vehicle types (i.e., there is no separation of VMT by land use) for Monterey County with a baseline set as existing conditions VMT generated by Monterey County and cumulative set as VMT on all roadways in Monterey County under cumulative without Project conditions. (See VMT Estimation Methods below for more details.)
- Set VMT threshold(s)
  - The threshold to be applied in assessing Project-specific impacts is 15 percent below the existing total VMT per service population rate of Monterey County.[6] (See Table 4.13-4 for additional details about this threshold.)
  - The threshold to be applied in assessing cumulative impacts (Project's effect on VMT) is no change in the cumulative conditions (future) boundary VMT per service population (without and with Eastside Parkway) for Monterey County. (See Table 4.13-4 for additional details about this threshold.)

As to direct impacts, total VMT per service population is the metric used to evaluate how the CSUMB campus VMT rate changes (increases or decreases) between the "without Project" and "with Project" scenarios, considering both VMT increases due to growth and VMT reductions due to changes in travel behavior. The "with Project" scenario results are divided by the number of full-time equivalent students (FTES) and FTE faculty and staff (the change in service population due to the Project) to normalize the results – that is, to account for the differences in travel behavior among the different campus population types. Total VMT per service population is used to evaluate changes in the VMT rate due to the Project (i.e., the direct impacts); however, it does not evaluate a Project's effect on VMT on the entire roadway system, which is evaluated as part of the cumulative analysis.

Regarding the cumulative analysis, the CSUMB campus land use changes are relatively small in the context of Monterey County's residential population and employment; therefore, it is likely that the Project's effect on VMT (cumulative impact) would be localized, such as shifting some existing

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6 The CSU has selected the 15 percent reduction relative to Monterey County based on the OPR Technical Advisory. (See, e.g., OPR Technical Advisory, page 10, December 2018).

trips to/from other neighborhoods close to the CSUMB campus. Furthermore, the Project is likely to cause existing pass-through traffic to shift to alternate routes as more CSUMB campus-generated traffic occurs on the local streets within and near the CSUMB campus. Therefore, the Project's effect on VMT, as evaluated by the cumulative effects of the Project's land use and transportation changes, compares the changes in boundary VMT per service population between the cumulative and cumulative with Project conditions, including with and without Eastside Parkway conditions.

VMT Estimation Methods

Total VMT per Service Population Estimation Method

The total VMT is the VMT from all vehicle trips for all trip purposes and types caused by the residential population, employment population, and student population in a specified area. It is calculated by summing the "VMT within" the specified geographic area (internal-internal trips), "VMT from" the specified geographic area (internal-external trips), and "VMT to" the geographic area (external-internal trips), as follows:

$$Total\ VMT = (II + IX) + (II + XI) = 2 * II + IX + XI$$

- Internal-internal (*II*): The full length of all trips made entirely within the specified geographic area limits.
- Internal-external (*IX*): The full length of all trips with an origin within the specified geographic area and a destination outside of the area.
- External-internal (*XI*): The full length of all trips with an origin outside of the specified geographic area and a destination within the area.

The intra-zonal VMT and VMT between traffic analysis zones, or TAZs, that are in the specified geographic study area causes some double-counting, which is an expected result when summing the trip-end based on VMT. To ensure the VMT rate is expressed properly (i.e., that the numerator and denominator include the generators of both trip ends of the VMT), the total VMT is divided by the service population (residential population, employment population, plus student population), whom are the generators of both trip ends of the VMT. The VMT estimates are also presented on a per service population basis to account for both the effects of population and/or employment growth and the effects of changes in personal travel behavior. For example, population growth may cause an increase in VMT, while travelers changing their behavior by using different travel modes or decreasing their vehicle trip lengths (such as a higher percentage of students living on campus) would cause decreases in VMT.

Project's Effect on VMT Estimation Method (Using Boundary VMT)

As previously noted, the Project's effect on VMT, or cumulative impact, generally is evaluated using boundary VMT, which captures all VMT on the roadway network within a specified geographic area, including local trips plus interregional travel that does not have an origin or destination within the region. The boundary VMT method only considers traffic within the physical limits of the selected study area and does not include the impact of vehicles once they travel outside the area limits. Thus, the use of boundary VMT provides a complete evaluation of the potential effects of the Project because it captures the combined effect of new VMT, shifting existing VMT to/from other neighborhoods, and/or shifts in existing traffic to alternate travel routes or modes. As considered here, the boundary VMT also is divided by the service population (sum of residents, employees, and students) to account for the effects of population and/or employment growth, and the effects of changes in personal travel behavior within the specified geographic area.

4.13.3.3 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of transportation impacts associated with the Project.

Impact TRA-1:	**Conflict with Program, Plan, Ordinance, or Policy Addressing the Circulation System (Threshold A).** The Project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities. *(Less than Significant)*

Master Plan

As indicated in Draft EIR Chapter 3, upon buildout of the Project, the campus would accommodate an increase in campus enrollment from the existing 6,634 FTES and 1,024 FTE faculty/staff to 12,700 FTES and 1,776 FTE faculty/staff.[7] Achieving this growth would result in an increase of approximately 6,066 FTE students and 752 FTE faculty/staff over existing levels.

The Project would also result in a net increase of approximately 2.6 million gross square feet (GSF) of new academic, administration, student life, athletic recreational, and institutional partnership facilities, and housing. Academic buildings would continue to be concentrated in the campus core to allow for pedestrian travel between buildings in under 10 minutes (PDF-MO-5). On-campus housing would be constructed to continue to accommodate approximately 60 percent of FTES and existing housing would accommodate 65 percent of FTE faculty and staff, with a projected increase of 3,820 student beds and 757 converted residential units for faculty and staff, as indicated in PDF-

7 Existing conditions are based on 2016/2017 academic year conditions.

MO-1 and PDF-MO-2. A mixture of uses and amenities in new student housing buildings would be provided to improve campus life and reduce vehicle travel (PDF-MO-3).

The Project would also accommodate redevelopment and growth in outdoor athletics and recreation facilities to serve campus needs, with space set aside for additional athletic fields, tennis courts, and pools, as well as for replacement of the existing stadium, field house, and pool house. Additionally, other key PDFs would be implemented as part of the Project that have transportation implications, including the PDFs summarized in Section 4.13.3.2, Analytical Methods, and further described in the analysis below.

The subsections below evaluate the Project's potential conflicts with programs, plans, ordinances or policies addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities. The proposed Master Plan and applicable PDFs are considered in the evaluation, where relevant. As a state agency, CSU/CSUMB is not subject to local planning regulations, ordinances, policies or requirements. However, to the extent feasible, CSU endeavors to coordinate with local agencies and, as such, this section includes analysis of the Project's consistency with such local plans.

Transit Evaluation[8]

Analysis of transit-related impacts encompasses two components: (1) transit capacity, and (2) the Project's consistency with local transit plans. For transit capacity, a significant impact would occur if the Project creates demand for public transit above existing or planned capacity. To determine the Project's consistency with local transit plans, an inconsistency would occur if the Project or any part of the Project:

- Disrupts existing transit services or facilities;[9] or
- Conflicts with an existing or planned transit facility; or
- Conflicts with transit policies adopted by the City of Seaside, Monterey County, Fort Ord Reuse Authority, Transportation Agency for Monterey County, or Monterey-Salinas Transit for their respective facilities in the study area.

Transit Capacity

Existing access for regional MST bus routes is provided primarily via Inter-Garrison Road, Imjin Road, and General Jim Moore Boulevard. Currently, regional routes mainly circulate through Inter-Garrison, Divarty Street, East Campus Housing, and General Jim Moore Boulevard.

8 When evaluating impacts to multimodal transportation networks, lead agencies generally should not treat the addition of new transit users as an adverse impact (OPR 2018).

9 This includes disruptions caused by the Project relative to transit street operations and transit stops/shelters; or impacts to transit operations from traffic improvements proposed or resulting from the Project.

Figure 4.13-4 shows the existing transit service in and around the campus. It is reasonable to expect that if there is adequate demand, existing transit circulation would be maintained in the future, including through the future restricted access segments of Inter-Garrison Road and Divarty Street, identified in PDF-MO-8 and shown in Figure 3-9 (Chapter 3, Project Description). Since these restricted access segments are primarily designed to preserve bicycle and pedestrian circulation near the core campus, regional transit travel would be limited as much as possible to core routes, and shuttles would primarily travel along the periphery of the Main Campus, as shown in Figure 3-10 (Chapter 3, Project Description).

With PDF-MO-14, additional shuttles are proposed to support the regional transit passing through the campus, as well as residents living in Main Campus and East Campus Housing. Existing shuttles run as MST routes and primarily travel along Inter-Garrison Road, Divarty Street, and East Campus. In the future, these additional shuttles are proposed to circulate in a larger loop serving the East Campus Housing, North Main Campus Housing, the multimodal hubs, and parking areas by traveling along the Fifth Street, Sixth Street, Inter-Garrison Road, Divarty Street, and General Jim Moore Boulevard (see Figure 3-10 in Chapter 3, Project Description).

The Project does not propose changes to the transit system that would impact the 2040 MTP/SCS goals of expanding the role transit plays in meeting the region's mobility needs such as investments in bus rapid transit, expansion of local services, and planned rail projects. Internal circulation changes within the campus would support core regional transit travel.

Project transit ridership is estimated using the existing mode splits for each population type by housing location. Assuming the public transit service levels and the destinations accessible by transit (e.g., portion of jobs and other land use destinations) remain similar between existing conditions and existing with Project conditions, and assuming no parking management strategies are implemented that would encourage transit ridership, for the reasons explained below, it is reasonable to expect that transit travel behavior (e.g., percent transit mode share for each population type and residential location) would generally remain the same as existing conditions. Therefore, the existing transit mode share by population type was used in calculating the Project transit ridership.

The reason for this determination is because switching from the disaggregated mode share splits for each population type and residential location to the Main Campus transit mode share, the analysis shows there actually would be a decrease in the transit mode share over time as students are moved from East Campus Housing to Main Campus and, therefore, would be less reliant on transit. Based on the CSUMB person trip survey, the transit mode share currently is less than 10 percent of the campus population travel. As more housing is built on campus and students are moved from East Campus Housing to Main Campus, the share of travel by walking and bicycling is expected to increase and the transit mode share is expected to drop to less than 5 percent (see Table 4.13-5).

However, while the transit mode share expressed as a percentage could decrease, the total number of transit riders is likely to increase as CSUMB increases its implementation of effective parking management and TDM strategies, which would result in an increase in the number of transit riders under future conditions. In particular, PDF-MO-6, PDF-MO-7, and PDF-MO-12 through PDF-MO-16 would result in the preparation and implementation of additional and expanded TDM measures to enhance and expand existing TDM strategies being implemented on campus, which would include measures to increase transit use. Relatedly, because the provision of transit service is reactive to increased demand for transit ridership, transit service can be increased via increased bus frequency and additional routes if justified, as acknowledged in PDF-MO-6(d).

Table 4.13-5
Existing and Project AM Peak Period Inbound Person Mode Share

Mode	All CSUMB Students, Faculty & Staff		CSUMB East Campus and Off-Campus Residents Only	
	Existing Conditions	Project Conditions	Existing Conditions	Project Conditions
Drive Alone[1]	53.8%	41.2%	75.0%	83.6%
Shared Ride[2]	8.7%	5.3%	10.0%	9.5%
Drive Sub-Total	***62.5%***	***46.5%***	***85.0%***	***93.1%***
Transit	9.6%	4.6%	12.2%	4.5%
Walk	24.2%	40.7%	0.5%	0.3%
Bicycle	3.1%	7.3%	2.1%	2.0%
Other	0.6%	0.9%	0.1%	0.1%

Source: Appendix H, Tables 24 and 25

Notes:

1. Drive alone includes motorcycles
2. Shared ride includes carpooling, vanpooling, drop-off, Transportation Network Companies like Uber and Lyft, and taxis.

As shown in Table 4.13-6, Main Campus transit ridership is expected to increase as the Project proposes to house more students on the Main Campus. The student population has higher existing transit ridership rates compared to faculty and staff. Since the same travel behaviors are assumed in the future, increasing the student population on the Main Campus would correspondingly increase Project ridership on the Main Campus. In comparison, transit ridership would decrease in the East Campus. The current East Campus Housing faculty and staff transit mode share is 2.9 percent, and the East Campus Housing student transit mode share is 32.8 percent. Relocation of student residents to the Main Campus and increasing the number of faculty and staff residents at East Campus Housing would therefore lower East Campus Housing Project transit ridership overall, because faculty and staff use transit less than students. The transit ridership numbers are based on a condition where there are no additional mobility PDFs being implemented to discourage use of single occupant vehicles, such as the parking management strategies in PDF-MO-6. As previously noted, future parking management strategies could cause transit ridership to increase, thereby potentially exceeding future projected ridership rates shown in Table 4.13-6. Should this occur it is expected that future transit service would be implemented to serve the future ridership demand, as indicated in PDF-MO-6(d).

Table 4.13-6
Transit Ridership Summary

Data Source	Existing Ridership		Project Ridership[4]	
	AM	PM	AM	PM
Main Campus				
Mode Share/Trip Gen Data[1]	31	23	67	49
MST Data[2]	27	41	N/A	N/A
East Campus Housing				
Mode Share/Trip Gen Data[1]	66	51	18	15
MST Data[3]	22	29	N/A	N/A

Source: Appendix H, Tables 14 and 15
Notes:
1. Peak hour ridership calculated using mode share data from person trip surveys (inbound - AM, outbound - PM), and campus population type by housing location.
2. Peak hour ridership data from Spring 2017 MST data for all Routes excluding Route 26.
3. Peak hour ridership data from Spring 2017 MST data for Route 26, which travels between East Campus and Main Campus.
4. Future ridership conservatively based on current conditions, assuming no increase in on-campus housing, parking policies or additional transit connectivity to encourage ridership.

A bus capacity analysis was conducted for the weekday AM and PM peak hours when the Project's estimated public transit ridership is the highest. This analysis assumes that public transit service levels and the destinations accessible by transit (e.g., portion of jobs and other land use destinations) are similar between existing conditions and existing with Project conditions. Therefore, Project transit riders are estimated to use each route in similar proportions as existing conditions. The estimated Project peak hour boardings per route are presented in Table 4.13-7. The Existing with Project peak hour boardings were then divided by the route's vehicle capacity to determine if the Project would cause the ridership-to-capacity ratio to exceed 1.0 and therefore create demand for public transit above the capacity that is currently provided.

As shown in Table 4.13-7, for each of the six MST bus routes serving the campus, boardings related to the Project would not result in over capacity conditions on any of the routes. Thus, the Project is not anticipated to create demand for public transit above the existing available capacity and, therefore, the impact of the Project on transit ridership and facilities would be *less than significant*.

Moreover, the additional shuttles proposed by the Project to circulate within the campus would not affect existing or planned transit facilities and would not reduce existing or planned capacity. These proposed shuttles would add capacity that could serve estimated Project ridership from the Main Campus and East Campus Housing, as described above.

Table 4.13-7
Weekday Peak Hour Bus Route Capacity Analysis

Route[1]	Peak Hour	Peak Hour Capacity [A][1]	Average Existing Peak Hour Boarding[2]	Project Peak Hour Boarding [3]	Total Boarding [B]	Over Capacity? (B/A>1?)
Main Campus						
12	AM PM	123 74	8 6	2 1	10 7	No No
16	AM PM	118 118	23 28	30 19	53 47	No No
18	AM PM	118 118	22 33	17 21	39 54	No No
25	AM PM	32 32	8 7	15 7	23 14	No No
74	AM PM	56 56	33 7	2 1	35 8	No No
East Campus						
26	AM PM	105 105	22 29	18 15	40 44	No No

Source: Appendix H, Table 16
Notes:

1. Bus capacity is a product of the average number of buses serving the route during the weekday AM and PM peak hours and sitting and standing capacity. Peak hour capacity was calculated by dividing the peak period capacity by two.
2. Calculations based on Spring 2017 Tuesday through Thursday peak period ridership data provided by MST. Peak hour boardings were calculated by dividing the peak period capacity by two.
3. Plan transit ridership per route estimated based on the proportion of ridership for the route.

Transit Plans and Policies

Consistent with the 2040 MTP/SCS, the existing transit circulation would be maintained in the future, including through the future restricted access segments of Inter-Garrison Road and Divarty Road. The changes to the vehicle circulation system as part of the Project would not interfere with existing transit facilities nor conflict with planned transit facilities and services or conflict with adopted transit plans, guidelines, policies, or standards. Additionally, the Project is supportive of transit use and goals, as indicated in PDF-MO-6, PDF-MO-7, and PDF-MO-12 through PDF–MO-16. Therefore, as the Project would not disrupt existing or planned transit facilities or conflict with transit programs, plans, ordinances, or policies, the impact would be *less than significant.*

Roadway Evaluation

To determine the Project's consistency with local roadway plans, the Project would be inconsistent if the Project or any part of the Project would disrupt existing or planned roadway facilities or conflict with a relevant program, plan, ordinance, or policy.

The Project includes modifications to existing campus parking and street facilities to create a more pedestrian and bicycle-oriented campus core (see Chapter 3, Project Description, Figures 3-9, 3-11 and 3-12). These modifications would cause existing and future local and regional traffic to circulate differently on-campus and in some cases divert traffic to adjacent streets. The expected influence on existing and future traffic for each of the key PDFs to be implemented as part of the Project, are listed below:

- Parking will be consolidated and relocated to select areas on the periphery of the campus core (PDF-MO-6[c]):
  - Traffic Volume Change: Less CSUMB vehicle traffic within the campus core. Increased volumes of CSUMB vehicles along the outer streets of the Main Campus.
- Vehicle access will be limited to CSUMB students, faculty, and staff vehicles on General Jim Moore Boulevard between Eighth Street and Fifth Street (PDF-MO-8):
  - Traffic Volume Change: Shifting of non-CSUMB vehicles to parallel streets of Second Avenue and Eighth Street and direct access to new parking lots for CSUMB vehicles along General Jim Moore Boulevard.
- Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles by limiting access at Inter-Garrison Road between General Jim Moore Boulevard and Sixth Avenue, Divarty Street between General Jim Moore Boulevard and Seventh Avenue, Fourth Avenue between Divarty Street and Inter-Garrison Road, Fifth Avenue between Divarty Street and Inter-Garrison, A Street between Divarty Street and Seventh Avenue, Sixth Avenue between B Street and north of Divarty Street, and Butler Street between Sixth Avenue and Seventh Avenue. (PDF-MO-8):
  - Traffic Volume Change: Shifting of existing and future vehicle traffic to nearby roadway facilities, including Second Avenue, Eighth Street (future street extension between Third Avenue and Fifth Avenue), Imjin Parkway, Eighth Street, Colonel Durham Street, and Gigling Road.
- Seventh Avenue between Colonel Durham Street and Butler Street will be converted to one-way for vehicles traveling north from Colonel Durham Street to Inter-Garrison Road (PDF-MO-8).
  - Traffic Volume Change: Shifting of outbound traffic to Eighth Avenue. (A complement to limiting vehicle access within the campus core.)

Overall, the Project would not conflict with existing or planned roadway facilities because the proposed roadway changes are limited to on-campus roads. Moreover, while the Project would result in a shift of vehicle traffic from the campus core to nearby roads, the Project also includes a "park once" policy (see PDF-MO-6c) that would limit vehicle circulation on local streets on or near the CSUMB campus during the day. Parallel transportation improvements (such as the Eighth Street extension and Gigling Road to Inter-Garrison Road) would serve the shifts in local and regional traffic that otherwise would travel through the CSUMB campus. The street modifications also would support a more walkable, bikeable and transit-oriented campus core. The Project is not expected to interfere with existing roadway facilities, conflict with planned roadway facilities or conflict with adopted transportation plans, guidelines, policies, or standards. Therefore, as the Project would not result in the disruption of existing or planned roadways, or conflict with a program, plan, ordinance, or policy, the impact would be *less than significant*.

Bicycle Evaluation

To determine the Project's consistency with local bicycle plans, a conflict would occur if the Project or any part of the Project would disrupt existing or planned bicycle facilities, or conflict with applicable bicycle plans, guidelines, policies, or standards.

The Project is expected to generate demand for bicycle lanes, bicycle routes, and off-street shared use paths between the campus and adjacent land uses, and travel to/from areas within the entire campus. The Project proposes to improve bicycle access along Inter-Garrison Road and Divarty Street by restricting vehicles along segments of these roadways next to the campus core, as show in Figure 3-9 and described in PDF-MO-8 and PDF-MO-17. Inter-Garrison Road has bicycle lanes (Class II) from East Campus Housing to Main Campus. The Project proposes to improve bicycle travel through the Main Campus by:

- Replacing the existing Class II facilities (bike lanes) on Inter-Garrison Road between Fourth Avenue and Sixth Avenue with Class I facilities (bike paths),
- Installing a Class I bicycle path facility in place of the existing Class III bicycle route facility along the future restricted access segment of Divarty Street between General Jim Moore Boulevard to Seventh Avenue, and
- Installing a Class I bicycle path along the segment of General Jim Moore Boulevard that transverses the Main Campus from Lightfighter Road to Divarty Street and that would serve as a main bicycle north-south route.
- Providing a network of Class 1 trails linking the campus together.

The proposed campus bicycle and pedestrian networks are shown on Figure 3-11 and Figure 3-12, respectively (see Chapter 3, Project Description).

To further facilitate bicycle and pedestrian travel, smaller interior parking lots would be removed, which would allow for increased internal campus facilities, such as campus bicycle and pedestrian paths and trails to aid pedestrian and bicycle circulation. These internal bicycle and pedestrian paths are proposed near housing and other campus buildings that would connect to the proposed bicycle facilities on roadways described above, and existing and planned facilities and trails, including the planned Fort Ord Regional Trail and Greenway (FORTAG) shown on Figure 3-11 (see Chapter 3, Project Description).

The FORTAG is a planned 30-mile network of regional trails that will connect Seaside, Marina, and CSUMB, and will extend to the existing Monterey Bay Sanctuary Scenic Trail that is parallel to SR 1. The FORTAG trail is planned to go through the Main Campus and along Butler Street, Eighth Street, and Divarty Street within the campus. The trail would also intersect with Inter-Garrison Road, General Jim Moore Boulevard, and Second Avenue within and around the Main Campus. The Project's consolidation of parking to satellite parking areas would not interfere with the FORTAG trail's alignment and would remove driveways of smaller existing parking lots near the Main Campus reducing the number of conflict points for the trail. The Project would not interfere with the FORTAG trail's planned route and proposes bicycle facilities that would provide connections to the trail.

Overall, the Project's bicycle enhancements on the campus core align with the ATP 2018, except for the planned improvement along a portion of Inter-Garrison Road. Under existing conditions, Inter-Garrison Road is a bike route (Class III bikeway) from Second Avenue to Seventh Avenue and has bike lanes (Class II bikeway) from Seventh Avenue to Inter-Garrison Road Connection. Under the ATP 2018, Inter-Garrison Road is planned as a cycle track or separated bikeway (Class IV bikeway) from General Jim Moore Boulevard to Eighth Street/Seventh Avenue (see Figure 4.13-3). As shown on Figures 3-9, 3-11 and 3-12 in Chapter 3, Project Description, the Project proposes to restrict vehicle travel and construct a shared-use path (Class I bikeway) along Inter-Garrison Road between General Jim Moore Boulevard and Sixth Avenue. The specifics of this Project improvement differ somewhat from what is proposed in the ATP 2018; although, the Project's improvement would provide a path for exclusive use of bicycle and pedestrians and would not preclude the future development of a cycle track on the alignment. Thus, the path would provide bicyclists with a travel lane that is separated from vehicular traffic as would a cycle track and, as a result achieves the same purpose. Therefore, the Project is consistent with the ATP 2018. Moreover, the Project's improvements would not preclude the future development of a cycle track on the alignment.

The Project improvements of adding new internal bicycle paths, and on-road bicycle facilities connecting to existing and planned bicycle facilities align with the overall goals and policies of the plans described in Section 4.13.2.4, such as the ATP 2018, which are to improve bicycle connectivity by eliminating gaps, improving the quality of the bicycle network, and supporting complete streets for all users, including bicyclists. The Project improvements would not disrupt or conflict with the intent of planned bicycle facilities consistent with relevant plan goals and policies, and would not conflict with applicable programs, plans, ordinance or policies related to bicycle facilities. Therefore, the bicycle-related impact of the Project would be *less than significant*.

Pedestrian Evaluation

To determine the Project's consistency with local pedestrian plans, a conflict would occur if the Project or any part of the Project would fail to provide safe pedestrian connections between campus buildings and adjacent streets and transit facilities, disrupt existing or planned pedestrian facilities, or conflict with applicable plans, guidelines, or policies.

The Project proposes to increase housing within the Main Campus and locate parking areas outside of the campus core. These changes are expected to generate demand for sidewalks and off-street shared use paths. As can be seen on Figure 4.13-2, there are gaps in the existing sidewalks on and around the campus. As shown on Figure 3-12 and described in PDF-MO-18, the Project would expand the pedestrian network on the campus and to adjacent land uses by adding multi-use greenways, pedestrian pathways, and closing existing sidewalk gaps. The Project also proposes to establish additional pedestrian malls such as Divarty Street and Inter-Garrison Road.

The Project site plan was evaluated for internal circulation between the residential housing, academic and recreational uses, and transit stops. As part of the Project, Divarty Street would be further developed as a pedestrian mall with restricted vehicle travel. Along with Divarty Street, Inter-Garrison Road would also be limited to only pedestrian, bicycle, and transit travel. The restricted access roadways, identified in Figure 3-9 and described in PDF-MO-8, would allow for improved pedestrian circulation within the campus core of the Main Campus. Along with restricting vehicles from traveling along the campus core, smaller interior parking lots will be removed, and parking would be located mainly on the periphery of the campus to help minimize pedestrian and vehicle conflicts.

Bus stops are mainly concentrated around the campus core along Inter-Garrison Road, Divarty Street, and Sixth Avenue, which would be limited to only pedestrian, bicycle, and transit travel. Pedestrians will continue to have access to the campus core bus stops.

The Project includes expanding the pedestrian network by adding multi-use greenways and pedestrian pathways. These pathways would link the campus core to residential areas in the north end of the Main Campus and the athletics and recreation area in the southern end of the Main Campus.

The pedestrian goals and policies of the plans summarized in Section 4.13.2.4 include increasing trail connections to parks and open space, supporting pedestrian movements, improving pedestrian safety, and removing gaps in the pedestrian network. The Project improvements such as increased trail connections to existing and planned trails, expanding multi-use greenways and pathways, reducing vehicle circulation through the campus core, and closing gaps in the pedestrian network align with these goals and policies. The Project would not interfere with existing or planned pedestrian facilities nor conflict with applicable non-vehicle transportation plans, guidelines, policies, or standards and, instead, would enhance pedestrian circulation within the campus core and connections to adjacent land uses, which is a beneficial effect on the pedestrian circulation and access. Therefore, as the Project would not conflict with pedestrian-related plans the impact would be *less than significant*.

Construction Evaluation

Construction activities include those associated with site preparation and building and other infrastructure construction. Site preparation includes all of the activities required to allow construction on the Project site. Major components of site preparation would involve removal of the existing parking lots, excavation and grading of the site, and construction of necessary infrastructure. A variety of equipment would be required for the site preparation stage, including bulldozers, grading machines, cranes, and dump trucks, which would be responsible for the removal and deposition of cut and fill material on the site. Major elements of building construction could include driving piles to support the building foundation, assembling the concrete reinforcing bars as the building frame, pouring concrete, and completing the building accessories such as elevators. Additional infrastructure construction includes streets and parking lots.

To address construction traffic, PDF-MO-19 requires that Project contractors implement construction traffic control plans, to comply with California Department of Transportation (Caltrans) Standard Specifications and to include, among other components, appropriate traffic control devices, such as signage and temporary roadway closures, if necessary. With implementation of the plan, safe access to the pedestrian, bicycle, transit and street facilities would be maintained while construction activities associated with the Project proceed. Therefore, Project construction would not conflict with transportation plans and impacts would be *less than significant*.

Near-Term Development Components

Transit Evaluation

The five near-term development components would all be located on the Main Campus and include Student Housing IIB, Student Housing III, Academic IV, Academic V, and Student Recreation Center, which are anticipated to be constructed in the first 10 years of Project implementation. The FTE building capacity associated with the academic developments would add capacity such that CSUMB could incrementally increase student enrollment and associated growth in faculty and staff. Additionally, the two student housing developments would increase the number of on-campus residents. An increase in student enrollment and housing, as well as faculty and staff would increase the demand for transit services. However, given that the near-term development components are a component, or subset, of the building program anticipated under the Project, these near-term developments would not create a demand for public transit exceeding that of the entire Master Plan as shown in Table 4.13-7 above, and, therefore, the impact of the near-term development components on transit ridership and facilities would be *less than significant*.

Consistent with the 2040 MTP/SCS, the existing transit circulation would also be maintained in the future with the near-term development components. Additionally, these developments would not interfere with existing transit facilities, conflict with planned transit facilities and services, or conflict with adopted transit plans, guidelines, policies, or standards. Therefore, as the Project would not disrupt existing or planned transit facilities or conflict with transit programs, plans, ordinances, or policies, the impact would be *less than significant*.

Roadway Evaluation

The near-term development components would not impact or disrupt existing or planned roadways, as these developments in and of themselves would not result in any changes or restrictions to on-campus roadways. Modifications to access driveways could be implemented at each site, if necessary, to ensure adequate service and emergency access is provided. Such modifications, however, would not disrupt existing or planned adjacent roadways. Therefore, as the Project would not conflict with roadway programs, plans, ordinances, or policies, the impact would be *less than significant*.

Bicycle and Pedestrian Evaluation

An increase in student enrollment and student housing on the Main Campus associated with the near-term development components would generate demand for sidewalks and off-street shared use paths on the Main Campus, especially where there are gaps in the existing sidewalks around the campus (see Figure 4.13-2). As PDF-MO-6e provides that bicycle and pedestrian improvements would be implemented as part of capital projects, it is expected that filling in sidewalk gaps and other improvements to facilitate pedestrian and bicycle access would be implemented in conjunction with the near-term development components. As an example of this standard practice, the completion of the Library and the Business and Information Technology Building included completion of the sidewalk on the south side of Divarty Street. The recently completed Academic III building included a sidewalk along its frontage on Divarty Street. The Student Recreation Center, one of the near-term development components, would be expected to complete the sidewalk along the south side of Divarty Street. Given the above, the near-term development components would provide safe pedestrian connections and would not disrupt existing or planned bicycle or pedestrian facilities or conflict with applicable bicycle or pedestrian plans, guidelines, policies, or standards and therefore impacts would be *less than significant*.

Construction Evaluation

A traffic control plan would be implemented during construction of all five of the near-term development components, as required by PDF-MO-19. With implementation of the plan, safe access to the pedestrian, bicycle, transit and street facilities would be maintained while construction activities associated with each near-term development proceed. Therefore, construction of near-term development components would not conflict with transportation plans, guidelines, policies, or standards and therefore impacts would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact relative to circulation system plan conflicts has not been identified.

Impact TRA-2:	**Vehicle Miles Travelled (Threshold B).** The Project would not result in a VMT-related impact. *(Less than Significant)*

Master Plan

The VMT impact analysis presented in this section considers the Project's direct impacts relative to CSUMB Campus total VMT per service population under existing with Project conditions, as well as a cumulative analysis, which considers the Project's long-term effect on VMT using boundary VMT per service population under cumulative conditions. The analysis was conducted by Fehr & Peers and the summary presented here is based on the corresponding technical report, which can be found in Appendix H to this Draft EIR. Refer to Section 4.13.3.1 for the thresholds of significance and Section 4.13.3.2 for additional information about analytical methods related to program- and project-level review, PDFs considered in the analysis, and VMT assessment and estimation methods.

Analysis Scenarios

The total VMT per service population and boundary VMT per service population[10] were evaluated during weekday, 24-hour daily conditions for each of the scenarios listed below:

Scenario 1: *Existing Conditions* – Baseline VMT per service population based on existing land use and transportation network.

[10] As indicated previously, service population is the sum of the number of employees, residents, and students within the designated geographic area. Appendix H, Table 13 provides the service populations for the CSUMB campus and Monterey County for each of the analysis scenarios.

Scenario 2: *Existing with Project Conditions* – Scenario 1 with the combined effects of the Project, including increased campus population and modifications to existing campus parking and transportation facilities, on total VMT per service population.

Scenario 3: *Cumulative without Project and without Eastside Parkway Conditions* – Future boundary VMT per service population based on forecasts from the AMBAG regional travel model without Eastside Parkway extension.[11]

Scenario 4: *Cumulative with Project and without Eastside Parkway Conditions* – Scenario 3 boundary VMT per service population plus effects of the Project, including increased campus population and modifications to existing campus parking and transportation facilities.

Scenario 5: *Cumulative without Project and with Eastside Parkway Conditions* – Future boundary VMT per service population based on forecasts from the AMBAG regional travel model with Eastside Parkway extension.

Scenario 6: *Cumulative with Project and with Eastside Parkway Conditions* – Scenario 5 boundary VMT per service population plus effects of the Project, including increased campus population and modifications to existing campus parking and transportation facilities.

Given the uncertainty of the Eastside Parkway project as of this writing, two cumulative scenarios relating to Eastside Parkway are provided as noted above (cumulative with Project and without Eastside Parkway conditions, and cumulative with Project and with Eastside Parkway conditions [Scenarios 4 and 6, respectively]).

Total VMT (Project Analysis)

As shown in Table 4.13-8, the CSUMB campus total VMT would increase *in absolute terms* between existing conditions (178,500) and existing with Project conditions (295,500), which is expected due to the planned campus population increase and the associated increase in related vehicle travel.

However, on a *per service population* basis, which is the relevant metric used in assessing significant impacts in this case, VMT would *decrease* by approximately 10 percent between existing conditions (22.31) and existing with Project conditions (20.24). This decrease in VMT would result due to the planned increase in on-campus housing and, to a lesser extent, due to modifications to the campus street and parking system, each of which is a component of the proposed Project. Other VMT-reducing components of the Project include student life buildings, indoor recreation buildings and facilities, outdoor athletics and recreation support buildings, as shown in Table 3-3 in Chapter 3

[11] As of this writing, although various planning documents depict a future Eastside Parkway, because the Eastside Parkway project does not have an identified funding source, nor has a final alignment been determined, analyses both with and without the Eastside Parkway are provided here. See Figure 4.13-1 for the alignment studied.

Project Description, which also would contribute to reducing or eliminating the need for students to drive off-campus. Notwithstanding, due to the complexities of accurately assessing the additional VMT reduction that would result from implementation of these latter referenced Project components, such reductions were not considered as part of the analysis and, as such, the analysis overstates total VMT associated with the Project. Nonetheless, as shown in Table 4.13-8, the total VMT per service population associated with the Project would be 20.24. As this number is less than the applicable significance threshold of 23.91, impacts related to total VMT per service population would be *less than significant*.

Table 4.13-8
Total VMT for SB 743 VMT Assessment

VMT Characteristics	Existing Conditions	Existing with Project Conditions
CSUMB Campus		
Total Vehicle Miles Traveled (A)[1]	178,500	295,500
Service Population (B)[1,2]	8,000	14,600
Total VMT per Service Population (A/B = C)	22.31	**20.24**
Impact Assessment		
VMT per Service Population Threshold (see Table 4.13-4) (Impact Conclusion)		**23.91** (Less Than Significant)

Source: Appendix H, Table 17
Notes:
1. Service population and VMT rounded to nearest 100.
2. Service population is defined as the sum of all employees, residents, and students (Kindergarten through University). See Appendix H, Table 13 for additional information about service populations used in this table.

Project's Effect on VMT (Cumulative Analysis)

As to cumulative impacts, the results of the analysis addressing the Project's effect on VMT under cumulative with Project and *without* Eastside Parkway conditions are presented in Table 4.13-9. As shown on Table 4.13-9, the Monterey County boundary VMT per service population would be 13.98 under cumulative with Project and without Eastside Parkway conditions. As this number is less than the applicable threshold of 14.07, the impact of the Project's effect on VMT under cumulative without Eastside Parkway conditions (i.e., cumulative impacts) would be *less than significant*.

Assuming construction of the Eastside Parkway, the results of the analysis addressing the Project's effect on VMT under cumulative with Project and *with* Eastside Parkway conditions are also presented in Table 4.13-9. As shown on Table 4.13-9, the Monterey County boundary VMT per service population would be 13.96 under cumulative with Project and with Eastside Parkway conditions. As this number also is less than the applicable threshold of 14.07, the impact of the Project's effect on

VMT under cumulative with Project and with Eastside Parkway conditions (i.e., cumulative impacts) would also be *less than significant*.

Table 4.13-9
Project's Effect on VMT (Boundary VMT) for VMT Assessment

	Cumulative without Project and without Eastside Parkway Conditions	Cumulative with Project and without Eastside Parkway Conditions	Cumulative with Project and with Eastside Parkway Conditions
Monterey County			
Vehicle Miles Traveled (D)[1]	11,268,400	11,372,800	11,353,400
Service Population (E)[1,2]	800,900	813,500	813,500
VMT per Service Population (D/E = F)	14.07	**13.98**	**13.96**
VMT per Service Population Threshold (14.07) (see Table 4.13-4) (Impact Conclusion)		**14.07** (Less Than Significant)	**14.07** (Less Than Significant)

Source: Appendix H, Table 18
Notes:
1. Service population and VMT rounded to nearest 100.
2. Service population is defined as the sum of all employees, residents and students. See Appendix H, Table 13 for additional information about service populations used in this table.

Near-Term Development Components

As presented above, the total VMT per service population rate (Project Impact) and the Project's effect on VMT (Cumulative Impact) would not exceed the identified thresholds and, therefore, the Project's impacts relative to VMT would be less than significant. This is largely due to the proposed increase in on-campus housing and modifications to the campus street and parking system, which would create a more pedestrian- and bicycle-oriented campus core, which, in turn, would reduce VMT and offset any potential increases in VMT that would result from other components of the Project such as the increase in student enrollment.

To be distinguished from the overall project buildout, the five near-term development components (Student Housing IIB, Student Housing III, Academic IV, Academic V and Student Recreation Center) would be constructed in the first 10 years of Project implementation. Each is being pursued collectively over this initial time frame to provide student housing and student recreational services to support new academic space and associated student enrollment and faculty and staff growth that would result from the two new academic buildings, Academic IV and V. Thus, additional student housing would be provided as new academic buildings to accommodate student enrollment increases are constructed, thereby providing additional on-campus housing for the increased enrollment along with the related VMT-reducing benefits. Given that these near-term development components are planned for implementation collectively in the first 10 years of Project implementation, the VMT-reducing student housing and student recreation buildings generally would offset any potential increases in VMT that might result from the increased enrollment and related academic buildings. Therefore, the VMT-related impacts of the near-term development components would also be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact relative to VMT has not been identified.

Impact TRA-3:	**Geometric Design Hazards (Threshold C).** The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). *(Less than Significant)*

Master Plan

The Project would have a significant impact regarding hazards if the Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The Project includes modifications to existing campus parking and transportation facilities to create a more pedestrian and bicycle-oriented campus core. These modifications would change the design of parking lots and local streets and intersections, but they would not create hazards such as sharp curves or include otherwise dangerous transportation-facility design features as they would be designed and constructed consistent and in conformance with all applicable standards. Therefore, the Project impact related to hazards would be *less than significant*.

Near-Term Development Components

The five near-term development components (Student Housing IIB, Student Housing III, Academic IV, Academic V, and Student Recreation Center) would result in new buildings on individual development sites. While several of the developments would result in the removal of parking lots and each of the developments could result in modifications to driveway access points to provide for adequate access, none of these developments would result in modifications to local streets or intersections and each would be designed and constructed consistent and in conformance with all applicable standards. Therefore, the near-term development components would not create hazards such as sharp curves or include otherwise dangerous transportation-facility design features and the impacts would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to transportation design hazards has not been identified.

Impact TRA-4:	**Emergency Access (Threshold D).** The Project would not result in inadequate emergency access. *(Less than Significant)*

Master Plan

Ease of access and travel time are critical for first responders when traveling in emergency vehicles. Obstructions in the roadway, detours, and excessive delays due to congestion are among the factors that can affect emergency response time. A significant impact would occur if the Project would result in inadequate emergency access.

While most vehicle traffic under the Project would have limited access to the campus core, emergency vehicles would have unlimited access to campus streets otherwise restricted to pedestrians, bicyclists, transit vehicles, and service vehicles. Additionally, future parking facilities and streets would be designed to accommodate emergency vehicles. As such, emergency and service vehicles would continue to have unlimited access to the campus, and access would be improved by the design of future parking facilities and streets. Additionally, as indicated in Section 4.13.2, Regulatory Framework, the ICSUAM guidelines require that individual CSU building projects be reviewed by the California State Fire Marshall involving a plan review and approval followed by periodic field inspections concluding with issuance of a certificate of occupancy to provide for adequate emergency access and building safety features. Therefore, the Project impact related to emergency access would be *less than significant*.

Near-Term Development Components

The five near-term development components (Student Housing IIB, Student Housing III, Academic IV, Academic V, and Student Recreation Center) would result in new buildings on individual development sites. New or modified access driveways and access routes for each building would be designed to provide for adequate emergency access and the State Fire Marshall review process required by the ICSUAM would provide for adequate emergency access and building safety features. Therefore, the impact of the near-term development components related to emergency access would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to emergency access has not been identified.

4.13.3.4 Cumulative Impacts

This section provides an evaluation of transportation impacts associated with the Project, including near-term development components, when considered together with other planned growth in the study area, based both on the 2018 AMBAG Regional Growth Forecast and based on other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and as relevant to the particular transportation issue evaluated. The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

As indicated in Impact TRA-3, while the Project would result in modifications to existing campus parking and transportation facilities to create a more pedestrian and bicycle-oriented campus core, it would not create hazards such as sharp curves or include otherwise dangerous transportation-facility design features (Threshold C). As such, hazards would not be created and the Project would not contribute to cumulative impacts related to such hazards; accordingly, this topic is not evaluated below.

Impact TRA-5:	**Cumulative Transportation Impacts (Thresholds A, B and D).** The Project's incremental effect would not be cumulatively considerable and would not contribute to or result in a significant cumulative impact related to transportation impacts. *(Less than Significant)*

Plan Conflicts

As explained in Impact TRA-1 above, the Project would not conflict with programs, plans, ordinances or policies addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities and therefore would not contribute to cumulative impacts related to plan conflicts that could result from the implementation of other cumulative projects. Additionally, the increased transit ridership attributable to the Project would be limited and not cumulatively considerable when considered along with other cumulative projects.

As to potential cumulative transit impacts, the Project plus other cumulative development could contribute transit ridership above current weekday peak hour bus route capacity for the bus routes that serve the campus (Routes 12, 16, 18, 25, 26 and 74). Table 4.13-7 in Impact TRA-1 illustrates that the Project alone would not exceed the capacities of these bus routes, but it is possible that with other cumulative development near the campus the bus route capacities on one or more of the routes could be exceeded. Should this occur in the future, it is expected that additional transit service would be implemented to serve the future ridership demand. As previously explained in Impact TRA-1, because the provision of transit service is reactive to increased demand for transit ridership, transit service can be increased via increased bus frequency and additional routes if justified, as provided for in PDF-MO-6(d). Therefore, the impact of the Project in combination with other cumulative development on transit ridership and facilities would be *less than significant.*

VMT

Impact TRA-2 provides the cumulative VMT analysis, which is briefly summarized herein in this cumulative impact discussion. As indicated in Impact TRA-2, the geographic area for the cumulative VMT analysis is Monterey County because the Project effects likely would be limited within Monterey County.

The results of the analysis addressing the Project's effect on VMT under the cumulative scenarios are presented in Table 4.13-9. As shown on Table 4.13-9, the Monterey County boundary VMT per service population of 13.98 under cumulative with Project and without Eastside Parkway conditions and 13.96 under cumulative with Project and with Eastside Parkway conditions are less than the applicable threshold of 14.07. Therefore, the impact of the Project's effect on VMT under both cumulative scenarios would be *less than significant.*

Emergency Access

The Project, in combination with cumulative projects in the vicinity of the campus, has the potential to impact emergency access in and surrounding the Project site. However, as explained in Impact TRA-4, the ICSUAM guidelines require that individual CSUMB building projects be reviewed by the California State Fire Marshall involving a plan review and approval, followed by periodic field inspections, and concluding with issuance of a certificate of occupancy to provide for adequate emergency access and building safety features. Similarly, design and construction documents for cumulative projects would need to be reviewed and approved for adequate emergency access by the local agency building and fire departments. Therefore, with the implementation of CSU and local agency approval processes, individual building projects on campus and in the vicinity of the campus would provide adequate emergency access, such that cumulative impacts related to emergency access would be *less than significant*.

4.13.4 References

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MST (Monterey-Salinas Transit). 2020. *Designing for Transit, Guide for Supporting Public Transit Through Complete Streets*. 2020 Edition.

OPR (Office of Planning and Research). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.

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4.14 UTILITIES AND ENERGY

This section of the EIR presents an analysis of the potential impacts related to utilities and energy associated with development and implementation of the proposed Master Plan, including five near-term development components (Project). The analysis addresses water supply, distribution and treatment; wastewater treatment and disposal; solid waste disposal; and energy. This section presents the environmental setting, regulatory framework, impacts of the Project on the environment, and proposed measures to mitigate any significant or potentially significant impacts. Appendix D provides the energy calculations for the Project.

Public and agency comments related to utilities and energy were received during the public scoping period in response to the original Notice of Preparation (NOP) and address the use of sustainable water sources to serve additional growth (e.g., water conservation programs, graywater treatment/recycling, stormwater reuse, low-flow water fixtures, and developing a separate water works system) and seek identification of areas requiring extension of sanitary sewer trunk mains outside of areas currently served.

No additional public and agency comments related to utilities and energy were received during the public scoping period in response to the Revision to Previously Released NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

4.14.1 Environmental Setting

4.14.1.1 Study Area

The study area for each utility is comprised of that utility's service area as described below.

4.14.1.2 Water Service

Water Supply Overview

Water service to CSUMB is currently provided by the Marina Coast Water District (MCWD). Established in 1960, MCWD provides water supply and wastewater collection services for residents in the City of Marina and to lands in the former Fort Ord Army base, each within its own service area, referred to by MCWD as the Central Marina and Ord Community service areas, respectively (Fort Ord's water and wastewater collection systems were transferred to the MCWD in 2001 via a Public Benefit Conveyance). Each service area is operated as a separate supply system, each with its own water supply sources and distribution systems. CSUMB is located in the Ord Community service area.

Both of MCWD's water supply systems rely on groundwater from the Salinas Valley Groundwater Basin. The Monterey County Water Resources Agency (MCWRA) is responsible for the regulation of water withdrawals from the Salinas Valley Groundwater Basin, which constitutes all of MCWD's groundwater supplies and in turn supplies the majority of the water to the Ord Community service area. Per two agreements with the MCWRA, MCWD is limited to pumping a total of 3,020 acre-feet per year (AFY) for the Central Marina service area and 6,600 AFY for the Ord Community service area (MCWD 2021).

Regional Groundwater Overview

The Salinas Valley Groundwater Basin (Basin), which extends from the Monterey Bay inland, is the source of all potable water supply for the former Fort Ord, and for the CSUMB campus (see Section 4.8, Hydrology and Water Quality, Figure 4.8-2). Based on DWR Bulletin 118, the Basin consists of nine subbasins including the 180/400-Foot Aquifer Subbasin (3-004.01), East Side Aquifer Subbasin (3-004.02), Forebay Aquifer Subbasin (3-004.04), Upper Valley Aquifer Subbasin (3-004.05), Langley Area Subbasin (3-004.0), Monterey Subbasin (3-004.10), Seaside Subbasin (3-004.08), Paso Robles Subbasin (3-004.06), and the Atascadero Subbasin (3-004.11) (MCWD 2021; DWR 2016).

Marina and the former Fort Ord overlie three subbasins of the Salinas Valley Groundwater Basin: the 180/400 Foot Aquifer Subbasin, Monterey Subbasin, and Seaside Subbasin. Portions of MCWD's Ord Community service area extends into the Seaside Subbasin, which is an adjudicated aquifer,[1] but all of MCWD's current wells are located within the Monterey Subbasin (MCWD 2021). The Salinas Valley Groundwater Basin has been in an overdraft condition with seawater intruding at an estimated rate of 11,000 to 18,000 acre-feet per year (AFY) into the 180/400 Foot Aquifer Subbasin (MCWD 2021). The 180/400 Foot Aquifer Subbasin has been declared by the State to be a basin subject to "critical conditions of overdraft" (DWR 2016). Ongoing monitoring by Monterey County Water Resources Agency (MCWRA) indicates that the seawater intrusion continues to migrate inland, particularly in the 180-Foot Aquifer, but groundwater conditions appear to be improving in some areas south of the Salinas River (MCWD 2021).

MCWD's groundwater withdrawals from the Monterey Subbasin are about 3,300 AFY or less than 1.0 percent of total annual Basin withdrawals of about 475,300 AFY (MCWD 2021). Within the Monterey Subbasin, MCWD production wells tap the Deep Aquifer and the 400-Foot Aquifer, which are described in further detail in Section 4.8, Hydrology and Water Quality. Other than MCWD, only a small number of wells tap the Deep Aquifer, some of which also draw from the 400-Foot Aquifer. Inter-basin cross-boundary flows exist between the Monterey Subbasin and the 180/400 Foot Aquifer Subbasin and therefore conditions in the180/400 Foot Aquifer Subbasin affect conditions in the Monterey Subbasin (MCWD GSA 2021).

1 Adjudication refers to an action filed in the superior or federal district court to determine the rights to extract groundwater from a basin or store water within a basin.

MCWD is taking actions to preserve and protect the groundwater aquifers from which MCWD draws potable water. In addition to planned water supplies described below, MCWD also recently identified a potential groundwater injection barrier project for mitigating seawater intrusion and protecting the groundwater aquifer. This project is currently in the conceptual phase and would potentially include the expansion of the existing Advanced Water Treatment Facility (AWTF) at the Monterey One Water (M1W)[2] regional wastewater treatment plant, a new AWTF booster pump station, pipelines from the transmission facilities to the injection site, and multiple monitoring wells (MCWD 2020a).

MCWRA has been and is currently working to eliminate basin overdraft and seawater intrusion. The current program builds upon actions taken in the 1940s when MCWRA's predecessor agency, the Monterey County Flood Control and Water Conservation District, initiated development of the Nacimiento and San Antonio dams and reservoirs to augment water resources within the County. In 1991 and 1992, MCWRA developed and approved the Monterey County Water Recycling Projects, a combination of the Salinas Valley Reclamation Plant (SVRP) and the Castroville Seawater Intrusion Project (CSIP). The SVRP produces about 14,000 AFY of tertiary-treated recycled water at the regional wastewater treatment plant operated by M1W. CSIP delivers recycled wastewater for agricultural irrigation use in the Castroville area to reduce groundwater pumping along the coast. The CSIP project has operated successfully since 1998, reducing groundwater pumping and the rate of seawater intrusion (MCWD 2021). As reported in the MCWD's Urban Water Management Plan (UWMP), 12,560 acre-feet of tertiary-treated water was delivered for crop irrigation in 2020 (MCWD 2021). The SVRP is capable of producing an average of 29.6 million gallons per day (MGD) of recycled water or about 33,000 AFY. However, as agricultural demands are seasonal, this capacity cannot be fully utilized year-round (MCWD 2021).

To further address basin overdraft and seawater intrusion, MCWRA's Salinas Valley Water Project (SVWP) was developed to provide for the long-term management and protection of groundwater resources in the Salinas Valley Groundwater Basin. The SVWP included modifying the spillway at Nacimiento Reservoir, adjusting the operations of Nacimiento and San Antonio reservoirs to increase releases into the Salinas River, and construction of the Salinas River Diversion Facility (SRDF). The SRDF consists of seasonal installation of a rubber dam on the Salinas River near Marina, which seasonally diverts stored water into the CSIP's pipelines for delivery as irrigation water (MCWD 2021). The SVWP and SRDF were completed in 2010 and deliver 1,500 to 5,000 AFY for CSIP, further reducing the volume of coastal groundwater pumped for agriculture (MCWD 2021).

2 Formerly the Monterey Regional Water Pollution Control Agency (MRWPCA).

The Pure Water Monterey Project was recently constructed by the M1W and the Monterey Peninsula Water Management District (MPWMD). The project develops new sources of water supply and conveys them to the M1W regional wastewater treatment plant, where they are recycled as either advanced treated water for indirect potable reuse in the southern Seaside Groundwater Basin (see Chapter 4.8, Hydrology and Water Quality, Figure 4.8-3), or as additional tertiary treated water for CSIP. At full capacity, M1W is expected to generate up to 4,300 AFY of additional supply for CSIP (MCWD 2021).

In addition to the above efforts, the 180/400 Foot Aquifer Subbasin Groundwater Sustainability Plan (GSP) and the Monterey Subbasin GSP provide a range of projects and management actions to attain sustainability in these subbasins, some of which build upon the projects identified above (e.g., SRDF). The projects and management actions for the Monterey Subbasin GSP include: multi-subbasin projects that are generally identified in multiple Salinas Valley Subbasin GSPs and expand upon how the project would be applied in the Monterey Subbasin and Marina-Ord Area local projects and management actions led by MCWD (or Marina-Ord Area agencies) that will primarily benefit this area. This EIR focuses on the Monterey Subbasin GSP elements related to the Marina-Ord Area. These projects and actions include the following:

- **Multi-Subbasin Projects:**
    - Winter Releases from Reservoir to Maximize Diversions from SRDF. Winter release water will be diverted at the SRDF, treated at a new water treatment plant, and (1) injected through Aquifer Storage and Recovery (ASR) injection wells and/or (2) delivered directly to municipalities as supply augmentation. This project correlates to Priority Project #9 (SRDF Winter Flow Injection Project) from the 180/400-Foot Aquifer Subbasin GSP.
    - Regional Municipal Supply Project. This project would construct a regional desalination plant to treat the brackish water extracted from the proposed seawater intrusion barrier in the 180/400-Foot Aquifer Subbasin. This project correlates to Priority Project #6 (Seawater Intrusion Pumping Barrier) from the 180/400-Foot Aquifer GSP.
    - Multi-Benefit Stream Channel Improvements. Proposed stream channel improvements include: removing dense vegetation and reducing the height of sediment bars; removing invasive species *Arundo donax* (arundo) and *Tamarix sp.* (tamarisk) throughout the Salinas River watershed; and enhancing the recharge potential of floodplains along the Salians River. This project correlates to Priority Project #1 (Invasive Species Eradication) from the 180/400-Foot Aquifer GSP.

- **Marina-Ord Area Local Projects:**
  - Stormwater Recharge Management. As future development and redevelopment within the Marina-Ord Area occurs, additional stormwater from urbanized areas and construction sites will be captured and infiltrated, providing recharge to the groundwater basin, per the FORA Stormwater Master Plan, which has the long-term objective to percolate all storm water on the east side of Highway 1 as part of the redevelopment of the former Fort Ord.
  - MCWD Demand Management Measures. MCWD plans to continue to implement conservation efforts within its service area including implementation of design standards for new construction that exceed the State's plumbing code; implementation of 2020 UWMP demand management measures; and replacement of portions of the water distribution system that are over 50-years old to reduce system water losses.
  - Recycled Water Reuse through Landscape Irrigation and Indirect Potable Reuse. The project consists of recycled water reuse through landscape irrigation and/or indirect potable reuse (IPR) within MCWD's service area. The source water for these options is recycled water from the M1W regional wastewater treatment plant, which would undergo advanced treatment to meet criteria under Title 22 of the California Code Regulations (CCR) for subsurface applications of recycled water. Reuse of this water through IPR involves injection into a groundwater aquifer and recovery through an appropriately permitted Groundwater Replenishment Reuse Project (GRRP), which provides seasonal storage and generates potable water that can meet a larger portion of MCWD's water demand beyond irrigation and non-potable needs.
  - Drill and Construct Monitoring Wells. This project includes drilling and construction of monitoring wells screened in the 400-Foot Aquifer and the Deep Aquifers near the southwestern portion of the Subbasin to fulfill monitoring network data gaps.

Service Areas and Existing Demand

MCWD's Central Marina service area encompasses 3.2 square miles, and its sphere of influence[3] encompasses an additional 2.4 square miles. The Ord Community service area, located southeast of the City of Marina and MCWD's Central Marina service area, encompasses a 44 square mile area, of which about 20 square miles is designated for redevelopment, with the balance being

[3] A sphere of influence is the planning boundary outside of an agency's legal boundary that designates the agency's probable future boundary and service area as defined by state law and administered by the Monterey County Local Agency Formation Commission.

parks and open space (MCWD 2021). As indicated previously, CSUMB is located within the Ord Community service area. MCWD's service areas are shown on Figure 4.14-1.

In 2020, MCWD delivered 1,669.4 acre-feet of water to 5,439 customers in the Ord Community service area, which was an increase from 1,331.7 acre-feet in 2015, and groundwater production totaled 2,075 acre-feet in 2020 (MCWD 2021).

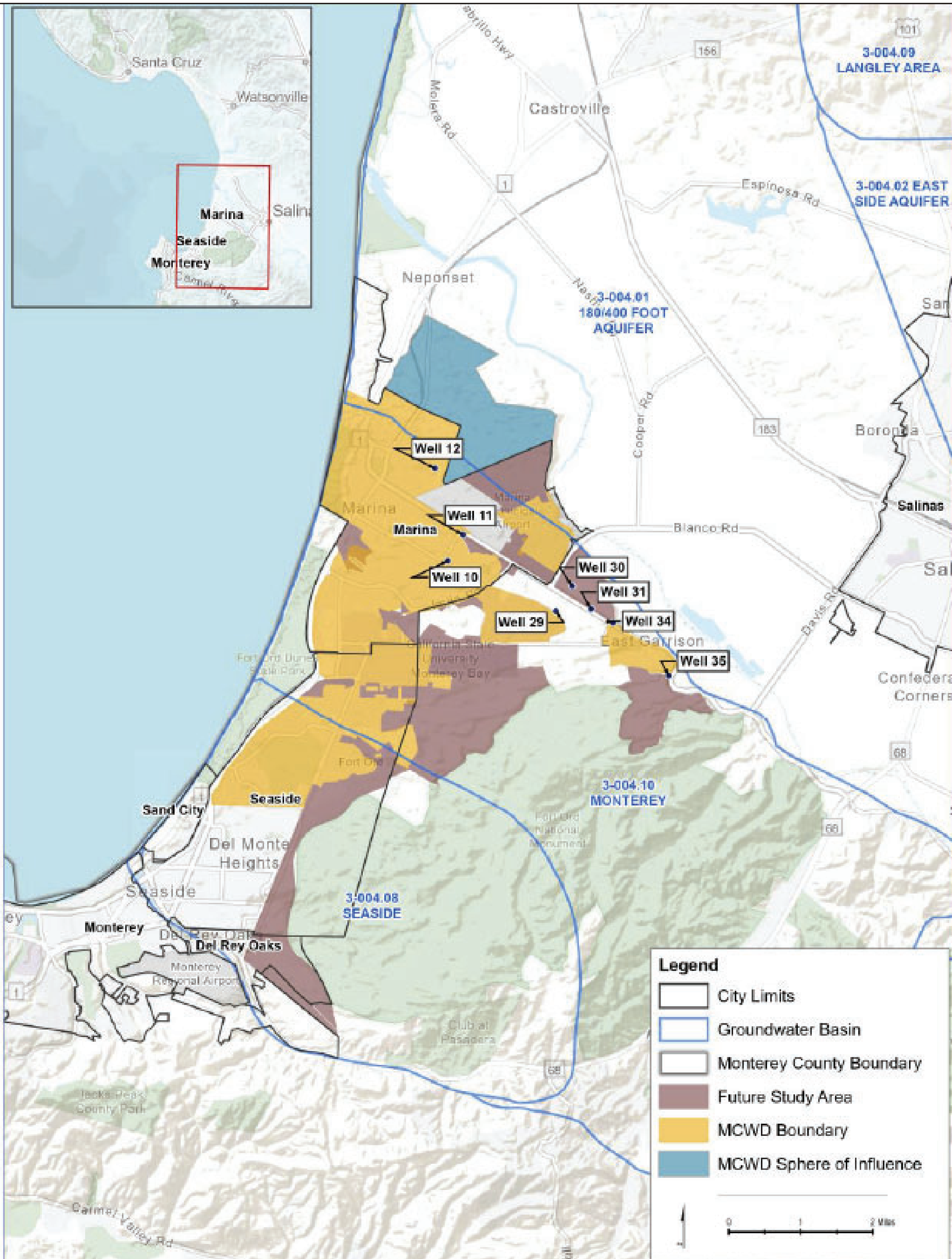
Planned Water Supplies

In addition to groundwater, MCWD's water supply plans include utilizing a combination of recycled water and desalination to meet the future demands of the Ord Community service area (MCWD 2021). MCWD has a seawater desalination plant located at its main office adjacent to Marina State Beach. This facility was constructed in 1996 as a pilot facility and is not currently in use but has a design capacity of 300 AFY (MCWD 2021).

MCWD identified desalination and recycled water as supplemental water sources in its Regional Urban Water Augmentation Program (RUWAP); project design and CEQA documents were completed in 2004, and later amended in October 2006, February 2007, and April 2016 (MCWD 2021). The recycled water component consists of a maximum of 1,727 AFY (1,427 for the Ord Community and 300 AFY for the Monterey Peninsula outside of MCWD's service area). While MCWD has senior rights to recycled water through its agreement with M1W, MCWD has not yet used recycled water within its two service areas (MCWD 2021). However, on April 8, 2016, MCWD and M1W entered into an agreement which would provide up to 1,427 AFY of advanced treated water for urban landscape irrigation, instead of the tertiary treated recycled water planned under the RUWAP. Approximately 600 AFY of advanced treated water is expected to be provided in Phase 1 with an additional 827 AFY allocated as part of Phase 2 (MCWD 2020a). MCWD will begin supplying advanced treated recycled water to customers in the next several years, via a wholesale purchase from M1W (MCWD 2021).

Fort Ord Water Allocation

A potable groundwater allocation of 6,600 AFY was established for Fort Ord (Ord Community service area) as part of the closure of the former Army base (MCWD 2021). This amount was based on the peak annual water use on Fort Ord during the period between 1980 and 1992, which was 6,600 acre-feet in 1984. MCWRA requires that MCWD pump not more than 5,200 AFY from the 180-Foot and 400-Foot aquifers, to reduce the risk of seawater intrusion (MCWD 2021). Under the 1993 Agreement between the United States of America and the MCWRA concerning annexation of Fort Ord into MCWRA's benefit assessment zones 2 and 2A for the Nacimiento and San Antonio Dams, MCWRA was allocated 6,600 AFY of potable groundwater for use on Fort Ord (MCWD 2021).



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DUDEK

SOURCE: Shaaf & Wheeler 2021

FIGURE 4.14-1
MCWD Service Areas

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The 6,600 AFY of existing groundwater pumping rights for the Ord Community service area have been allocated among the land use jurisdictions by the Fort Ord Reuse Authority (FORA);[4] allocations and water demand by jurisdiction are shown on Table 4.14-1. In addition, 300 AFY has been allocated to the Ord Community service area from the MCWD's existing pilot desalination plant (MCWD 2021), although the facility is not currently in use. The water demand information presented in Table 4.14-1 is described in the Water Demand and Supply Forecasts section below.

Table 4.14-1
MCWD Ord Community Service Area Water Demand by Jurisdiction (AFY)

Jurisdiction	Actual Water Demand	Projected Water Demand						Allocation
	2012[1]	2015[2]	2020	2025	2030	2035	2040	
U.S. Army	620	633	409	461	471	471	471	1,577
CSUMB	404	404	318	421	616	821	977	1,035[3]
Del Rey Oaks	0	0	0	31	224	238	238	243
City of Monterey	0	0	0	0	130	130	130	65
County of Monterey	8	52	227	436	436	522	522	720
UCMBEST	3	3	1	116	335	377	408	230
City of Seaside	657	657	339	839	1,032	1,435	1,698	1,012
State Parks and Rec	0	0	0	7	9	9	9	45
Marina Ord Community	264	285	446	1,125	1,638	1,757	1,809	1,325[4]
Assumed Line Loss	395	348	190	348	348	348	348	348
Total Ord Community	**2,351**	**2,382**	**1,929**	**3,784**	**5,239**	**6,108**	**6,610**	**6,600[4]**

Definition: AFY = acre-feet per year.
Source: Marina Coast Water District, Urban Water Management Plan, 2016 and 2021.
Notes:
1. Actual demands from calendar year 2012 used to represent a non-drought year.
2. Projected 2015 demands. Actual use was lower due to mandatory drought restrictions.
3. CSUMB allocation shown above does not include 33 AFY included with the CSU purchase of the Promontory from a developer in the City of Marina.
4. Allocation does not include 300 AFY existing pilot desalination plant.

4 On June 30, 2020, FORA's legal mandate expired and the authority dissolved, under the Fort Ord Reuse Authority Act.

Water Demand and Supply Forecasts

Water demand and supply information is available in Fort Ord Base Reuse Plan EIR and the MCWD's 2020 UWMP, as described below.

Base Reuse Plan EIR

At the time of the closure of the Fort Ord military base, the EIR prepared for the Fort Ord Base Reuse Plan projected that future redevelopment and buildout would result in a water demand of 9,000 AFY, which would exceed available supplies of 6,600 AFY established in agreements with MCWRA, resulting in the need for 2,400 AFY of additional water (MCWD 2021). As a result, MCWD prepared the RUWAP, as described above, which proposes to provide a combination of recycled and desalinated water sources to provide water supply augments of 2,400 AFY for the Ord Community service area. In 2007, FORA allocated the RUWAP's recycled water component of 1,427 AFY among the land use jurisdictions in the Ord Community service area, resulting in 973 AFY of additional needed water supply. To address the remaining (potable) water augmentation under the Base Reuse Plan, MCWD, FORA, and MRWPCA entered a memorandum of understanding on May 13, 2016, to explore the most cost effective and technically efficient mix of advance treated water, conservation, desalination, groundwater recharge and recovery, and other water sources, options, and alternatives to provide the additional 973 AFY of the projected 2,400 AFY of supplemental water supply for the Ord Community service area. The recommended option under that study was Indirect Potable Reuse through the expansion of the M1W Advance Water Purification Plant and injection into the Deep or 400-foot aquifers (MCWD 2021).

Urban Water Management Plan

Pursuant to state law, MCWD has prepared and adopted a 2020 UWMP in 2021. The 2020 UWMP projects a water demand of 6,610 AFY in the Ord Community service area over the ensuing 20 years, to the year 2040, as summarized in Table 4.14-1, which is lower than the total buildout demand of 9,000 AFY estimated in the Fort Ord Base Reuse Plan EIR. The Ord Community service area is projected to slightly exceed its current Salinas Valley groundwater allocation by the year 2040, but would not exceed its allocation by 2035, the horizon year for the Project. By 2040, the total Ord Community allocated groundwater supply of 6,600 AFY is projected to fall short of the estimated demand of 6,610 AFY by 10 AFY. However, by 2035, the allocated supply would be sufficient to meet the estimated demand of 6,108 AFY. The MCWD does not allocate water supply to projects but advises customer land use jurisdictions as to current and historic water use within their boundaries and estimated remaining supply available for new developments. With these provisions, the established sub-allocations for the Ord Community service area cannot be exceeded by the various jurisdictions until supplemental water supplies are made available.

The Urban Water Management Planning Act requires a description of a water provider's supply reliability and vulnerability to shortage for an average water year, a single dry year or multiple-dry years. Such an analysis is most clearly relevant to water systems that are supplied by surface water. Since the bulk of MCWD's supply is groundwater, short- and medium-term hydrologic events over a period of less than five years usually have little bearing on water availability (MCWD 2021). MCWD's current UWMP also concludes that the available water supply is considered reliable in average, dry and multiple-dry years because demand is projected to decline under a multiple-year drought and the available groundwater storage exceeds even a five-year demand (MCWD 2021).

MCWD Water System Facilities

The MCWD's municipal water system consists of seven active groundwater wells, seven ground level storage tanks totaling 9.2 million gallons in storage, distribution mains, and fire hydrants. The MCWD's topography generally slopes towards the coastline from east to west; based on this topography, the water distribution system is comprised of five pressure zones. MCWD is divided into five pressure zones (A-E); four of these pressure zones are served by ground level storage tanks while the highest zone, zone E, is served by a pressure tank (MCWD 2020c). MCWD is currently constructing a recycled water distribution system and will begin delivering advanced treated recycled water in the near future (MCWD 2021).

MCWD owns and operates its production wells and does not currently purchase wholesale water supply, but will soon from M1W, as described previously (MCWD 2021). Historically, MCWD supplied its Central Marina service area with water from 11 wells screened in the 180-Foot and 400-Foot aquifers. Between 1960 and 1992, some of those wells indicated varying degrees of seawater intrusion and were replaced. MCWD currently has three wells in the Central Marina service area, all of which are in the Deep Aquifer. The U.S. Army's original wells serving the Ord Community service area were located in the Main Garrison area near Marina. When wells indicated varying degrees of seawater intrusion, the Army installed four wells further inland in 1985. MCWD currently has five wells in the Ord Community service area; four are in the 400-Foot Aquifer and one is in the Deep Aquifer (MCWD 2021).

MCWD's recently completed Water Master Plan included development and utilization of a hydraulic model to evaluate the adequacy of the existing water system capacity (transmission mains, storage reservoirs, and booster stations) and to plan its expansion to service anticipated future growth through 2035 (MCWD 2020c). The Water Master Plan includes recommended improvements and a Capital Improvement Program. Infrastructure improvements are recommended to mitigate existing system deficiencies and serve development over the next 15 years. Improvements in the pressure zones the serve the campus (pressure zones B, C and D) include new and replacement tanks, pump stations, pipelines and valves (MCWD 2020c). These improvements are further specified and described in Section 4.14.3, Impacts and Mitigation Measures.

The Water Master Plan considers two alternatives related to water supply to serve the buildout. One alternative is development of an Eastern Well Field due to ongoing concerns about the intrusion of seawater and the potential for eventual intrusion into the deep aquifer that could render the MCWD's existing wells inoperable due to total dissolved solids and salinity issues. MCWD has historically planned to mitigate this issue by abandoning the existing wells and constructing a new well field east of the existing service area. This Eastern Well Field would convey water to a future reservoir at the existing East Garrison development before being pumped to the MCWD's pressure zones A and B by new pump station facilities. This alternative would require substantial transmission main improvements along Inter-Garrison Road, new pumping facilities located within the East Garrison community, construction of new wells, and the abandonment of existing well facilities. As an alternative to the Eastern Well Field, and assuming seawater intrusion does not adversely impact the existing water supply wells, the second alternative consists of utilizing the existing wells and rehabilitating them as necessary to service future growth (MCWD 2020c).

MCWD's recycled water facilities under the RUWAP are described above (see Planned Water Supplies). MCWD's existing recycled water system consists of inactive areas of distribution pipeline that were constructed in anticipation of the delivery of recycled water, a 2.0 MG storage reservoir, and a recently constructed transmission pipeline between the AWTF at M1W and the storage tank (MCWD 2020a). MCWD will begin supplying advanced treated recycled water to customers in the next several years, via a wholesale purchase from M1W (MCWD 2021).

CSUMB Water System and Water Use

Water Use and Allocation

CSUMB is allocated 1,035 AFY of potable groundwater and 87 AFY of recycled water (MCWD 2021). Total potable water use at CSUMB in 2018 was approximately 318 AFY, for all uses, including residential uses in the East Campus and irrigation on both the Main and East Campuses (see Table 4.14-2) (MCWD 2021). Based on campus data, total potable water use at CSUMB in Fiscal Year 2018-2019 was approximately 316 AFY, of which 219 AFY was related to building use and 97 AFY was related to irrigation. Campus water use has declined over the years as a result of installation of water meters and implementation of water conservation measures (Lerch, personal communication, 2019), as demonstrated by Table 4.14-2, which shows water consumption on the campus declining substantially and steadily over the past 10 years. In an effort to reduce water usage, the campus has metered all East Campus Housing units and new buildings, installed artificial turf, used evapotranspiration metering to reduce landscape water usage, and replaced existing urinals with waterless urinals and existing toilets with dual-flush toilets. Installation of artificial turf and metering at East Campus Housing is consistent with requirements set forth in Mitigation Measures 7.1-1 and 7.1-3 in CSUMB's 2007 Master Plan EIR.

Table 4.14-2
10 Years of Annual CSUMB Water Consumption (Acre-Feet/Year)

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
434.68	405.50	425.43	344.95	293.08	283.06	314.36	317.98	277.48	242.37

Source: MCWD 2021.

Water System Infrastructure

The MCWD currently serves the Ord Community including CSUMB through a system of four interconnected pressure zones designated zones A-D based on the elevation range served. The areas of the CSUMB campus served by these zones are summarized as follows:

- Zone A does not serve the CSUMB campus.
- Zone B provides service to the north and west areas of the Main Campus. It also serves East Campus Housing.
- Zone C provides service to the central area of the Main campus and the majority of the East Campus Open Space.
- Zone D provides service to a small area of the Main campus south of Butler Street and East of 6th Avenue.

MCWD's Water Master Plan proposes to increase the number of pressure zones from 4 to 7 and forecasted growth in each (MCWD 2020c). However, it is anticipated that CSUMB will continue to be served by zones B through D, as under existing conditions.

All three zones serving the campus are connected to several trunk mains, which connect in turn to adjacent cities as part of MCWD's overall system. These include 12-, 14-, 16-, and 24-inch trunk lines connected to the City of Marina to the north, an 18-inch trunk line connected to the City of Salinas to the east, and 8- and 12-inch lines connected to the City of Seaside to the south. The main trunk line is the 24-inch line running along Sixth Street. Numerous pipelines, pump stations, valves, and storage reservoirs are identified in MCWD's Water Master Plan to serve existing deficiencies and planned growth in the pressure zones that serve the campus and other development (MCWD 2020c). See Section 4.14.3, Impacts and Mitigation Measures (Impact UTL-1) for information about MCWD improvements related to the Project.

In anticipation of receiving 87 AFY of regionally generated advanced treated recycled water, over the past ten years the campus has installed recycled water irrigation piping for all newly created landscapes. The Pure Water Monterey advanced treated recycled water pipeline is currently complete through the CSUMB campus with points of connections installed in proximity to CSUMB irrigation locations.

CSUMB Fees and Contributions

In October 2006, CSU and MCWD entered into an agreement setting forth the terms and conditions reached between CSU and MCWD pursuant to California Government Code § 54999.3 regarding "capacity charges" for new or expanded uses, and standard rates for water and wastewater services. In the agreement, CSU also agreed to provide easements to MCWD for three sites on its CSUMB campus totaling 3.5 acres, for MCWD's use for water storage and other infrastructure facilities. To date, these easements have been provided to MCWD, with the last easement currently being revised, finalized, and executed. In October 2019, CSU terminated the October 2006 agreement in accordance with the terms of the agreement. The parties are currently engaged in negotiations to enter into a new agreement for capacity charges pursuant to California Government Code § 54999.3.

4.14.1.3 Wastewater Collection and Treatment

The sanitary sewer system serving the CSUMB Campus is owned, operated, and maintained by MCWD. MCWD collects wastewater in two wastewater collection systems serving the Central Marina and the Ord Community service areas and conveys each to an interceptor pipeline operated by M1W west of highway 1. M1W pumps the sewage through the interceptor pipeline to the regional wastewater treatment plant two miles north of Marina, which is also operated by M1W.

MCWD Collection

MCWD's wastewater collection system consists of approximately 150 miles of up to 72-inch gravity sewer pipes that convey flows to the M1W interceptor pipeline, which in turn conveys the wastewater to the M1W regional wastewater treatment plant, located north of the City of Marina (MCWD 2020b). Based on the varying topography and numerous lift stations, the sewer system is divided into multiple collection basins that serve to collect flows from smaller developments and route that flow to larger sewer trunk lines. MCWD has two points of connection to the regional wastewater collection system. Central Marina connects via a dedicated pump station. The Ord Community connects via a gravity pipeline with a metering flume. The total flow at the flume was just under 900 AFY in 2015 and approximately 970 AFY in 2020. Municipal wastewater flows to the regional wastewater treatment plant were 19,700 AFY in 2015 and 19,000 AFY in 2020, with MCWD contributing about 11 percent in both years (MCWD 2021). In all, MCWD collects and transmits approximately 2.0 MGD of wastewater to the regional wastewater treatment plant of which approximately 1.0 MGD are from the Ord Community service area (MCWD 2020b).

MCWD recently completed a Sewer Master Plan that included development and utilization of a hydraulic model to evaluate adequacy of sewer infrastructure for existing and future development (MCWD 2020b). The existing wet weather flow analysis indicated that the existing sewer system exhibited acceptable performance to service existing and future customers during peak wet weather flows, with some exceptions, including some localized areas at CSUMB (MCWD 2020b). Recommendations for replacement of existing sewer lines and lift station improvements are identified in the CSUMB area to serve growth unrelated to CSUMB (MCWD 2020b) (see CSUMB Sanitary Sewer System below for additional information).

In 1991, MCWD constructed a pilot recycled water system, providing tertiary treated wastewater for irrigation of public streetscapes and parks near the wastewater plant; MCWD operated this facility from 1994 to 1997. In 1997 MCWD discontinued production at its water reclamation facility and directed the raw wastewater flow to the M1W regional wastewater treatment plant. The Marina wastewater treatment plant was retired, and MCWD now provides wastewater collection services only, with treatment performed at the M1W regional wastewater treatment plant.

Monterey One Water (M1W) - Wastewater Treatment

M1W serves a population of approximately 250,000. It operates a regional wastewater system that consists of treatment, disposal, and reclamation facilities. The system provides centralized wastewater treatment for cities and communities of northern Monterey County through a network of wastewater pump stations and pressure pipelines that convey wastewater to the regional wastewater treatment plant. M1W provides wastewater treatment services to: the cities of Monterey, Pacific Grove, Del Rey Oaks, Sand City, Marina, and Salinas; the Seaside Sanitation District; the Castroville, Moss Landing and Boronda Community Service Districts; and former Fort Ord lands, including the CSUMB campus. Residential, commercial, and industrial wastewater is conveyed to the plant, which is located north of the City of Marina. The regional wastewater treatment plant primarily treats municipal wastewater, but when needed to meet water recycling demands the plant also treats industrial processing water, crop irrigation drainage water, and urban stormwater runoff (M1W 2021).

Wastewater at the regional wastewater treatment plant is treated to two different standards: 1) primary and secondary treatment for discharge through the MRWPCA ocean outfall or use as influent for the tertiary treatment system; and 2) Title 22 California Code of Regulations standards (tertiary filtration and disinfection) for unrestricted crop irrigation use. Recycled water is produced at the SVRP, located at the regional wastewater treatment plant as described in

Section 4.14.1.2, which produces tertiary-treated water for irrigation of farmland in the northern Salinas Valley. The recycled water is delivered to the CSIP, also described above, irrigating farmland in the greater Castroville area, reducing demands on Salinas Valley Groundwater Basin and retarding seawater intrusion in that area.

The plant has an average dry weather design capacity of 29.6 MGD and a peak wet weather design capacity of 75.6 MGD. It currently receives and treats on average approximately 18.5 MGD of wastewater (MCWD 2020b), and therefore, has capacity to treat approximately 11 MGD of additional flows. The volume of treated wastewater effluent at the plant varies throughout the year, with the highest flows occurring during the non-irrigation season (November through March). The lowest flows occur during the irrigation season (April through October) when a large portion of the secondary effluent from the plant is diverted to the SVRP for additional tertiary treatment and subsequent use for crop irrigation of approximately 12,000 acres within the CSIP area (MRWPCA 2016).

In most winter months, secondary treated wastewater from the regional wastewater treatment plant is discharged to the Monterey Bay through the ocean outfall, which includes a diffuser that extends 11,260 feet offshore at a depth of approximately 100 feet. The diffuser on the ocean outfall is designed to convey wet weather flows of up to 81.2 MGD. However, the current permitted capacity of the outfall of 75.6 MGD is less than its 81.2 MGD capacity. As indicated above, some of the current secondary-treated effluent (17-19 MGD) is discharged though the ocean outfall during winter months, while most is diverted to the SVRP to produce recycled water for the CSIP. The interceptor pipeline system also has currently unused or excess conveyance capacity (MRWPCA 2016).

CSUMB Sanitary Sewer System

As previously stated, the sanitary sewer system that serves CSUMB is owned, operated, and maintained by the MCWD. The existing MCWD owned wastewater facilities within the Main Campus are comprised of two distinct systems made up of various pipe collectors and one lift station. These two sewer systems collect wastewater from CSUMB main campus buildings as well as from off-site non-CSUMB owned buildings that pass flow through the campus. System 1 is the group of Collector H, Collector 6th Avenue Branch, Collector U, Collector North Main Quad, and Promontory Force Main; System 2 is comprised of Collector N (Whitson Engineers 2019 and 2020). Wastewater is conveyed by this system to the M1W pump station west of highway 1 where it is in turn pumped to the regional wastewater treatment plant 2 miles north of Marina (MCWD 2020b).

Existing 2018-2019 wastewater flows from CSUMB are approximately 195,500 gallons per day (GPD) or 0.2 MGD. In a recent Sanitary Sewer Capacity Analysis conducted for the CSUMB Main

Campus it was determined that adequate existing capacity exists in the sanitary sewer pipe collectors on the Main Campus (Whitson Engineers 2019). Additionally, it was also determined that the MCWD system within the campus is anticipated to be adequately sized to accommodate future campus growth under the proposed Master Plan (Whitson Engineers 2020), as further discussed in Section 4.14.3, Impacts and Mitigation Measures).

Two areas of the CSUMB East Campus are served by 3 different lift stations: Schoonover Park Lift Station, Hodges Lift Station and Imjin Road Lift Station. These stations discharge to an Ord Community collector outside of CSUMB, which also serves Abrams Park, Preston Park, and the Airport Area. Of the three lift stations in the CSUMB East Campus, the MCWD Sewer Master Plan recommends replacement of the Imjin Road Lift Station to serve growth unrelated to CSUMB.

4.14.1.4 Solid Waste

CSUMB is within the service area of the Monterey Regional Waste Management District (MRWMD). The MRWMD's service area encompasses a population of approximately 170,000 over 853 square miles, including the cities of Carmel-by-the-Sea, Del Rey Oaks, Marina, Monterey, Pacific Grove, Sand City, Seaside, and the unincorporated areas of Big Sur, Carmel Highlands, Carmel Valley, Castroville, Corral De Tierra, Laguna Seca, Moss Landing, Pebble Beach, San Benancio, and Toro Park (MRWMD 2016).

GreenWaste Recovery provides solid waste, recycling, and organics (both food and yard waste) collection services to the Project area. Waste from the CSUMB campus and the Monterey Peninsula is taken to the 315-acre Monterey Peninsula Landfill approximately 2 miles north of the City of Marina. The landfill has a maximum permitted throughput of 3,500 tons of waste per day (CalRecycle 2019a) and receives approximately 1,300 tons of waste per day, or 490,000 tons per year (MRWMD 2016). The landfill's maximum permitted capacity is 49.7 million cubic yards of waste. As of 2004 (the most recent data available), the landfill had a remaining capacity of over 48.5 million cubic yards of waste (CalRecycle 2019a). The landfill is expected to have capacity for approximately 90 to 100 more years (CalRecycle 2019a). Developments in recycling and diversion in the coming years are anticipated to add additional life expectancy to the Monterey Peninsula Landfill disposal site (MRWMD 2016).

The MRWMD's facilities also include 20 acres for resource recovery facilities. The MRWMD's first Materials Recovery Facility (MRF) opened in April 1996 in response to Assembly Bill (AB) 939 (see Section 4.14.2, Regulatory Framework) and diverted more than 1.6 million tons of recyclable and reusable materials from landfill disposal over a period of 20 years (MRWMD 2016). In response to California's increased diversion goal pursuant to AB 341 (see Section 4.14.2), a new, expanded MRF opened in February 2018, dramatically expanding the MRWMD's capacity to divert materials from disposal. The new MRF is capable of recovering up to 75 percent or more of the mixed waste stream from both commercial and multi-family sources, single-stream recyclables, as well as construction and demolition and self-haul loads. The MRF processes recyclables collected from the residential and commercial sectors of the Monterey Peninsula region, construction and demolition debris, and commercial mixed waste. The MRF also receives clean loads of source-separated green and wood waste, mattresses, tires, and appliances (MRWMD 2018).

In 2017, approximately 2,123 tons of waste were generated at the CSUMB campus (CSUMB 2019). That same year, the campus had a waste diversion rate of approximately 35 percent, not including building demolition. The campus waste diversion rate fluctuates annually; from 2013 to 2017, it ranged from approximately 31 percent to 38 percent, with a 5-year average of 35 percent. When building demolition is accounted for (i.e., due to the demolition of former unusable military buildings), the campus's overall waste diversion rates ranged from approximately 53 percent to 97 percent from 2013 to 2017. Through recycling and reuse of construction/demolition materials, the campus has been able to divert the vast majority of its construction/demolition waste from the landfill (averaging 98 percent diversion from 2013 to 2017 for specific projects).

4.14.1.5 Energy

The environmental setting for the Project related to electricity, natural gas, and petroleum, including associated service providers, supply sources, and estimated consumption, is discussed in detail as follows. In summary, California's estimated annual energy use in 2018 (the most recent year for which data is available for all three energy sources) included the following:

- Approximately 257,268 gigawatt hours of electricity (EIA 2019a)
- Approximately 2,110,829 million cubic feet of natural gas (MMcf) (EIA 2019b)
- Approximately 16 billion gallons of gasoline (CEC 2019)

Electricity

Electricity usage in California varies substantially based on the types of operational uses in a building, the types of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. In 2018, California's total energy consumption was second-highest among the states, but its per capita energy consumption was the fourth-lowest due in part to its mild climate and its energy efficiency programs (EIA 2021).

Residents within Monterey County, including the CSUMB campus, receive electricity from the Pacific Gas and Electric Company (PG&E). PG&E provides electric services to 5.4 million customers via 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines over a 70,000-square-mile service area that includes Northern California and Central California (PG&E 2016). According to PG&E, its customers consumed 78,519 million kilowatt-hours (kWh) of electricity in 2020 (see Table 4.14-3) (CEC 2021a).

Table 4.14-3
Pacific Gas & Electric Company 2020 Electricity Consumption

Sector	Total Electricity (in millions of kWh)
Agricultural and Water Pump	6,637.59
Commercial Buildings	26,246.78
Commercial Other	3,948.56
Industry	9,814.34
Mining and Construction	1,747.64
Residential	29,833.54
Streetlight	290.38
Total Consumption	**78,518.84**

Source: CEC 2021a.
Notes: kWh = kilowatt-hour.

PG&E receives electric power from a variety of sources. According to the California Public Utilities Commission's (CPUC's) *2021 California Renewables Portfolio Standard Annual Report*, 35 percent of PG&E's power came from eligible renewable energy sources in 2019, including biomass/waste, geothermal, small hydroelectric, solar, and wind sources (CPUC 2021a). Therefore, PG&E exceeded the state's Renewables Portfolio Standards (RPS) target of 33 percent renewable energy delivered by 2020.

Based on recent energy supply and demand projections in California, statewide annual peak electricity demand is projected to grow an average of 1,087 megawatts per year for the next decade, or 1.5 percent annually, and consumption per capita is expected to remain relatively constant at 7.6 to 8.0 MWh per person (CEC 2018).

In Monterey County, PG&E reported an annual electrical consumption of approximately 2,586 million kWh in 2020, with 1,705 million kWh for non-residential uses and 728 million kWh for residential uses, which includes electricity delivered to CSUMB (CEC 2021b).

Natural Gas

The CPUC regulates natural gas utility service for approximately 10.8 million customers who receive natural gas from PG&E, Southern California Gas, San Diego Gas and Electric, Southwest Gas, and several smaller natural gas utilities. PG&E provides natural gas service to most of Northern California, including Monterey County and the CSUMB campus. As provided in Table 4.14-4, PG&E customers consumed approximately 4,509 million therms of natural gas in 2020 (CEC 2021c).

Table 4.14-4
Pacific Gas and Electric Company 2020 Natural Gas Consumption

Sector	Total Natural Gas (in millions of therms)
Agricultural and Water Pump	44.03
Commercial Buildings	796.94
Commercial Other	50.97
Industry	1,585.35
Mining and Construction	139.96
Residential	1,891.28
Total Consumption	**4,508.54**

Source: CEC 2021c.

Natural gas is used for cooking, space heating, generating electricity, and as an alternative transportation fuel. The majority of California's natural gas customers are residential and small commercial customers (core customers). These customers accounted for approximately 30 percent of the natural gas delivered by California utilities in 2017. Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 70 percent of the natural gas delivered by California utilities in 2017 (EIA 2019b).

The CPUC regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. California gas utilities may soon also begin receiving biogas into their pipeline systems (CPUC 2021b).

In 2012, California customers received 35 percent of their natural gas supply from basins located in the Southwest, 16 percent from Canada, 40 percent from the Rocky Mountains, and 9 percent from basins located within California (CPUC 2017). Natural gas from out-of-state production basins is delivered into California through the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Southern Trails Pipeline, and Mojave Pipeline. The North Baja–Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border and delivers it through California into Mexico. The Federal Energy Regulatory Commission regulates the transportation of natural gas on interstate pipelines, and the CPUC often participates in Federal Energy Regulatory Commission proceedings to represent the interests of California natural gas consumers (CPUC 2017).

Most of the natural gas transported through interstate pipelines, as well as some California-produced natural gas, is delivered through the PG&E and Southern California Gas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the backbone pipeline system is then delivered into local transmission and distribution pipeline systems or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline system, and some core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. The CPUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82 percent of the natural gas delivered to California's gas consumers in 2012 (CPUC 2017).

PG&E and Southern California Gas own and operate several natural gas storage fields located in Northern and Southern California. These storage fields and four independently owned storage utilities—Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage—help meet peak-season natural gas demands and allow California natural gas customers to secure natural gas supplies more efficiently (CPUC 2017).

California's regulated utilities do not own any natural gas production facilities. All-natural gas sold by these utilities to core customers must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the Federal Energy Regulatory Commission in the mid-1980s and is determined by market forces. However, the CPUC decides whether California's utilities have taken reasonable steps to minimize the cost of natural gas purchased on behalf of its core customers (CPUC 2017).

In 2020, PG&E delivered 10 million therms of natural gas to Monterey County (including CSUMB), with the majority going to non-residential uses (60 million therms) (CEC 2021d).

Demand for natural gas can vary depending on factors such as weather, price of electricity, the health of the economy, environmental regulations, energy efficiency programs, and the availability of alternative renewable energy sources. As previously indicated, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available through existing delivery systems, thereby increasing the availability and reliability of resources.

Petroleum

There are more than 36 million registered vehicles in California, and those vehicles consume an estimated 16.8 billion gallons of fuel each year (CEC 2019; DMV 2020). Petroleum currently accounts for approximately 92 percent of California's transportation energy consumption (CEC 2019). However, technological advances, market trends, consumer behavior, and government policies could result in significant changes in fuel consumption by type and in total. At the federal and state levels, various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, reduce transportation-source air pollutants and greenhouse gas (GHG) emissions, and reduce vehicle miles traveled (VMT). Section 4.6, Greenhouse Gas Emissions, discusses in more detail both federal and state regulations that would help increase the fuel efficiency of motor vehicles and reduce GHG emissions (see 4.6.2, Regulatory Framework). Market forces have driven the price of petroleum products steadily upward over time, and technological advances have made use of other energy resources or alternative transportation modes increasingly feasible.

Largely as a result of and in response to these multiple factors, gasoline consumption within the state has declined in recent years, and availability of other alternative fuels/energy sources has increased. The quantity, availability, and reliability of transportation energy resources have increased in recent years, and this trend will likely continue and accelerate (CEC 2019). Increasingly available and diversified transportation energy resources act to promote continuing reliable and affordable means to support vehicular transportation within the state.

CSUMB Electrical, Natural Gas, Telecommunication Infrastructure

The CSUMB Master Plan Guidelines provide information about the existing electrical, natural gas, and telecommunications infrastructure on campus (Page 2020). PG&E delivers electricity and natural gas to East Campus Housing area and residences are individually metered. The campus owns a medium-voltage electricity distribution system that extends to every building on the Main Campus. Main Campus electricity is procured both from a 1.0 MW solar tracking PV generation facility owned by SunEdison under a twenty-year contract, and from PG&E metered to campus at a single location. The campus also owns a natural gas distribution system that extends to many buildings on the Main Campus. The natural gas is transported to campus via a PG&E pipeline, metered to campus at a single location. A gas-fired central plant on the Main Campus supplies hot water for heating to the campus core through underground piping. Approximately two-thirds of Main Campus thermal demand is satisfied from this system; the balance is supplied by standalone gas-fired boilers and furnaces. The campus core is also served by a central chilled water plant located at the library. Underground chilled water pipes are installed in the campus core. The campus also has a fiber optic telecommunications system.

4.14.1.6 Site Conditions for Near-Term Development Components

The existing utilities and energy setting for the near-term development component sites is generally described above. Additional information is provided below related to specific conditions on each site, including existing development conditions. Chapter 3, Project Description provides additional information about the location and characteristics of each development component site.

Student Housing Phase III

The approximately 6.4-acre Student Housing Phase III site is mostly paved with an existing surface parking lot and an unused paved area. The existing surface parking lot is actively used by the campus. The unused paved area, which is the potential staging area, dates back to the former Fort Ord. Vegetation and paved pathways border the component site on the west and south. There are no utilities that currently serve the site.

Academic IV

The approximately 4.0-acre Academic IV site is mostly paved or developed. Existing Building 13 (Science Research Lab Annex) and parking lot areas 13 and 19 are located on the site. Vegetation and paved pathways border the component site on all sides. The potential staging area on the west is a paved parking lot, and the staging area on the east is mostly unpaved and previously contained one of the Hammerheads residential area buildings that was demolished. Existing utilities presently serve Building 13.

Student Recreation Center Phases I and II

The approximately 8.5-acre Student Recreation Center site is partially paved or developed. Existing Building 21 (Beach Hall) and Building 23 (Tide Hall), and portions of parking lots 23 and 508 are located on the site. These buildings are used for various campus administration uses. Vegetation and paved pathways border the component site on the north and west sides of the site. The potential staging area to the south is mostly unpaved and vegetated. Existing utilities presently serve Buildings 21 and 23.

Student Housing Phase IIB

The approximately 7.2-acre Student Housing Phase III site and potential staging area are mostly paved. This unused paved area dates back to the former Fort Ord. Vegetation borders a portion of the entire site on the north, west, and south. There are no utilities that currently serve the site.

Academic V

The approximately 2.7-acre Academic V site is partially paved or developed. Existing Buildings 1, 2, and 3 (Administration, Playa, and Del Mar buildings) and parking lot 18 are located on this site. These buildings are used for administration and academic uses. Vegetation and paved pathways border the component site on all sides. Construction staging for this development would potentially use the same staging area as that identified for the Student Recreation Center. Existing utilities presently serve Buildings 1, 2, and 3.

4.14.2 Regulatory Framework

4.14.2.1 Federal

Clean Water Act

The Clean Water Act (33 USC § 1251 *et seq.*) provides mechanisms to reduce direct pollutant discharges into waterways and manage polluted runoff. Primary drinking water standards are established in Section 304 of the CWA. States are required to ensure that the public's potable water meets these standards.

Section 303 of the Clean Water Act requires states to identify surface waters that have been impaired. Under Section 303(d), states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. Section 402 of the Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants from point sources.

Safe Drinking Water Act

The Environmental Protection Agency (EPA) regulates contaminants of concern to domestic water supply, as required by the Safe Drinking Water Act (Public Law 93-523). Contaminants are regulated by EPA through the establishment of primary and secondary maximum contaminant levels (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 responsible for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

Infrastructure Investment and Jobs Act

The Infrastructure Investment and Jobs Act (Infrastructure Deal) was signed into law in November 2021. The legislation includes $39 billion of new investment to modernize transit, in addition to continuing the existing transit programs for five years as part of surface transportation reauthorization. The Infrastructure Deal also invests $7.5 billion to build out a national network of electric vehicle (EV) chargers. The Infrastructure Deal provides funding for deployment of EV chargers along highway corridors to facilitate long-distance travel and within communities to provide convenient charging where people live, work, and shop to support a goal of building a nationwide network of 500,000 EV chargers. This investment is intended to accelerate the adoption of EVs, which would help reduce emissions and improve air quality. In addition, the Infrastructure Deal includes more than $65 billion of investments in clean energy transmission, including upgrading existing power infrastructure through expanding transmission lines to facilitate the expansion of renewables and clean energy.

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act (Public Law 94-163), which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 Fed. Reg. 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Intermodal Surface Transportation Efficiency Act

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 (Public Law 102-240) promoted the development of intermodal transportation systems to maximize mobility and address national and local interests in air quality and energy. ISTEA contained factors for metropolitan planning organizations to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, metropolitan planning organizations adopted policies defining the social, economic, energy, and environmental values guiding transportation decisions.

Transportation Equity Act for the 21st Century

The Transportation Equity Act for the 21st Century (Public Law 105-178) was signed into law in 1998 and builds on the initiatives established in the ISTEA legislation (previously discussed). The Act authorizes highway, highway safety, transit, and other efficient surface transportation programs. The Act continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of transportation decisions. The act also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of intelligent transportation systems to help improve operations and management of transportation systems and vehicle safety.

Energy Independence and Security Act

On December 19, 2007, the Energy Independence and Security Act (EISA) of 2007 (Public Law 110-140) was signed into law. In addition to setting more stringent Corporate Average Fuel Economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS)
- Appliance and Lighting Efficiency Standards
- Building Energy Efficiency

This federal legislation (the RFS) requires ever-increasing levels of renewable fuels to replace petroleum (EPA 2013, 2015). The EPA is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 (42 USC §13201 *et seq*.) and established the first renewable fuel volume mandate in the United States. As required under the Act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that lay the foundation for achieving significant reductions in GHG emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the United States. The updated program is referred to as "RFS2" and includes the following:

- Expands the RFS program to include diesel, in addition to gasoline
- Increases the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022
- Establishes new categories of renewable fuel, and sets separate volume requirements for each one
- Requires the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces

Additional provisions of the EISA address energy savings in government and public institutions, research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green" jobs.

4.14.2.2 State

Sustainable Groundwater Management Act

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA) (Cal. Water Code § 10720-10737.8 *et seq.*) to bring the state's groundwater basins into a more sustainable regime of pumping and recharge. The legislation provides for the sustainable management of groundwater through the formation of local groundwater sustainability agencies (GSAs) and the development and implementation of GSPs and requires GSAs and GSPs for all groundwater basins identified by the DWR as high or medium priority. Additionally, the legislation establishes criteria for the sustainable management of groundwater and authorizes DWR to establish best management practices for groundwater (DWR 2016).

Under SGMA, several GSAs have been formed in the region. The Salinas Valley Basin GSA (SVBGSA)[5] covers all of the SVGB within Monterey County, except the adjudicated Seaside Basin and the lands within MCWDs GSA. The MCWD GSA covers the portion of the Monterey and 180/400 Foot Aquifer Subbasins within their service area.

Under a 2018 agreement between the MCWD GSA and the SVBGSA, the GSP for the 180/400-Foot Aquifer Subbasin and a portion of the Monterey Subbasin outside of the MCWD service area has been or will be prepared by the SVBGSA and the GSP for the Monterey Subbasin in the Marina and Ord Management Areas is being prepared by the MCWD GSA (MCWD 2021). The MCWD GSA Monterey Subbasin GSP is required to be prepared and submitted to DWR by January 31, 2022. The Monterey Subbasin GSP was released in draft form in September 2021 (MCWD GSA 2021). The 180/400-Foot Aquifer Subbasin GSP was prepared by SVBGSA in coordination with the MCWD GSA and was submitted to DWR in January of 2020. Both of these subbasin GSPs describe current groundwater conditions, develop a hydrogeologic conceptual model, establish a water budget, outline local sustainable management criteria, and provide projects and programs for reaching sustainability in the Subbasins by 2040 (SVBGSA 2020; MCWD GSA 2021). See Section 4.8, Hydrology and Water Quality for details about the projects and actions for reaching sustainability identified in the 180/400 Foot Aquifer Subbasin GSP and in the Monterey Subbasin GSP.

The SVBGSA is developing five other subbasin plans, including for a portion of the Monterey Subbasin not within the jurisdiction of the MCWD GSA, which have to be prepared and submitted to DWR by January 31, 2022. The five other subbasins are not in critical overdraft conditions. Together, the six Subbasin plans under the SVBGSA will be integrated into the Salinas Valley Integrated Groundwater Sustainability Plan (SVBGSA 2020).

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5 The SVBGSA is a Joint Powers Authority (JPA). The JPA membership is composed of the MCWRA, City of Salinas, City of Soledad, City of Gonzales, City of King (King City), the Castroville Community Services District (CSD), and M1W (SVBGSA 2020).

California Recycled Water Policy

On February 3, 2009, the SWRCB adopted a statewide recycled water policy, with the ultimate goal to increase the use of recycled water from municipal wastewater sources. Included in the statewide policy is the mandate to increase the use of recycled water in California by 200,000 AFY by 2020, and an additional 300,000 AFY by 2030 (SWRCB 2013). The plan also states that the SWRCB expects to develop other policies to encourage stormwater, surface, and groundwater use to promote water conservation. The SWRCB adopted an amendment to the Recycled Water Policy on January 22, 2013, which establishes monitoring requirements for constituents of emerging concern in recycled municipal wastewater.

Water Supply Assessments

In 2001, Senate Bill (SB) 610 amended California law regarding review of water availability for large projects (Cal. Water Code §10910 *et seq*.; Cal. Pub. Resources Code § 21151.9). Pursuant to SB 610, preparation of a "water supply assessment" (WSA) is required for projects subject to CEQA that meet specified criteria regarding project size: projects of 500 or more residential units, 500,000 square feet or more of retail commercial space, 250,000 square feet or more of office commercial space, 500 or more hotel rooms, specified industrial uses, or a project that would result in a water demand equal to or greater than the amount needed to serve a 500-unit residential project. These assessments, prepared by "public water systems" responsible for service, address whether there are adequate existing or projected water supplies available to serve proposed projects over a 20-year period, in addition to existing demand and other anticipated development in the service area.

The CSU determined that a WSA was not required for the Project because the CSU, as a state entity, is not required by law to prepare WSAs for projects undergoing CEQA review. Water Code Section 10910 and the referenced CEQA provisions require only a "city or county," acting as a local lead agency under CEQA, to request a WSA and include it in a project EIR.

California Integrated Waste Management Act and Related Regulations

AB 939 established the California Integrated Waste Management Act of 1989 (Pub. Resources Code § 40050 *et seq*.), which requires all California cities and counties to reduce the volume of solid waste deposited in landfills by 50 percent by 2000, and to continue to remain at 50 percent or more diversion for each subsequent year. The Act requires each California city and county to prepare, adopt, and submit to CalRecycle a Source Reduction and Recycling Element (SRRE) that demonstrates how the jurisdiction will meet the Act's mandated diversion rate. AB 939 also established the goal for all California counties to provide at least 15 years of on-going landfill capacity, as well as the authority and responsibilities of the California

Integrated Waste Management Board (CIWMB), which administers the Act. In January 2010, CalRecycle replaced the CIWMB.

In 1999, AB 75 required each state agency and large state facility to develop and adopt Integrated Waste Management Plans, implement programs to reduce waste disposal, and have their waste diversion performance annually reviewed by CalRecycle (Pub. Resources Code §§ 40148, 40196.3, 41821.2, and 42920 *et seq*.]). AB 75 also requires all state agencies and large state facilities to divert at least 25 percent of their solid waste from landfills by January 1, 2002, and at least 50 percent on and after January 1, 2004. The CSU is defined as a "state agency" in Pub. Resources Code § 40196.3, and the campuses of the CSU are defined as "large state facilities" in Pub. Resources Code § 40148.

In 2007, Senate Bill (SB) 1016 amended the California Integrated Waste Management Act to establish a per capita disposal measurement system. The per capita disposal measurement system is based on a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. CalRecycle sets a target per capita disposal rate for each jurisdiction based on the 50-percent diversion mandate. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate.

AB 341, adopted in October 2011, also amended the California Integrated Waste Management Act and established a statewide policy goal to divert 75 percent of solid waste from landfills by 2020. AB 341 focused on mandatory commercial recycling and requires California commercial enterprises and public entities that generate 4 or more cubic yards per week of waste, as well as multi-family housing complexes with 5 or more units, to arrange for recycling services.

Mandatory commercial recycling was one of the measures adopted in the AB 32 Scoping Plan by the California Air Resources Board (CARB), pursuant to the California Global Warming Solutions Act of 2006 (Cal. Health & Safety Code § 38500 *et seq*.). (AB 32 is further described below.) The mandatory commercial recycling measure is focused on increasing waste diversion from commercial uses to reduce GHG emissions (GHGs resulting from decomposition of organic waste in landfills has been identified as a significant source of emissions contributing to global climate change). This regulation reflects the statutory provisions of AB 341 and provides additional procedural clarifications.

Mandatory Commercial Organics Recycling

Since April 1, 2016, AB 1826, the Mandatory Commercial Organics Recycling Act (Pub. Resources Code § 42649.8), adopted in 2014, has been requiring businesses[6] to recycle their

[6] Under this Act, "business" means a commercial or public entity, including, but not limited to, a firm, partnership, proprietorship, joint stock company, corporation, or association that is organized as a for-profit or nonprofit entity, or a multifamily residential dwelling.

organic waste, depending on the amount of waste they generate on a weekly basis. Additionally, AB 1826 requires that, after January 1, 2016, all local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multi-family residential dwellings with five or more units. Organic waste includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time. Given that CSU is not a local jurisdiction or a business, the Mandatory Commercial Organics Recycling Act does not apply to activities at CSUMB; however, CSUMB does report on organics recycling in its annual report to CalRecycle.

Assembly Bill 2812

As of January 1, 2017, pursuant to AB 2812 (Pub. Resources Code §§ 42924.5 and 42926), each state agency is required to provide adequate receptacles, signage, education, and staffing, and arrange for recycling services consistent with existing recycling requirements for each office building of the state agency or large state facility. The bill also requires state agencies, at least annually, to review the adequacy and condition of the receptacles for recyclable material and associated signage, education, and staffing.

Warren–Alquist Act

The California Legislature passed the Warren–Alquist Act in 1974. The Warren–Alquist Act (Pub. Resources Code § 25000 *et seq.*) created the California Energy Commission (CEC) in response to the energy crisis of the early 1970s and the state's growing demand for energy resources. The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation's first energy conservation standards for buildings constructed and appliances sold in California.
- The Act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high demand projections, and transferred it to a more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

Assembly Bill 3232

Enacted in 2018, AB 3232 required the CEC, by January 1, 2021, to assess the potential for the state to reduce the emissions of greenhouse gases from the state's residential and commercial building stock by at least 40 percent below 1990 levels by January 1, 2030. The bill also requires the CEC to include, in the 2021 edition of the integrated energy policy report and all subsequent integrated energy policy reports, a report on the emissions of greenhouse gases associated with the supply of energy to residential and commercial buildings.

Senate Bill 100

Senate Bill (SB) 100 (2018) accelerated the rigor of the Renewables Portfolio Standard (RPS) by establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 further states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California by 2045. This bill requires that the achievement of 100 percent zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the RPS requirements described above. The Project's reliance on non-renewable energy sources would be reduced accordingly.

Assembly Bill 32 and Senate Bill 32

In 2006, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006 (Cal. Health and Safety Code §§ 38500-38599 *et seq.*). AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the Legislature enacted SB 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40 percent below 1990 levels by 2030. In accordance with AB 32 and SB 32, CARB prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focus on increasing energy efficiencies and the use of renewable resources and reducing the consumption of petroleum-based fuels (e.g., gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources. Additional information on AB 32 and SB 32 is provided in Section 4.6, Greenhouse Gas Emissions, of this EIR.

California Building Standards

The California Building Standards Code was established in 1978 and serves to enhance and regulate California's building standards (Cal. Code Regs, tit. 24). Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically (every 3 years) to incorporate and consider new energy efficiency technologies and methodologies.

The 2019 Title 24 standards were approved and adopted by the California Building Standards Commission (CBSC) in December 2018. The 2019 standards became effective January 1, 2020 and are the currently applicable building standards. The standards require that all low-rise residential buildings have a photovoltaic system meeting the minimum qualification requirements such that annual electrical output equal to or greater than the dwelling's annual electrical usage. Notably, net energy metering rules limit residential rooftop solar generation to produce no more electricity than the home is expected to consume on an annual basis. Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards, while new non-residential buildings will use about 30 percent less energy.

Looking beyond the 2019 standards, the most important energy characteristic for a building will be that it produces and consumes energy at times that are appropriate and responds to the needs of the grid, which reduces the building's emissions. In furtherance of that characteristic, the 2019 standards require that new single-family homes include solar photovoltaic to meet the home's expected annual electric needs and also encourage demand responsive technologies, including battery storage, heat pump water heaters, and improving the building's thermal envelope through high performance attics, walls, and windows. These smarter homes perform better and affect the grid less, which reduces the building's GHG emissions.

The 2022 standards, which are under development, will improve upon the 2019 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. In August 2021, the CEC adopted the 2022 Title 24 Energy Code. If also approved by the CBSC, the 2022 Energy Code will go into effect on January 1, 2023.

Title 24 also includes Part 11, the California Green Building Standards Code (CALGreen). CALGreen instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and hospitals. The 2019 CALGreen standards became effective on January 1, 2020. The mandatory standards require the following:

- In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for low-emitting, fuel-efficient and carpool/van pool vehicles.
- Construction shall facilitate future installation of electric vehicle supply equipment.
- Shade trees shall be planted to comply with specifications for surface parking areas, landscape areas, and hardscape areas.

- Water conserving plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with efficiency standards.
- Outdoor potable water use in landscaped areas shall comply with a local water efficient landscape ordinance or the current DWRs' Model Water Efficient Landscape Ordinance, whichever is more stringent.
- Outdoor recycled water supply systems shall be installed in accordance with applicable state codes.
- Installations of heating, ventilation, and air conditioning (HVAC), refrigeration, and fire suppression equipment shall comply with specified standards.

The CALGreen standards also include voluntary efficiency measures that are implemented at the discretion of agencies and applicants.

State Vehicle Standards

In a response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, AB 1493 was enacted in 2002 (Cal. Health and Safety Code § 43018.5 and § 42823 amendments). AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. The 2009–2012 standards resulted in a reduction of approximately 22 percent of GHG emissions compared to emissions from the 2002 fleet, and the 2013–2016 standards resulted in a reduction of approximately 30 percent.

In 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars. By 2025, when the rules would be fully implemented, new automobiles would emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2011).

Although the focus of the state's vehicle standards is on the reduction of air pollutants and GHG emissions, one co-benefit of implementation of these standards is a reduced demand for petroleum-based fuels.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or SB 375 (Cal. Gov. Code § 65080), coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG emissions reduction mandates. SB 375 requires metropolitan planning organizations to include a sustainable communities strategy (SCS) in its regional transportation plan. The main focus of the SCS is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also a part of a bigger effort to address other development issues within the general vicinity, including transit and VMT, which influence the consumption of petroleum-based fuels. See Section 4.6, Greenhouse Gas Emissions, for information about the relevant SCS for the Monterey Bay region.

CSUMB Implementation of CalRecycle Requirements

Based on the regulations presented above, CSUMB is required to: (1) develop and adopt an Integrated Waste Management Plan and submit an annual report; (2) recycle and achieve at least 50 percent diversion rate on and after 2004 as applicable for state agencies; and (3) provide adequate receptacles, signage, education, and staffing. The California Integrated Waste Management Act statewide policy goal to divert 75 percent of solid waste from landfills by 2020 applies only to cities and counties and therefore does not apply to CSUMB. However, as shown in Table 4.14-5 below, under the CSU Sustainability Policy, CSU campuses shall seek to reduce the solid waste disposal rate by 50 percent by 2016, by 80 percent by 2020, and move to zero waste. The Campus Sustainability Plan calls for diverting 75 percent diversion of non-demolition and construction waste by 2025. (Note that a "Core Goal" of the Campus Sustainability Plan, which has a 2030 planning period, is to divert 90 percent of waste from the landfill.) The CSUMB *Materials Management and Conservation Plan* was prepared in May 2018 to address CalRecycle mandates and CSU goals related to solid waste.

California State University

<u>CSU Sustainability Policy</u>

CSU has identified sustainability as a system-wide priority, as detailed in the CSU Sustainability Policy, which was adopted in 2014 and is currently in the process of being updated. The CSU Sustainability Policy focuses mainly on energy and GHG emissions, and largely aligns with the State of California's energy and GHG emissions reduction goals (CSU 2014). The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. Table 4.14-5 includes a summary of the CSU Sustainability Policy and associated goals.

Table 4.14-5
CSU Sustainability Policy

University Sustainability
1. The CSU will develop employee and student workforce skills in the green jobs industry, promote the development of sustainable products and services, and foster economic development.
2. The CSU will seek to further integrate sustainability into the academic curriculum.
3. The CSU will pursue sustainable practices in all areas of the university.
4. Each CSU is encouraged to designate a sustainability officer responsible for campus sustainability programs.
Climate Action Plan
1. The CSU will strive to reduce systemwide facility greenhouse gas (GHG) emissions to 1990 levels, or below, by 2020 consistent with AB 32, California's Global Warming Solutions Act of 2006.
2. The CSU will strive to reduce facility GHG emissions to 80 percent below 1990 levels by 2040.
3. The CSU will encourage and promote the use of alternative transportation and/or alternative fuels.
Energy Independence and Procurement
1. The CSU shall pursue energy procurement and production. The CSU shall endeavor to increase its self-generated energy capacity from 44 to 80 megawatts (MW) by 2020.
2. The CSU will endeavor to exceed the State of California and CPUC RPS sooner than the established goal of procuring 33 percent of its electricity needs from renewable sources by 2020.
Energy Conservation and Utility Management
1. All CSU buildings and facilities will be operated in the most energy efficient manner.
2. All CSU campuses will continue to identify energy efficiency improvement measures to the greatest extent possible.
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.
4. Each CSU campus will designate an energy/utilities manager with the responsibility and the authority for carrying out energy conservation and utilities management programs.
5. The CSU will monitor monthly energy and utility usage on all campuses and will prepare a systemwide annual report on energy utilization and greenhouse gas emissions.
6. Each CSU campus is encouraged to develop and maintain an integrated strategic energy resource plan.
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 the use of reclaimed/recycled water.
Waste Management
1. Campuses shall seek to reduce the solid waste disposal rate by 50 percent by 2016, by 80 percent by 2020, and move to zero waste.
2. The CSU will encourage the reduction of hazardous waste while supporting the academic program.
Sustainable Procurement
1. Campuses will promote use of suppliers and/or vendors who reduce waste and re-purpose recycled material.
2. Campus practices should encourage use of products that minimize waste sent to landfills or incinerators and participation in the CalRecycle Buy-Recycled program or equivalent.
3. Campuses shall continue to report on and track all recycled content product categories.
Sustainable Food Service
1. Campuses shall strive to increase their sustainable food purchases to 20 percent of total food budget by 2020.
2. Campuses shall collaborate to provide information and/or training on sustainable food service operations.

Table 4.14-5
CSU Sustainability Policy

Sustainable Building Practices	
1.	All future CSU new construction, remodeling, renovation, and repair projects will be designed with consideration of optimum energy utilization, low life cycle operating costs, and compliance with all applicable energy regulations.
2.	Capital Planning, Design and Construction in the Chancellor's Office shall monitor building sustainability/energy performance, based on Leadership in Energy and Environmental Design (LEED) principles.
3.	The CSU shall design and build all new buildings and major renovations to meet or exceed the minimum requirements equivalent to LEED "Silver."
Physical Plant Management	
1.	Each campus shall operate and maintain a comprehensive energy management system.
2.	To the extent possible, programs will be consolidated to achieve the highest building utilization.
3.	All CSU campuses will implement a utilities chargeback system to recover direct and indirect costs of utilities.

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).

Executive Order 987

CSU Executive Order 987 provides a policy statement on energy conservation, sustainable building practices, and physical plant management for the CSU. CSUMB 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.

Integrated California University Administrative Manual (Section IX)

The Integrated California State University Administrative Manual (ICSUAM; Section IX) provides that all CSU buildings and facilities will be operated in the most energy efficient manner without endangering public health and safety. The policy also indicates that all future CSU new construction, remodeling, renovation and repair projects will be designed for optimum energy utilization, lowest life-cycle operating costs, and in compliance with all applicable energy codes (Enhanced Title 24 Energy Codes) and regulations. Incorporation of energy efficient design features in the project plans and specifications will receive a high priority.

CSUMB Campus Sustainability Plan

The CSUMB Campus Sustainability Plan builds upon and replaces the 2013 CSUMB Climate Action Plan (CSUMB 2020). The Sustainability Tracking Assessment and Rating System Report provides data collection and consistent review of metrics that support efforts in every topic area identified. Key goals of the plan that are relevant to the analysis in this section include the following:

- Reduce GHG emissions and achieve carbon neutrality[7] by 2030 by making progress on the Carbon Neutrality Roadmap.
- Divert 75 percent diversion of non-demolition and construction waste by 2025. (Note that a "Core Goal" of the plan, which has a 2030 planning period, is to divert 90 percent of waste from the landfill.)
- Reduce waste associated with move out by 25 percent.
- Plan for future projects to integrate Living Building Challenge certification options, in support of campus-scale efforts to meet Living Community Challenge goals.
- Support mode shift from Single Occupancy Vehicles; double percent of bicycle, walking, carpool and bus/shuttle commute trips each by 2030.

The Carbon Neutrality Roadmap (Roadmap) is a technical appendix to the CSUMB Campus Sustainability Plan in support of achieving carbon neutrality by 2030. The Roadmap provides a detailed review of pathways that CSUMB can follow and describes existing and recommended carbon reduction measures that, if implemented, will enable CSUMB to achieve its carbon neutrality goal.

4.14.3 Impacts and Mitigation Measures

This section presents the evaluation of potential environmental impacts associated with the Project related to utilities and energy. The section identifies the thresholds of significance used in evaluating the impacts, the methods used in conducting the analysis, and the evaluation of Project impacts, and the Project's contribution to cumulative impacts. In the event significant impacts within the meaning of CEQA are identified, appropriate mitigation measures, where feasible, are identified.

4.14.3.1 Thresholds of Significance

The significance thresholds used to evaluate the impacts of the Project related to utilities and energy are based on Appendix G of the CEQA Guidelines. Based on Appendix G, a significant impact related to utilities and energy would occur if the Project would:

A. Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant

[7] Carbon neutrality means achieving a state in which the net amount of carbon dioxide or other carbon compounds emitted into the atmosphere is reduced to zero because it is balanced by actions to reduce or offset these emissions (CSUMB 2020).

environmental effects. (See Section 4.8, Hydrology and Water Quality for the impact evaluation related to stormwater drainage).

B. Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple-dry years.
C. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve to the project's projected demand in addition to the provider's existing commitments.
D. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
E. Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.
F. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
G. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.14.3.2 Analytical Method

Program- and Project-Level Review

The utilities and energy impact analysis in this section includes a program-level analysis under CEQA of the proposed Master Plan and project design features (PDFs), as described in Chapter 3, Project Description. The analysis also includes a project-level analysis under CEQA of the 5 near-term development components that would be implemented under the proposed Master Plan. Both construction and operation of the Project are considered in the impact analysis, where relevant.

Campus development under the proposed Master Plan and associated population growth would result in increased demand for utilities and energy. The analysis of impacts to utilities and energy is based on a comparison of existing and projected supply and capacity demands for services and the resulting need, if any, for new, expanded, or modified facilities to provide for the increased demand. Under CEQA, impacts are typically considered to be significant if there would be inadequate supplies or capacity to meet the project's demands, or a project would require new or expanded utility or service facilities, the construction of which would result in significant environmental impacts. In the event that significant adverse environmental impacts would occur even with incorporation of applicable regulations and proposed PDFs, mitigation measures would be identified to reduce impacts to less than significant, where feasible.

Project Design Features

There are a number of PDFs that are incorporated quantitatively into the trip generation rates contained in the Transportation Analysis (Appendix H), and therefore are quantitatively incorporated into the energy analysis, including the following:

- *PDF-MO-1 and PDF-MO-2* provide that CSUMB will accommodate at least 60 percent of enrolled students and 65 percent of faculty and staff in on-campus housing. CSUMB will implement these PDFs to ensure that these campus housing goals are met, which will minimize vehicle commute travel to and from the campus. Appendix C, Student Housing and Parking Management Guidelines, and the CSUMB Housing Guidelines (CSUMB 2022) provide additional information about meeting the identified housing goals.
- *PDF-MO-6(c)* provides that CSUMB will implement strategies and measures to reduce parking demand, including that parking will be consolidated and relocated to select areas on the periphery of the campus core. While this PDF includes other measures (e.g., maintaining existing parking supply, prohibiting residential Freshmen and Sophomores from purchasing a parking permit, a "park once" policy, electric vehicle charging stations), such measures are not assumed in the quantitative analysis.
- *PDF-MO-8* establishes restrictions to general vehicle travel through the campus core and locates vehicle circulation and parking on the campus periphery (see Chapter 3, Project Description, Figure 3-9). Specifically, vehicle access will be limited to CSUMB students, faculty, and staff vehicles on General Jim Moore Boulevard between Eighth Street and Fifth Street. Vehicle travel through the campus core will be restricted to shuttles, transit vehicles, service vehicles, and emergency vehicles at: Inter-Garrison Road between General Jim Moore Boulevard and Sixth Avenue, Divarty Street between General Jim Moore Boulevard and Seventh Avenue, Fourth Avenue between Divarty Street and Inter-Garrison Road, Fifth Avenue between Divarty Street and Inter-Garrison, A Street between Divarty Street and Seventh Avenue, Sixth Avenue between B Street and north of Divarty Street, and Butler Street between Sixth Avenue and Seventh Avenue. Additionally, Seventh Avenue between Colonel Durham Street and Butler Street will be converted to one-way for vehicles traveling north from Colonel Durham Street to Inter-Garrison Road.

As indicated in Section 4.13, Transportation, to provide for a conservative analysis, other mobility PDFs are considered qualitatively, including PDF-MO-3 through PDF-MO-7, and PDF-MO-9 through PDF-MO-18. While these PDFs would serve to reduce vehicle travel and promote transit, bicycle and pedestrian mobility, their ability to reduce vehicle travel is not quantified in the Transportation Analysis (Appendix H) and therefore the energy analysis conservatively does not include these PDFs in the operational estimates identified below. These PDFs are described in detail in Chapter 3, Project Description.

Additionally, there are a number of other PDFs that are considered in the technical analysis as part of the Project but not factored into the quantitative estimates of water, wastewater and energy, including the following water, energy and transportation PDFs (see Chapter 3, Project Description for the specific text of each applicable PDF):

- *PDF-W-1* indicates that development will be pursued within the campus's water allocation by: establishing water use thresholds below CalGreen Building Code standards; establishing water modeling for each capital project during the feasibility phase; establishing potable water conservation projects; retrofitting high-use campus fixtures; pursuing a heat recovery chilling system to reduce water needs; and studying expansion of non-potable water use including the establishment of an on-site water recycling facility.
- *PDF-E-1* calls for achieving carbon neutrality for scope 1&2 emissions, per the Carbon Neutrality Roadmap.
- *PDF-E-2* calls for the design and retrofit of infrastructure and buildings to minimize energy use by: establishing district-scale on-site energy production and distribution strategies; studying expansion of district-scale electrical, chilled and hot water distribution; achieving a minimum 15 percent energy performance improvement target goal over current Title 24 code in new construction; achieving a minimum 5 percent energy performance improvement target goal over existing usage in existing facilities; establishing passive heating and cooling and thermal-mass building designs; establishing standards for campus-scale energy conversion systems; and meeting minimum requirements equivalent to LEED "Silver," while aiming for the highest green building energy standards possible (i.e., LEED Platinum or equivalent).
- *PDF-E-3* provides for meeting future demand for energy in a safe, reliable, and cost-effective manner by: performing regular energy efficiency upgrades to reduce energy use; recommissioning major buildings every five years, as funding is available; establishing energy system efficiency retrofit projects; and establishing funding mechanisms and thresholds for existing energy systems as they near the end of their usable life.

Water Use and Sewer Generation Rates

To formulate accurate water and sewer usage estimation factors for use in the analysis presented here, CSUMB analyzed twelve years of monthly water usage data from MCWD invoices. Water use accounts were categorized into use types as follows: Office/Class, Residence Hall, Dining, Irrigation and Office/Class with Irrigation. An appropriate basis was selected for each use type. Then for each use type a statistical analysis was performed to determine average water use within a reasonable degree of certainty. Specifically, one standard deviation was added to the average water use per unit (i.e., per gross square footage [GSF] or per bed) to calculate a conservative water use rate or factor. The resulting rates/factors that were used in the analysis are shown in Table 4.14-6.

CSUMB estimated wastewater generation at buildout of the proposed Master Plan is based on the assumption that wastewater generated would equal 100 percent of building water use.

Table 4.14-6
Water Use Rates Used to Estimate Water Demand Associated with Project

Use Type	Average Water Use		Standard Deviation[1]	Rate/Factor Used in Water Use Forecast
	Average Volume	Unit		
Office and Class Space (Non-Housing Uses)	0.000015	AFY/GSF	0.000006	0.000021[2]
Residence Halls[3]	0.028	AFY/Bed	0.003	0.031[2]
Dining - 2[4] Meals/Day	0.00011	AFY/GSF	0.00001	0.00012[2]
Dining - 3[4] Meals/Day	0.00031	AFY/GSF	0.00008	0.00039[2]
Irrigation Associated with Buildings	NA	AFY/GSF	NA	0.000053[5]
Irrigation Associated with Play Fields	NA	AFY/Acre	NA	2.3[6]

Notes: AFY=acre feet per year; GSF=gross square feet
1. Standard deviation is a measure of how spread out the numbers are in a data set.
2. The rate/factor used in the water use forecast is based on the average rate + 1 standard deviation to develop a conservative basis for estimating water demand.
3. Applies only to new construction.
4. CSUMB has limited dinning space leading to a limited data set for assessing water use from dining halls. For validation purposes these factors were compared to data provided by the "University Residential & Dinning Utilities Benchmarking Report" Stanford University Residential & Dining Enterprise August 2018 and found to be representative or conservative.
5. Irrigation associated with buildings factor estimated as total irrigation used on campus divided by total campus GSF in 2017.
6. Data indicated that the MCWD factors of Landscape non-turf 2.1 AFY/Acre and turf 2.5 AFY/Acre, in the 2020 UWMP (Table 4.4), yield accurate estimations of future usage. Therefore, an average of these two factors was used to estimate future usage.

4.14.3.3 Project Impacts and Mitigation Measures

This section provides a detailed evaluation of impacts on utilities and energy associated with the Project. See Section 4.8, Hydrology and Water Quality for the impact evaluation related to stormwater drainage and groundwater.

Impact UTL-1: **Construction of New or Expanded Utilities (Threshold A).** The Project would not require or result in the relocation or construction of new or replacement water, wastewater treatment, electric power, natural gas, or telecommunications facilities, the construction of which would result in significant effects. *(Less than Significant)*

Master Plan

Potable Water

As indicated in Section 4.14.1, Existing Setting, MCWD provides potable water supplies to CSUMB. The existing potable water distribution infrastructure is adequate to service proposed Master Plan development and associated population growth and can accommodate the modifications necessary to facilitate development of the Project. All new buildings would require new water delivery pipelines to be constructed from existing mains or from the existing service loops within the development areas. Specific improvements associated with development would be implemented in accordance with MCWD design standards and capacity requirements. Many existing pipelines and smaller loops run through proposed development areas, which may require demolition or reconfiguration to meet the final development pattern. Whether relocation of these lines is necessary would be addressed during detailed site design of individual projects, however the Deed granting the water system to MCWD under Public Benefit Conveyance from the Army allows the current owner of the land to relocate MCWD's infrastructure provided a mutually agreeable location can be found. The construction impacts associated with new potable water service connections or relocation of existing pipelines are evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan.

As indicated in Section 4.14-2, Environmental Setting, MCWD's recently completed Water Master Plan evaluates the adequacy of the existing potable water system capacity and provides plans for its expansion to service anticipated future growth through 2035. The Water Master Plan includes recommended improvements and a Capital Improvement Program. Infrastructure improvements are recommended to mitigate existing system deficiencies and serve development over the next 15 years.

MCWD's Water Master Plan proposes to increase the number of pressure zones from 4 to 7 and forecasted growth in each zone (MCWD 2020c). However, it is anticipated that CSUMB will continue to be served by zones B through D, as under existing conditions. MCWD's Water Master Plan identified a range of water supply infrastructure improvements needed to serve existing and/or future development in the pressure zones that serve the campus and other development (MCWD 2020c). CSUMB estimates that the proposed Project would have limited contribution to total growth in demand in the pressure zones that serve the campus. Specifically, CSUMB estimates that the proposed Master Plan would contribute approximately 7 percent to the total growth identified in the MCWD Master Plan in pressure zone B, approximately 16 percent in pressure zone C, and less than 1 percent in pressure zone D, as shown in Table 4.14-7.

Table 4.14-7
CSUMB Master Plan Water Demand as Percent of MCWD Water Master Plan Demand[1]

Pressure Zones	MCWD Demand (AFY) [2]			CSUMB Potable Water Demand (AFY)			CSUMB Growth in Water Demand as % of MCWD Master Plan Growth in Water Demand
	Existing Conditions	MCWD Water Master Plan Buildout	Net Increase	Existing Conditions	CSUMB Master Plan Buildout	Net Increase	
Zone A	1,748	2,464	717	0	0	0	0.0%
Zone B	1,109	2,577	1,467	61	168	107	7.3%
Zone BPEG	112	224	112	0	0	0	0.0%
Zone C	336	1,568	1,232	254	454	200	16.2%
Zone D	336	2,016	1,680	0.06	7	7	0.4%
Zone E	112	336	224	0	0	0	0.0%
Zone EG-HYD	0	112	112	0	0	0	0.0%
Total	**3,753**	**9,298**	**5,545**	**315**	**629**	**314**	**5.7%**

Source: MCWD 2020c (Tables 5.1 and 5.2).
Notes: AFY = acre feet per year.

1. This table uses 2017 as the basis for existing conditions for comparison as the base year used in the MCWD Water Master Plan (MCWD 2020c), which was 2017. Impact UTL-2 and Table 4.14-8 are based on a 2018-2019 water demand for CSUMB. It should be noted that the difference between CSUMB 2017 and 2018-2019 water demand was minor at 315.06 AFY (2017) verses 315.94 AFY (2018-2019).
2. MCWD demand is based on Water Master Plan Tables 5.1 and 5.2, which are presented in million gallons per day (mgd). Conversion of mgd to AFY was performed for this table (1 mgd = 1,120 AFY).

Therefore, implementation of the proposed Master Plan, in and of itself, would not require or result in the need for construction of potable water infrastructure improvements identified by MCWD and the impact would be *less than significant*.

Recycled Water

As indicated in Section 4.14.1, Environmental Setting, CSUMB was allocated 87 AFY of recycled water (MCWD 2021). In anticipation of receiving 87 AFY of regionally generated advanced treated recycled water, the campus has installed recycled water irrigation piping for all newly created landscapes over the past ten years. The Pure Water Monterey advanced treated recycled water pipeline is currently complete through the CSUMB campus with points of connections installed in proximity to CSUMB irrigation locations. CSUMB is in the process of designing the pipeline lateral connections to the existing advanced treated recycled water pipeline through the campus. These laterals may be installed by CSUMB or by MCWD under a separate project. Advanced treated recycled water may be available to CSUMB from MCWD in the near future.

While MCWD is planning for other recycled water improvements under the RUWAP, that would expand their capacity to deliver recycled water to customers, as described in the Recycled Water Master Plan (MCWD 2020a), CSUMB does not need additional recycled water to serve proposed Master Plan growth and development. Therefore, the Project would not require or result in the need for construction of new recycled water facilities and the impact would be *less than significant*.

Wastewater

All new buildings implemented under the proposed Master Plan would require new connections to existing wastewater pipelines on campus. Specific improvements associated with development would be implemented in accordance with MCWD design standards. Existing pipelines and smaller laterals that run through proposed development areas may require demolition or relocation to meet the final development pattern. Whether relocation of these lines is necessary would be addressed during detailed site design of individual projects. The construction impacts associated with new or replacement wastewater service connections or relocation of existing pipelines are evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan.

As indicated in Section 4.14-2, Environmental Setting, MCWD's recently completed Sewer Master Plan evaluates the adequacy of the existing sewer system capacity and provides plans for its expansion to service anticipated future growth through 2035 in its service area. The Sewer Master Plan includes recommended improvements and a Capital Improvement Program. Infrastructure improvements are recommended to upsize and mitigate existing system deficiencies such that the system would be adequate to serve existing and new regional development over the next 15 years.

No relocation or construction of new or expanded wastewater treatment facilities are necessary to serve the Project as discussed in Impact UTL-3. Additionally, according to a Sewer Capacity Study conducted for the CSUMB Main Campus, the existing MCWD's wastewater collection infrastructure is adequately sized to support the proposed Master Plan development and the MCWD sewer system is not anticipated to be undersized (Whitson Engineers 2019 and 2020). Therefore, sewer system improvements are not needed to serve proposed Master Plan development on the Main Campus. While there are other improvements identified in MCWD's Sewer Master Plan in areas that serve the campus, those improvements are in areas that serve East Campus Housing and/or the Promontory, which are not the subject of proposed new Master Plan building development. As indicated previously, while the proposed Master Plan calls for conversion of existing student housing at East Campus Housing to faculty and staff housing, such conversion would not result in a substantial increase in wastewater generation. Therefore, the Project would not require or result in the need for construction of new wastewater facilities and the impact would be *less than significant*.

Other Utilities

As indicated in Section 4.14-1, Environmental Setting, PG&E provides electricity and natural gas to East Campus Housing and the campus owns the electricity and natural gas distribution systems that extends to buildings on the Main Campus. The campus core is also served by a central hot water plant at the central plant and a central chilled water plant located at the library. Underground hot and chilled water pipes are installed in the campus core. The campus also has a fiber optic telecommunications system that extends to every building.

Buildout under the proposed Master Plan would also require new electric power, natural gas, heating hot water and chilled water and telecommunications (telephone and cable lines) connections to serve new buildings on campus, as needed by each building type. The construction impacts associated with these new connections are evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan. The proposed Master Plan would have *no impacts* associated with the construction of new electric power, natural gas, heating hot water and chilled water and telecommunications connections beyond what is identified throughout this Draft EIR.

Near-Term Development Components

The near-term development components would result in the addition of new residential, academic, and recreation buildings that would require new or replacement water, wastewater, electrical, natural gas and telecommunications connections to serve the new buildings. The construction impacts associated with new or replacement service connections are evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan. The proposed Master Plan would have *no impacts* associated with the construction of new or replacement water, wastewater, electrical, natural gas, heating hot water and chilled water, and telecommunications connections beyond what is identified throughout this Draft EIR.

Mitigation Measures

Mitigation measures are not required because significant impacts related to the construction of new or replacement water, wastewater treatment, electric power, natural gas, or telecommunications facilities have not been identified.

Impact UTL-2:	**Adequacy of Water Supplies (Threshold B).** Sufficient water supplies are available to serve the Project and reasonably foreseeable future development in the service area during normal, dry, and multiple-dry years. *(Less than Significant)*

Master Plan

This impact analysis assesses whether there are sufficient water supplies to serve the Project and other reasonably foreseeable future development in the same service area. Section 4.8, Hydrology and Water Quality discusses impacts to groundwater as a result of MCWD's continued provision of potable water supplies.

Campus growth accommodated by the proposed Master Plan would result in an increase of approximately 6,066 full-time-equivalent students (FTES) and 752 FTE faculty/staff over existing levels. The Project also would result in a net increase of approximately 2.6 million gross square feet (GSF) of new academic and support facilities, including housing, administration, student life, recreational, and institutional partnership buildings. On-campus housing is projected to increase by 3,820 student beds with conversion of 757 existing east campus residential units from student to faculty and staff occupancy. The Project also would accommodate redevelopment and growth in outdoor athletics and recreation facilities to serve campus needs, with space set aside for additional athletic fields, tennis courts, and pools, as well as for the eventual replacement of the existing stadium, field house, and pool house.

Water demand estimates with new development under the proposed Master Plan were developed by CSUMB (see Table 4.14-8). The estimates account for new student beds, academic space, dining halls, and outdoor uses, including irrigation. Water use rates for types of buildings (academic, dining hall, residential) were developed based on review of existing water use at existing facilities (see Section 4.14.3.2, Analytical Methods). The demand rates are similar to and in some cases slightly lower than demand rates used for CSUMB in MCWD's 2020 UWMP. However, CSUMB used rates that reflect actual campus water use and accounts for incorporation of water-conserving features in new buildings. The campus water model also considers CalGreen standards. The campus water use rates were reviewed with MCWD during the preparation and public review of MCWD's 2020 UWMP. Regardless, CSUMB and MCWD have similar demand projections for the proposed Master Plan, as described below.

Water demand associated with the Project is summarized in Table 4.14-8. With development under the proposed Master Plan, the Project would result in an increased demand of approximately 314 AFY of potable water and 87 AFY of non-potable irrigation water. Of the 314 AFY of potable, 106 are for irrigation. Total campus water demand with existing, approved and proposed Master Plan buildout is estimated at 629 AFY potable and recycled 87 AFY for a total projected demand of 716 AFY for CSUMB by 2035. This is slightly less than MCWD's 2020 UWMP forecast water demand of 721 AFY for CSUMB under the proposed Master Plan by the year 2040. MCWD's water demand projection for CSUMB under the proposed Master Plan in 2040 is included in this EIR given that MCWD projected some of the CSUMB proposed Master Plan development as occurring between 2035 and 2040, even though the anticipated horizon year for the proposed Master Plan is 2035.

The total CSUMB water demand following proposed Master Plan buildout would be well below the University's potable groundwater allocation of 1,035 AFY. Campus growth would result in an irrigation non-potable water demand of 87 AFY, which is the current limit of its non-potable recycled water allocation. Therefore, Project demand would not exceed existing CSUMB allocated water supplies through 2035.

Table 4.14-8
Estimated CSUMB Proposed Master Plan Water Demand in 2035

Use	New Master Plan Development	Net New Demand	
		CSUMB Rate[1]	Demand (AFY)[2]
Potable Water			
Non-Residential Building (Academic, Administration, Student Life, Indoor Recreation, Outdoor Recreation Support, Facilities, Panetta Institute)	1,192,839 GSF	0.000021 AFY/GSF	26
Student Housing[3]	5,200 beds	0.031 AFY/bed	161
Convert East Campus Student Housing to Year-Round Faculty and Staff Housing	-1,380 beds / +757 units	NA	7
Dining Hall[4]	Venue serving 2 meals per day Venue serving 3 meals per day	0.00012 AFY/GSF 0.00039 AFY/GSF	14
Potable Irrigation for New Non-Housing Building	Landscaping	0.000053 AFY/GSF	4
Potable Irrigation for New Student Housing	Landscaping	0.000053 AFY/GSF	92
Potable Irrigation for Athletic Fields and Outdoor Facilities	Landscaping	2.3 AFY/Acre	10
		Net New Potable Water Subtotal	*314*
Non-Potable Irrigation			
Conversion of Exiting Potable Water Irrigation to Non-Potable Irrigation	Landscaping	0.000053 AFY/GSF	63
Athletic Fields and Outdoor Facilities	Landscaping	2.3 AFY/Acre	24
		Net New Non-Potable Water Subtotal	*87*
		TOTAL NET NEW DEMAND IN 2035 (POTABLE AND NON-POTABLE)	***400***
		Total Existing Demand 2018-2019 Usage (Potable)	*316*
		Net New Potable Water (Potable)	*314*
		TOTAL FUTURE DEMAND IN 2035 (POTABLE)	***629***

Table 4.14-8
Estimated CSUMB Proposed Master Plan Water Demand in 2035

Use	New Master Plan Development	Net New Demand	
		CSUMB Rate[1]	Demand (AFY)[2]
Total Future 2035 Demand (Potable)			*629*
Total Future 2035 Demand (Non-Potable)			*87*
TOTAL DEMAND IN 2035 (POTABLE AND NON-POTABLE)			***716***
MCWD WATER DEMAND PROJECTION FOR CSUMB IN 2040[5]			***721***
CSUMB Allocation			**1,035 - Potable Water 87 - Recycled Water**
Does Project Exceed Allocation?			**No**

Sources: Table 4.14-6 and MCWD 2021 (Table C1).
Notes: AFY=acre feet per year; GSF=gross square feet

1. See Table 4.14-6 for CSUMB water use rates used in this table.
2. Numbers are rounded to the nearest whole number.
3. Includes a total of 5,200 student beds. The conversion and loss of 1,380 student beds at East Campus Housing is provided for in the next row, and results in net increase in 3,820 student beds. See Table 3-5, Chapter 3, Project Description.
4. Determined by type of food service and whether venue serves snacks and lunch, equivalent to two meals per day (e.g., Starbucks) or three meals a day (e.g., dining commons).
5. The MCWD water demand projection for CSUMB under the proposed Master Plan in 2040 is based on the 2020 UWMP Table C1 projection for 2040 (977 AFY) minus the projection for new CSU Corporation housing on 2nd Avenue in 2040 (256.25 AFY), which is not part of the proposed Master Plan (977 AFY – 256.25 AFY = 720.75). MCWD's water demand projection for CSUMB in 2040 is included in this EIR given that MCWD projected some of the CSUMB proposed Master Plan development as occurring between 2035 and 2040, even though the anticipated horizon year for the proposed Master Plan is 2035.

The Project includes a proposed PDF to conserve water, PDF-W-1, which indicates that the campus would remain within the campus's water allocation by implementing a range of conservation measures for each new project. The Project would result in increased demand for water supply over existing conditions, but Project water demand would be well below CSUMB's established groundwater supply allocation and would be further reduced with implementation of PDF-W-1 that calls for implementation of a range of water conservation measures. In addition to this PDF, new development would be required to install water conserving fixtures as required by California Code of Regulations, Title 24. The Project's forecasted water demand calculations presented in Table 4.14-8 do not take into account the reduced water demand that would result from implementation of PDF-W-1 and new Title 24 regulations and, therefore, overstate forecast demand. It is also noted that CSUMB's existing water use is less than reported in 2008, and projected water demand is less than was projected in the CSUMB 2007 Master Plan EIR.

MCWD estimates that by 2040 projected demand in the Ord Community service area will slightly exceed by 10 AFY the total groundwater supply allocation for the area of 6,600 AFY due to non-CSUMB related growth, although total demand would not exceed the supply allocation by 2035, the horizon year for the Project (MCWD 2021), as shown in Table 4.14-1. That is, by Project buildout year 2035, the total allocated supply of 6,600 AFY for the Ord Community service area would be sufficient to meet the estimated demand of 6,108 AFY. Therefore, there would be adequate water supplies to serve the Project as well as other reasonably foreseeable development in the next 15 years to the year 2035. See also Section 4.8, Hydrology and Water Quality, for an analysis of the Project's impacts related to groundwater supply, groundwater recharge, and sustainable groundwater management.

Regardless of the slight forecasted demand exceedance shown in 2040 related to non-CSUMB growth, pursuant to terms of agreements between MCWD and MCWRA, MCWD is limited to pumping that does not exceed 6,600 AFY, as indicated in Section 4.14.1, Environmental Setting. MCWD does not allocate water supply to projects but advises customer land use jurisdictions as to current and historic water use within their boundaries and estimated remaining supply available for new developments. With these provisions, the established sub-allocations for the Ord Community service area cannot be exceeded by the various jurisdictions until supplemental water supplies are made available, as a result of implementation of MCWD's RUWAP or from other sources. (As indicated in Section 4.14.1, Existing Conditions, the RUWAP would provide a combination of recycled and desalinated water sources to provide water supply augments of 2,400 AFY for the Ord Community service area.) MCWD's current 2020 UWMP also concludes that the available water supply is considered reliable in average, dry and multiple-dry years because demand is projected to decline under a multiple-year drought due in part to conservation measures, and the available groundwater storage greatly exceeds demand even during a fifth consecutive drought year (MCWD 2021). The available water supply is considered reliable in all years (MCWD 2021).[8]

Given the preceding information, water supplies through 2035 are adequate to serve the Project and reasonably foreseeable development under average, dry and multiple-dry years, resulting in an impact that is *less than significant*.

Near-Term Development Components

The near-term development components would result in the addition of 1,000 student beds, 171,704 GSF of academic space in Academic IV and V, and 70,000 GSF of recreational facility space in Recreation Center Phases I and II within the first 10 years of proposed Master Plan building (by approximately 2030). Some of these near-term development components would be located on sites with existing buildings that would be demolished to accommodate the new projects (Buildings 1, 2, 3, 13, 21, and 23). As shown in Table 4.14-9, the net increase in water demand attributable to the near-term development components, accounting for demolition of

8 The Salinas Valley Groundwater Basin has an estimated 19.8 million acre-feet of storage capacity, and groundwater levels have not declined significantly during drought cycles, so pumping within the agreed-upon limits (e.g., 6,600 afy within the Ord Community) is considered reliable (MCWD 2021).

existing buildings and based on the campus water use rates shown in Table 4.14-6 above, would total approximately 75 AFY (60 AFY potable and 15 AFY non-potable irrigation) in year 2030.

Table 4.14-9
Estimated CSUMB Water Demand from Near-Term Development Components

Near-Term Development Components/Use	New Master Plan Development	Net New Demand (Near-Term Development Components)	
		CSUMB Rate[1]	Demand (AFY)[2]
Potable Water			
Academic IV	95,000 GSF	0.000021 AFY/GSF	2
Academic V	76,704 GSF	0.000021 AFY/GSF	2
Recreation Center Phases I and II	70,000 GSF	0.000021 AFY/GSF	1
Student Housing Phases IIB and III[2]	1,000 beds	0.031 AFY/bed	31
Dining Hall[3]	Venue serving 2 meals per day Venue serving 3 meals per day	0.00012 AFY/GSF 0.00039 AFY/GSF	5
Building Demolitions Associated with Near-Term Development Components	(41,457 GSF)	Based on actual metered use	(<1)
Potable Irrigation for New Student Housing	Landscaping	0.000053 AFY/GSF	20
		Net New Potable Water Subtotal	*60*
Non-Potable Irrigation			
Non-Potable Irrigation for New Non-Housing Building	Landscaping	0.000053 AFY/GSF	15
		Net New Non-Potable Water Subtotal	*15*
		TOTAL NET NEW DEMAND IN 2030 (POTABLE AND NON-POTABLE)	***75***
		Total Existing Demand 2018-2019 Usage (Potable)	*316*
		Net New Potable Water (Potable)	*60*
		TOTAL FUTURE DEMAND IN 2030 (POTABLE)	***376***
		Total Future 2030 Demand (Potable)	*376*
		Total Future 2030 Demand (Non-Potable)	*15*
		TOTAL DEMAND IN 2030 (POTABLE AND NON-POTABLE)	***391***
		MCWD WATER DEMAND PROJECTION FOR CSUMB IN 2030[4]	***529***
		CSUMB Allocation	**1,035 - Potable Water 87 - Recycled Water**
		Do Near-Term Development Components Exceed Allocation?	**No**

Sources: Table 4.14-6 and MCWD 2021 (Table C1).
Notes: AFY=acre feet per year; GSF=gross square feet
1. See Table 4.14-6 for CSUMB water use rates used in this table.
2. Numbers are rounded to the nearest whole number.
3. Determined by type of food service and whether venue serves snacks and lunch, equivalent to two meals per day (e.g., Starbuck) or three meals a day (e.g., dining commons).
4. The MCWD water demand projection for CSUMB under the proposed Master Plan in 2030 is based on the 2020 UWMP Table C1 projection for 2030 (616 AFY) minus the projection for new CSU Corporation housing on 2nd Avenue (87.5 AFY) in 2030, which is not part of the proposed Master Plan (616 AFY – 87.5 AFY = 528.5).

This water demand attributable to the near-term development components represents a portion of and is accounted for in the total proposed Master Plan water demand identified in Table 4.14-8. These near-term developments would also be subject to proposed PDF-W-1 as related to site-specific project designs and considerations. In addition to this PDF, the near-term development components would be required to install water conserving fixtures as required by California Code of Regulations, Title 24. Further, the water demand associated with the near-term development components is well within the CSUMB allocation identified previously.

Additionally, MCWD estimates that projected demand in the Ord Community service area would not exceed the total groundwater supply allocation for the area of 6,600 AFY by 2030 (MCWD 2021), as shown in Table 4.14-1, which is the estimated time frame in which the near-term development components would be implemented. By 2030, the total estimated demand for the Ord Community is projected to be 5,239 AFY, as shown in Table 4.14-1, which is within the total groundwater supply allocation for the area of 6,600 AFY. Therefore, there would be adequate water supplies to serve other reasonably foreseeable development in the next 10 years to the year 2030. MCWD's current 2020 UWMP also concludes that the available water supply is considered reliable in average, dry and multiple-dry years because demand is projected to decline under a multiple-year drought and the available groundwater storage exceeds demand even during a fifth consecutive drought year (MCWD 2021).

Given the preceding information, water supplies are adequate to serve the near-term development components and reasonably foreseeable development under average, dry and multiple-dry years, resulting in an impact that is *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to water supplies has not been identified.

Impact UTL-3:	**Wastewater Treatment Capacity (Threshold C).** The Project would not exceed wastewater treatment capacity. *(Less than Significant)*

Master Plan

As indicated in Impact UTL-2, campus growth accommodated by the proposed Master Plan would result in a net increase of approximately 6,066 FTE students and 752 FTE faculty/staff and approximately 2.6 million GSF of new buildings over existing levels. CSUMB estimates wastewater generation at buildout of the proposed Master Plan as approximately 0.38 MGD, based on an assumption that 100 percent of building water use would result in wastewater, as indicated in Section 4.14.3.2, Analytical Method. Table 4.14-10 indicates that the net increase in potable building water use would be 208 AFY in 2035 with the proposed project, which equals a net increase of 0.19 MGD of wastewater. Combined with existing wastewater generation from the campus, the estimated total campus wastewater flows would be 0.38 MGD, which is well within remaining treatment capacity at the regional wastewater treatment plant, which is estimated at approximately 11 MGD. Therefore, as the wastewater generated by the Project would not exceed the capacity of the wastewater treatment plant, the impact would be *less than significant*.

Table 4.14-10
CSUMB Proposed Master Plan Wastewater Generation in 2035

Water Use/Wastewater Generation	Existing Conditions[1] (2018-2019)	Net New Demand[2] (2035)	Total Future Demand (2035)
Building Water Use (AFY)	219	208	427
Wastewater Generation[3] (MGD)	0.20	0.19	**0.38**

Notes: AFY=acre feet per year; GSF=gross square feet
1. Based on campus data, total potable water use at CSUMB in Fiscal Year 2018-2019 was approximately 316 AFY. Of that amount, 219 AFY was related to building use.
2. From Table 4.14-8.
3. To obtain wastewater generation from building water use the following conversion factor was used: 1 AFY = 892.75 GPD.

Near-Term Development Components

The near-term development components would result in the addition of 1,000 student beds, 171,704 square feet of academic space in Academic IV and V, and 70,000 GSF of recreational facility space in Recreation Center Phases I and II within the first 10 years of proposed Master Plan building (by approximately 2030). Some of these near-term development components would be located on sites with existing buildings that would be demolished to accommodate the new projects (Buildings 1, 2, 3, 13, 21, and 23). Wastewater generation for the near-term development components, accounting for demolition of existing buildings, represents a portion of and is accounted for in the total Master Plan wastewater generation estimate identified for the proposed Master Plan above in Table 4.14-10. Specifically, based on Table 4.14-9, the net increase in building water use for the near-term developments would be approximately 40 AFY, which equals approximately 0.04 MGD, based on the same conversion factor used in Table 4.14-10. This wastewater volume is also well within remaining treatment capacity at the regional wastewater treatment plant, estimated at approximately 11 MGD. Therefore, as the wastewater generated by the near-term development components would not exceed the capacity of the wastewater treatment plant, the impact would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to exceedance of the wastewater treatment plant capacity has not been identified.

Impact UTL-4:	**Solid Waste (Thresholds D and E).** The Project would not generate solid waste in excess of state standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and the Project would comply with federal and state management and reduction statutes and regulations related to solid waste. *(Less than Significant)*

Master Plan

As indicated in Impact UTL-2, campus growth accommodated by the proposed Master Plan would result in a net increase of 6,066 full-time-equivalent students (FTES) 752 FTE faculty/staff, and approximately 2.6 million GSF of new buildings and related infrastructure connections. The increase in population and physical development on campus would increase the generation of nonhazardous solid waste. Solid waste generated under the proposed Master Plan would be directed to the Monterey Peninsula Landfill, which has remaining capacity beyond the Master Plan horizon year of 2035. Specifically, the landfill is expected to have capacity for approximately 90 to 100 more years (CalRecycle 2019a).

As described above in Section 4.14.1.4, approximately 2,123 tons of waste was generated at the CSUMB campus in 2017 (CSUMB 2019). Based on the CSUMB population of 7,658 FTE for the 2016/2017 academic year, approximately 0.28 tons per FTE person were generated that year. Data from the campus indicate an average per-capita waste generation rate of approximately 0.24 tons per person per year from 2013-2017. To provide a more conservative estimate of solid waste generation with the proposed Master Plan, the calculated waste generation rate for 2016/2017 is used in this analysis. Using the generation rate of 0.28 tons per FTE person per year, a net increase of approximately 1,909 tons per year of solid waste would be generated during Project operation with the proposed net increase of 6,818 FTE students, faculty, and staff. This represents a conservative estimate as the per-capita generation rate would most likely decline over time in accordance with the campus's increasing solid waste diversion goals.

Project construction would generate significantly higher amounts of waste than Project operation due to demolition of buildings and associated construction activities. The exact amount of solid waste that would be generated from construction/demolition activities is not known. However, as described in Section 4.14.1.4, when building demolition is accounted for (i.e., due to the demolition of former unusable military buildings), the campus's overall waste diversion rates ranged from approximately 53 percent to 97 percent from 2013 to 2017. Through recycling and reuse of construction/demolition materials, the campus has been able to divert the vast majority of its construction/demolition waste from the landfill (averaging 98 percent diversion from 2013 to 2017 for specific projects). Therefore, Project construction would not generate solid waste in excess of existing remaining landfill capacity, which is estimated at over 48.5 million cubic yards with an estimated closure date in 2107.

The net increase in solid waste generation expected with Project operation (1,909 tons per year) would comprise less than 1 percent of the annual 490,000 tons received at the landfill. In addition, the campus would continue to comply with applicable CalRecycle requirements, including reporting annually, recycling, attaining at least a 50 percent diversion rate for state agencies, and providing adequate receptacles, signage, education, and staffing. As per the CSU Sustainability Policy (see Table 4.14-5), CSUMB shall also seek to reduce solid waste diversion by 80 percent by 2020 and then continue toward zero waste by 2040. The Campus Sustainability Plan provides an interim objective of diverting 90 percent of waste from the landfill by 2030. Compliance with the CSU Sustainability Policy and the Campus Sustainability Plan overtime will increase CSUMB's diversion rate over existing conditions. Additionally, as of February 2018, MRWMD's MRF began recovering up to 75 percent or more of recycled materials from commercial and residential trash, thus reducing the solid waste tons sent to the landfill. As such, the Project would not generate solid waste in excess of the capacity of local infrastructure, otherwise impair the attainment of solid waste reduction goals, or conflict with regulations related to solid waste, and the impact would be *less than significant*.

Near-Term Development Components

The growth contemplated in the proposed Master Plan, including near-term development components, would result in an increase in solid waste generation that would comprise a limited portion of existing capacity at the Monterey Peninsula Landfill, would not otherwise impair the attainment of solid waste reduction goals, or conflict with regulations related to solid waste and the impact of the near-term development components would also be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to solid waste has not been identified.

Impact UTL-5:	**Wasteful Energy Consumption (Threshold F).** The Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. *(Less than Significant)*

Master Plan

The Project includes the development of the CSUMB campus to support planned on-campus student enrollment, faculty, and staff growth. In conjunction with these efforts, the Project – in part – includes the demolition of up to 24 existing buildings, and the replacement of those building with new construction. As discussed previously, the Project would include PDF-E-2, which calls for the design and retrofit of infrastructure and buildings to minimize energy use by: establishing district-scale on-site energy production and distribution strategies; studying expansion of district-scale electrical, chilled and hot water distribution; achieving a minimum 15 percent energy performance improvement target goal over current Title 24 code in new construction; achieving a minimum 5 percent energy performance improvement target goal over existing usage in existing facilities; establishing passive heating and cooling and thermal-mass building designs; establishing standards for campus-scale energy conversion systems; and meeting minimum requirements equivalent to LEED "Silver," while aiming for the highest green building energy standards possible (i.e., LEED Platinum or equivalent). Moreover, PDF-E-3 would allow for the recommissioning of major buildings every five years, as funding is available and would also establish energy system efficiency retrofit projects. From an energy perspective, the redevelopment of the existing campus in this respect will serve to increase and improve the efficiency of campus operations as new buildings will comply with more rigorous and effective regulatory standards.

Electricity

Construction Use. Temporary electric power for as-necessary lighting and electronic equipment such as computers may be needed inside temporary construction trailers. However, the electricity used for such activities would be temporary and would be substantially less than that required for Project operation and would have a negligible contribution to the Project's overall energy consumption. Therefore, the electricity consumption of the Project during construction would not be considered inefficient or wasteful, and impacts would be *less than significant*.

Operational Use. The operational phase of the Project would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics.

Energy consumption data provided by CSUMB, was utilized for both existing conditions and Project buildout (see Appendix D for calculations). In 2016-2017, the CSUMB Main Campus facilities consumed approximately 11,468,472 kWh. At buildout, the Project's electricity consumption would be approximately 27,006,093 kWh of electricity. The Project's electricity consumption at buildout was estimated by utilizing a rate of 6.4 KWh/GSF/year, which is based on the existing buildings' electricity consumption. Overall, new buildings' electricity consumption associated with the Project would be approximately 17,587,977 kWh per year. Notably, the Project's forecasted electricity consumption calculations are overestimated as they do not account for the reduced electricity demand that would be achieved through required compliance with all current applicable energy codes (Title 24 Energy Codes) and regulations and implementation of the PDFs identified in Section 4.14.3.2, Analytical Method, as further discussed below.

Although overall electricity consumption would increase due to the implementation of the Project, new buildings, HVAC, lighting, and other systems, such as electric motor equipment, would be designed to maximize energy performance pursuant to applicable regulations. The

ICSUAM (Section IX) provides that all future CSU new construction, remodeling, renovation and repair projects will be designed for optimum energy utilization, lowest life-cycle operating costs, in compliance with all applicable energy codes (Title 24 Energy Codes) and regulations, including the statewide mandatory energy requirements (Cal. Code Regs. tit 24, part 6), which improve the energy efficiency of non-residential and residential buildings, and minimum mandatory energy measures under CALGreen (Cal. Code Regs. tit 24, part 11). In addition to these energy saving requirements, the Project would implement PDF-E-2, which would require energy efficiency and new buildings be developed to exceed current Title 24 standards by a minimum of 15 percent while existing facilities would strive to reduce energy consumption by 5 percent. The Project would also implement PDF-E-3 to manage energy supplies to reduce overall energy use. Furthermore, as part of PDF-E-2, the Project would establish district-scale on-site energy production and distribution strategies and would implement standards for campus-scale energy conversion systems to help the campus meet carbon neutrality for scope 1 and 2 emissions identified in PDF-E-1. Additionally, newly developed buildings would be designed to meet LEED Silver or equivalent standards at a minimum and the campus would aim to meet the highest green building energy standards possible (i.e., LEED Platinum or equivalent), under PDF-E-2.

Overall, CSUMB would ensure that the Project would meet Title 24 requirements applicable at the time of construction of specific components, as required by state regulations and as provided in PDF-E-2, and evaluate participation in CALGreen voluntary measures on a project-by-project basis. PDF-E-1 and PDF-E-3, described above, would also be implemented. For these reasons, the electricity consumption of the Project during operations would not be considered inefficient or wasteful, and impacts would be *less than significant*.

Natural Gas

Construction Use. Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection. Any minor amounts of natural gas that may be consumed as a result of Project construction would be substantially less than that required for Project operation and would have a negligible contribution to the Project's overall energy consumption. Therefore, natural gas use during construction would not be wasteful or inefficient and impacts would be *less than significant*.

Operational Use. Natural gas consumption during operation would be required for various purposes, including, but not limited to, building heating and food preparation. Default natural gas generation rates in CalEEMod for the Project were adjusted based on existing and forecasted usage provided by CSUMB. Based on these estimates, in 2016-2017, CSUMB Main Campus facilities consumed approximately 555,708 therms. The Project's natural gas consumption at buildout was estimated by utilizing a rate of 0.18 therms/GSF/year, which is based on the existing buildings' natural gas consumption. At buildout, it is estimated the Project would consume approximately 1,106,827 therms of natural gas per year. New development under the Project would account for approximately 648,746 therms per year. Notably, the Project's forecasted natural gas consumption calculations are overestimated as they do not account for the reduced natural gas demand that would be associated with compliance with all current applicable energy codes (Title 24 Energy Codes) and regulations and implementation of the PDFs identified in Section 4.14.3.2, Analytical Method, as further discussed below.

Although natural gas consumption would increase due to the implementation of the Project, proposed new buildings and related HVAC and other systems would be designed to maximize energy performance in accordance with applicable regulations. The ICSUAM (Section IX) requires that all future CSU new construction, remodeling, renovation and repair projects be designed for optimum energy utilization, lowest life-cycle operating costs, and in compliance with all applicable energy codes (Enhanced Title 24 Energy Codes) and regulations, including the statewide mandatory energy requirements (Cal. Code Regs. tit 24, part 6), which improve the energy efficiency of non-residential and residential buildings, and minimum mandatory energy measures under CALGreen (Cal. Code Regs. tit 24, part 11). In addition to these energy saving requirements, the Project would also implement PDF-E-1, which would limit future natural gas use. As with electricity demand, natural gas demand for the Project would comply with and would exceed current Title 24 standards by a minimum of 15 percent at the time of development, which is a target goal of PDF-E-2. The Project would also implement PDF-E-3 to manage energy supplies to reduce overall energy use. Furthermore, as part of PDF-E-2, the Project would establish district-scale on-site energy production and distribution strategies and would implement standards for campus-scale energy conversion systems to help the campus meet carbon neutrality for scope 1 and 2 emissions identified in PDF-E-1. Additionally, newly developed buildings would be designed to meet LEED Silver or equivalent standards at a minimum and the campus would aim to meet the highest green building energy standards possible (i.e., LEED Platinum or equivalent), under PDF-E-2.

Overall, CSUMB would ensure that the Project would meet Title 24 requirements applicable at the time of construction of specific components, as required by state regulations and as provided in PDF-E-2, and evaluate participation in CALGreen voluntary measures on a project-by-project basis. PDF-E-1 and PDF-E-3, described above, would also be implemented. For these reasons, the natural gas consumption of the Project would not be considered inefficient or wasteful, and impacts would be *less than significant*.

Petroleum

Construction Use. Petroleum would be consumed throughout construction of the Project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and on-road vehicles associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities and haul trucks involved in transport of demolished material would rely on diesel fuel. Construction workers would travel to and from the Project site throughout the duration of construction. It is assumed that construction workers would travel to and from the Project site in gasoline-powered vehicles. For purposes of estimating project emissions, construction was based on the assumption that no more than approximately 300,000 gross square feet (GSF) of development projects under the proposed Master Plan would occur concurrently. This analysis is based on the construction scenario described in Section 4.2, Air Quality (see Section 4.2.3.2, Analytical Method, Construction Emissions). While construction specifics for buildout of the Project are not currently available, the petroleum estimated from the construction scenario were assumed to represent a worst-case for the phased development over 15 years (2035). In order to estimate Project construction petroleum consumption, the petroleum consumption over the worst-case construction scenario were multiplied over the 15-year buildout duration. CalEEMod was used to estimate construction equipment usage; results are included in Appendix D of this EIR.

As shown in Appendix D, construction activities are estimated to consume approximately 327,738 gallons of petroleum over the buildout of the Project. For comparison, California daily petroleum consumption is estimated at approximately 78.6 million gallons per day (EIA 2019c). Therefore, over the 15-year buildout of the Project, the total amount of petroleum used in connection with construction activities would be equivalent to less than 4 percent of the amount of petroleum consumed in the state in a single day. Additionally, all projects would be required to comply with regulatory measures such as CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, minimizing fuel consumption. Furthermore, because California's construction equipment is regulated, Project construction petroleum use is reasonably expected to continue to decline, as Tier 4 construction equipment, which is more fuel efficient, becomes more widely available. Therefore, because petroleum use during construction would be temporary, relatively limited, and would continue to decline with the use of more efficient equipment, it would not be wasteful or inefficient and impacts would be *less than significant*.

Operational Use. The majority of fuel consumption resulting from the Project's operational phase would be attributable to students and faculty/staff employees traveling to and from the Project site, and worker vehicles traveling around the Project site.

Petroleum fuel consumption associated with motor vehicles and delivery trucks traveling to and from the Project site during operation is a function of VMT. As provided in the Transportation Analysis (Appendix H), the annual VMT attributable to buildout of the Project is expected to be 295,440 VMT per year. (This annual VMT estimate quantitively accounts for the implementation of PDF-MO-1 and PDF-MO-2 providing for housing of at least 60 percent of enrolled students and 65 percent of faculty and staff in on-campus housing, as well as PDF-MO-6(c) and PDF-MO-8 that will consolidate and relocate parking to the periphery of the campus core and establish restrictions to general vehicle travel through the campus core. These PDFs would result in reductions in VMT to and from campus and, consequently, reduced fuel usage.) By comparison, the existing campuses' VMT is approximately 178,460 VMT per year. In addition, as presented in Table 4.13-8 of Section 4.13, Transportation, the Project's VMT per service population would be less than significant, as the total VMT per service population associated with the Project would be 20.24, which is less than the applicable significance threshold of 23.91. Similar to construction worker and vendor trips, fuel consumption for operation was estimated by converting the total CO_2 emissions to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. The worker vehicles were assumed to be gasoline powered, and the delivery trucks were assumed to be diesel.

Calculations for annual mobile-source fuel consumption are provided in Table 4.14-11Table 4.14-. At Project buildout year 2035, mobile sources from the Project would result in the consumption of approximately 280,207 gallons of gasoline per year and 29,904 gallons of diesel per year, for a total of 310,110 gallons of petroleum consumed. The total existing mobile source consumption in 2018 was approximately 187,850 gallons of gasoline and 20,047 gallons of diesel, for a total of 207,897 gallons of petroleum consumed. Therefore, the Project would result in an increase in consumption of approximately 102,212 gallons of petroleum per year. By comparison, California as a whole consumes approximately 16.8 billion gallons of petroleum per year (CEC 2019). Thus, the Project would result in an increase in petroleum consumption equivalent to 0.00006 percent of the state's total consumption (102,212/16.8 billion).

Table 4.14-11
Petroleum Consumption – Operation

Fuel	Vehicle MT CO_2	kg CO_2/Gallon	Gallons
Project Buildout			
Gasoline	2,460.21	8.78	280,206.72
Diesel	305.32	10.21	29,903.53
		Total	**310,110.25**
Existing Conditions			
Gasoline	1,649.33	8.78	187,850.45
Diesel	204.68	10.21	20,047.31
		Total	**207,897.76**
		Net Total Petroleum Consumption	**102,212.48**

Sources: a. Appendix D; b. The Climate Registry 2021.
Notes: CO_2 = carbon dioxide; kg = kilogram; MT = metric ton.

Over the lifetime of the Project, the fuel efficiency of the vehicles being used by students, faculty/staff employees, and delivery trucks is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the Project site during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency. For example, CARB has adopted an approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. Technologies to achieve the GHG emission standards include engine and emission control advancements, wider application of advanced hybrid technology and greater use of stronger and lighter materials, which would help reduce fuel consumption. The program would also include efforts to support and accelerate the number of plug-in hybrids and zero-emissions vehicles in California (CARB 2013). Additionally, in response to SB 375, CARB adopted the goal of reducing per-capita GHG emissions by 4 percent and nearly 7 percent from passenger vehicles by 2020 and 2035, respectively (AMBAG 2018). As such, operation of the Project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy and improvements in public transit and transportation options.

Further, although not quantified herein, PDF-MO-3 through PDF-MO-7, and PDF-MO-9 through PDF-MO-18 would help reduce petroleum use during operation as these measures would require implementation of a TDM plan and other measures to reduce single-occupant vehicle trips and associated petroleum use. In particular, PDF-MO-6 and related PDFs provide for the implementation, enhancement, and expansion of TDM strategies to reduce single-occupant vehicle trips as part of a formal TDM Plan, which will address parking management (e.g., maintaining existing parking supply, prohibiting residential Freshmen and Sophomores from purchasing a parking permit, providing for a "park once" policy, expanding electric vehicle charging stations), transit mobility, bicycle and pedestrian mobility, and program monitoring and administration. Lastly, the CSU Sustainability Policy calls for the use of alternative transportation and/or alternative fuels.

In summary, although the Project would increase petroleum use during operation as a result of students and faculty/staff employees commuting to the site, as well as delivery trucks, the use would be a small fraction of the statewide use and, due to efficiency increases and implementation of relevant PDFs and the CSU Sustainability Policy, would diminish over time. Given these considerations, petroleum consumption associated with the Project would not be considered inefficient or wasteful and the impact would be *less than significant*.

Near-Term Development Components

As demonstrated above, the proposed Master Plan, which includes the near-term development components, would result in an increase in electricity, natural gas, and petroleum consumption that would be relatively minimal when compared with the State's usage and, due to efficiency increases and implementation of relevant PDFs and the CSU Sustainability Policy, such consumption would diminish and become more efficient over time. Therefore, the near-term development components would not be wasteful or inefficient use of energy resources and impacts would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to energy consumption has not been identified.

While not required to reduce a significant energy-related impact, MM-GHG-1 (see Section 4.6, Greenhouse Gas Emissions) would reduce the Project's GHG emissions related to energy consumption via building decarbonization efforts that increase electricity consumption to offset reductions in natural gas consumption, as the latter is more GHG intensive. The decarbonization of buildings would allow CSUMB to use clean electricity instead of natural gas, as PG&E meets the state's RPS targets, and would also allow for a portion of the campus's electricity consumption offset through expansion of solar PV infrastructure. Implementation of MM-GHG-1 would not result in a significant energy-related impact, even though it would increase the Project's electricity consumption (see Section 4.6, Greenhouse Gas Emissions, Table 4.6-7), because Project-related buildings would continue to meet and exceed regulatory standards designed to ensure efficient energy consumption, as described above. See Section 4.6, Greenhouse Gas Emissions for additional information.

Impact UTL-6:	**Conflicts with Energy Plans (Threshold G).** The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. *(Less than Significant)*

Master Plan

The ICSUAM (Section IX) requires that all CSU buildings and facilities be operated in the most energy efficient manner without endangering public health and safety. The policy also provides that all future CSU new construction, remodeling, renovation and repair projects be designed for optimum energy utilization, lowest life-cycle operating costs, and in compliance with all applicable energy codes (Title 24 Energy Codes) and regulations.

Title 24 of the California Code of Regulations contains energy efficiency standards for residential and non-residential buildings based on a state mandate to reduce California's energy demand. Specifically, Title 24 provides a number of energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of buildings associated with windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs. Part 6 of Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California in order to reduce energy demand and consumption. Title 24, Part 11, contains mandatory energy measures that are applicable to the Project under CALGreen.

As discussed in Impact UTL-5, the Project would result in an increased demand for electricity, natural gas, and petroleum. In accordance with Title 24 Part 11 mandatory compliance, the Project would have: (a) 50 percent of its construction and demolition waste diverted from landfills; (b) mandatory inspections of energy systems to ensure optimal working efficiency; (c) low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards; and (d) a 20 -percent reduction in indoor water use.

In addition, the Project would implement PDF-E-1 through PDF-E-3, which include various energy conservation measures such as setting a minimum of exceeding the current Title 24 regulations by 15 percent for all new development and a 5 percent reduction in energy consumption for existing buildings. Furthermore, the Project would look to implement energy conservation systems that move the campus towards achieving carbon neutrality.

As discussed in Section 4.14.2, Regulatory Framework, there are several CSU and CSUMB plans that would be applicable to the Project. The CSU Sustainability Policy focuses mainly on energy and GHG emissions, and largely aligns with the State of California energy and GHG emissions reduction goals. The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The Project would comply with the CSU Sustainability Policy through meeting the State building code requirements, including use of energy-efficient HVAC systems, installing LED lighting, retrofitting campus water fixtures to low-flow plumbing equipment, and compliance with waste recycling requirements.

Furthermore, CSUMB adopted the Campus Sustainability Plan, which replaced the prior 2013 CSUMB Climate Action Plan. The Campus Sustainability Plan includes a Carbon Neutrality Roadmap in support of achieving carbon neutrality by 2030. The Carbon Neutrality Roadmap includes 12 topic areas and associated goals in a variety of sectors including: water, energy, food, waste, procurement, build environment, transportation, habitat, resiliency, academic and curricular, student affairs and co-curricular, and community and engagement. The Project would support progress towards meeting the carbon neutrality goal through implementing PDF-W-1, PDF-E-1 through PDF-E-3, and PDF-MO-1 through PDF-MO-18, which would minimize the increase in consumption of electricity, natural gas, and petroleum and provide for compliance with energy standards and regulations. The Project would also be required to replace existing lighting with energy efficient lighting, such as LED lights. LED lights use up to 90 percent less energy and last up to 25 times longer than incandescent bulbs. Finally, to support mode shift from single occupancy vehicles and encourage alternative transportation methods, the Project would develop a TDM Plan, per PDF-MO-6. The TDM Plan would include a variety of trip reduction strategies such as expanding upon existing alternative transportation programs; establishing an incentives-based commuter program to encourage students, faculty and staff commuters to carpool and take alternative modes of travel to campus; increase bicycle facilities; and prioritize carpool parking, etc.

Based on the considerations above, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and the impact would be *less than significant*.

Near-Term Development Components

Because the proposed Master Plan, which includes the near-term development components, would comply with Title 24 regulations as required by the ICSUAM, and would implement PDF-W-1, PDF-E-1 through PDF-E-3, and PDF-MO-1 through PDF-MO-18, these components also would minimize the increase in consumption of electricity, natural gas, and petroleum and provide for compliance with energy standards and regulations. Therefore, the near-term development components would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and the impact would be *less than significant*.

Mitigation Measures

Mitigation measures are not required because a significant impact related to conflicts with a state or local plan for renewable energy or energy efficiency has not been identified.

While not required to reduce a significant energy-related impact, the implementation of MM-GHG-1 would decarbonize existing buildings and/or new buildings to reduce the Project's natural gas consumption (see Section 4.6, Greenhouse Gas Emissions, Table 4.6-7 and Table 4.6-8).

4.14.3.4 Cumulative Impacts

This section provides an evaluation of utilities and energy impacts associated with the Project, including near-term development components, when considered together with other reasonably foreseeable cumulative development, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, as well as growth under current local agency general plans, or as projected by service purveyors in their service areas (e.g., MCWD). The geographic area considered in the cumulative analysis for this topic is described in the impact analysis below.

Impact UTL-7:	**Cumulative Utilities and Energy Impacts (Thresholds A through G).** The Project would not result in a cumulatively considerable contribution to significant cumulative impacts related to utilities and energy. (*Less than Significant*)

Utility Relocation or Construction

Potable Water

The geographic area considered in the cumulative impact analysis related to relocation or construction of new potable water facilities is the Ord Community service area of the MCWD. Cumulative growth would result in the need for new water delivery connections to adequately serve future growth in MCWD's Ord Community service area. As indicated in Impact UTL-1, all new Project buildings would require new water delivery and wastewater pipeline connections to existing MCWD infrastructure; and relocation of some lines could be necessary. The construction impacts associated with new water service connections or relocation of existing pipelines are evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan.

As indicated in Impact UTL-1, MCWD's recently completed Water Master Plan evaluates the adequacy of the existing potable water system capacity and provides plans for its expansion to service anticipated future growth through 2035. The Water Master Plan includes recommended improvements and a Capital Improvement Program. Infrastructure improvements are recommended to mitigate existing system deficiencies and serve development over the next 15 years. CSUMB estimates that the proposed Project would have limited contribution to total growth in demand in the pressure zones that serve the campus (see Table 4.14-7). Other cumulative development in the Ord service area would contribute to infrastructure improvements identified in Water Master Plan, including additional pipelines, valves, pump stations, and storage tanks. When identified MCWD improvements are implemented, such improvements would require CEQA compliance and compliance with applicable regulatory requirements and permits, as applicable. To the extent that such improvements result in potentially significant impacts, such impacts would be reduced through the implementation of mitigation measures required through the CEQA process for these projects.

Implementation of the proposed Master Plan, in and of itself, would not require construction of potable water infrastructure improvements identified by MCWD. Moreover, the Project's percentage of the total growth identified in the MCWD Master Plan would be relatively limited and would not be cumulatively considerable, and therefore cumulative impacts would be *less than significant*.

Recycled Water

The geographic area considered in the cumulative impact analysis related to relocation or construction of new recycled water facilities is the Ord Community service area of the MCWD. As indicated in Impact UTL-1, the Pure Water Monterey advanced treated recycled water pipeline is currently complete through the CSUMB campus with points of connections installed in proximity to CSUMB irrigation locations. CSUMB is in the process of designing the pipeline lateral connections to the existing advanced treated recycled water pipeline through the campus. Advanced treated recycled water may be available to CSUMB from MCWD in the near future.

While MCWD is planning for other recycled water improvements under the RUWAP, that would expand their capacity to deliver recycled water to customers, CSUMB does not need additional recycled water to serve proposed Master Plan growth and development, nor would the Project contribute to the need to construct additional recycled water infrastructure projects. Given that the implementation of the proposed Master Plan, in and of itself, would not require construction of these recycled water infrastructure improvements, nor would the Project contribute to any such need, the contribution of the Project to cumulative impacts related to recycled water improvements would not be cumulatively considerable, and cumulative impacts would be *less than significant*.

Wastewater

The geographic area considered in the cumulative impact analysis related to relocation or construction of new wastewater facilities is the Ord Community service area of the MCWD. Cumulative growth would result in the need for new wastewater connections to adequately serve future growth in MCWD's Ord Community service area. As indicated in Impact UTL-1, all new Project buildings would require new water delivery and wastewater pipeline connections to existing MCWD infrastructure; and relocation of some lines could be necessary. The construction impacts associated with new wastewater service connections to new buildings or relocation of existing pipelines are evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan.

As indicated in Impact UTL-1, MCWD's recently completed Sewer Master Plan evaluates the adequacy of the existing sewer system capacity and provides plans for its expansion to service anticipated future growth through 2035 in its service area. The Sewer Master Plan includes recommended improvements and a Capital Improvement Program. Infrastructure improvements are recommended to upsize and mitigate existing system deficiencies such that the system would be adequate to serve existing and new regional development over the next 15 years. No relocation or construction of new or expanded wastewater treatment facilities are necessary to serve the Project as discussed in Impact UTL-3 or to serve cumulative growth (see Wastewater

Treatment Capacity below). Additionally, according to a Sewer Capacity Study conducted for the CSUMB Main Campus, the existing MCWD's wastewater collection infrastructure is adequately sized to support the Project development and the MCWD sewer system is not anticipated to be undersized (Whitson Engineers 2019 and 2020). Therefore, MCWD sewer system improvements are not needed to serve Project development on the Main Campus.

While MCWD is planning for wastewater system improvements to serve cumulative growth, these improvements are not required to serve Project growth and development. Given that the implementation of the proposed Master Plan, in and of itself, would not require construction of wastewater infrastructure improvements, nor would the Project contribute to the need to construct such improvements, the contribution of the Project to cumulative impacts related to wastewater improvements would not be cumulatively considerable, and cumulative impacts would be *less than significant*.

Other Utilities

The geographic area considered in the cumulative impact analysis related to relocation or construction of new electric power, natural gas, and telecommunications is the cumulative project sites in the former Fort Ord and beyond, as described in Section 4.0, Introduction to Analysis. As indicated in Section 4.14-1, Environmental Setting, PG&E provides electricity and natural gas to East Campus Housing and the campus owns the electricity and natural gas distribution systems that extends to buildings on the Main Campus. The campus also has a fiber optic telecommunications system, which serves only the campus, so this system is not the focus of this cumulative impact analysis.

As indicated in Impact UTL-1, all new Project buildings would require new electric power and natural gas. The construction impacts associated with these new connections are evaluated throughout Chapter 4, Environmental Setting, Impacts, and Mitigation Measures of this Draft EIR as a component of development under the proposed Master Plan. Development under the proposed Master Plan, in combination with cumulative projects listed in Table 4.0-1, would result in an increase in electrical and natural gas demands. As development of the projects listed in Table 4.0-1 proceeds, PG&E would typically incorporate anticipated development into their assessment of their associated infrastructure and periodically consider the need to purchase more resources and upgrade/expand infrastructure. There are currently no known off-campus electric power or natural gas improvements that are known to be required to serve the Project and other cumulative development, beyond improvements and connections that may be required on individual project sites.

Moreover, to the extent new cumulative project development is constructed in the future, that development would undergo its own environmental review under CEQA, which would be conducted by other jurisdictions. As part of the review, the need for new or expanded electricity and natural gas facilities would be assessed and would be required to comply with applicable regulatory requirements and permits at the time that such facilities are proposed. To the extent that cumulative development results in potentially significant impacts related to construction of improvements or connections related to electric power and natural gas, such impacts would be reduced through the implementation of mitigation measures required through the CEQA process for these projects. 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 transmission and conveyance system.

As there are currently no known off-campus electric power or natural gas improvements that are known to be required to serve the Project and other cumulative development, the contribution of the Project to cumulative impacts related to construction of such electric power and natural gas improvements would not be cumulatively considerable, and cumulative impacts would be *less than significant*.

Water Supply Availability

The geographic area considered in the cumulative impacts for water supply is the Ord Community service area of the MCWD. Impact UTL-2 provides an analysis of the Project and reasonably foreseeable future development related to the sufficiency of water supplies. This impact analysis concludes that Project demand would not exceed, and is well under, the existing CSUMB allocated water supplies through 2035 (see Table 4.14-8), even without accounting for the reduced water demand that would result from implementation of PDF-W-1 and new Title 24 regulations. It further concludes that while the MCWD estimates that projected demand in the Ord Community service area from non-CSUMB growth will slightly exceed (by 10 AFY) the total groundwater supply allocation for the service area of 6,600 AFY by 2040, projected demand would not exceed the total groundwater supply allocation by 2035, the horizon year for the Project (MCWD 2021), as shown in Table 4.14-1. That is, by Project buildout year 2035, the total allocated supply of 6,600 AFY for the Ord Community service area would be sufficient to meet the estimated demand of 6,108 AFY. Therefore, there would be adequate water supplies to serve the Project as well as other reasonably foreseeable development in the next 15 years to the year 2035.

Regardless of the slight forecasted demand exceedance shown in 2040 related to non-CSUMB growth, pursuant to terms of agreements between MCWD and MCWRA, MCWD is limited to pumping that does not exceed 6,600 AFY, as indicated in Section 4.14.1, Environmental Setting. MCWD does not allocate water supply to projects but advises customer land use jurisdictions as to current and historic water use within their boundaries and estimated remaining supply available for new developments. With these provisions, the established sub-allocations for the Ord Community service area cannot be exceeded by the various jurisdictions until supplemental water supplies are made available, as a result of implementation of MCWD's RUWAP or from other sources. MCWD's current 2020 UWMP also concludes that the available water supply is considered reliable in average, dry and multiple-dry years because demand is projected to decline under a multiple-year drought and the available groundwater storage greatly exceeds demand even during a fifth consecutive drought year (MCWD 2021).

Given the preceding information, water supplies through 2035 are adequate to serve the Project and reasonably foreseeable development under average, dry and multiple-dry years, and as such Project impacts relative to water supply would not be cumulatively considerable, thereby resulting in a cumulative impact that is *less than significant*, as concluded in Impact UTL-2.

Cumulative impacts related to continued groundwater pumping are addressed in Section 4.8, Hydrology and Water Quality.

Wastewater Treatment Capacity

The geographic area considered in the cumulative impacts for wastewater treatment include areas served by the M1W regional wastewater treatment plant. A 40-year wastewater flow projection analysis was conducted as part of the planning for the Pure Water Monterey Project, which found that wastewater flows to the regional wastewater treatment plant will continue to decrease until approximately the year 2030. After 2030, based on the "high" and "low" projections of regional population growth and assuming a minimum of 59.0 gallons per capita per day, flows are projected to increase and may range between 22.7 and 24.3 MGD by the year 2055, i.e., 77 to 82 percent of regional wastewater treatment plant design capacity (MRWPCA 2016). These projected increases in wastewater flows are dependent upon implementation of regional growth plans reflected in city and county general plans. If wastewater flows do increase in the future, M1W could curtail diversions of other sources and use excess flows at the regional wastewater treatment plant. Therefore, even if future increases in municipal wastewater flows occur, the regional wastewater treatment plant capacity would not require expansion due to the Project and other cumulative development. Thus, the existing regional wastewater treatment plant has capacity to treat additional projected future flows from cumulative development within its service area, and no significant cumulative impacts related to wastewater treatment plant capacity have been identified. Therefore, Project impacts would not be cumulatively considerable and cumulative impact related to wastewater treatment capacity would be *less than significant*.

Solid Waste

The geographic area considered for cumulative impacts related to solid waste is Monterey County. Two agencies oversee solid waste disposal in Monterey County: the MRWMD, as described above, which serves the western coastal areas of the County, including the Project site, and the Salinas Valley Solid Waste Authority (SVSWA), which serves the eastern inland portions of the County. Two active landfills are currently operating in Monterey County: the MRWMD's Monterey Peninsula Landfill and the SVSWA's Johnson Canyon Sanitary Landfill. As described in Section 4.14.1.4 above, the Project area is served by the Monterey Peninsula Landfill, which has a remaining capacity of over 48.5 million cubic yards and an estimated closure date in 2107 (CalRecycle 2019a). The Johnson Canyon Sanitary Landfill has a remaining capacity of approximately 6.9 million cubic yards and an estimated closure date in 2055 (CalRecycle 2019b). Thus, the combined remaining capacity of the existing active Monterey County landfills is approximately 55.4 million cubic yards. Additionally, as of February 2018, MRWMD's MRF began recovering up to 75 percent or more of recycled materials from commercial and residential trash, thus reducing the solid waste tons sent to the Monterey Peninsula Landfill.

Cumulative development, in addition to the Project, would generate solid waste during construction and operation that would be disposed of at landfills in the County. Cumulative projects would be required to adhere to applicable solid waste regulations, including the California Integrated Waste Management Act and related regulations, which would serve to continue to require reduction, recycling, and reuse to reduce the amount of solid waste sent to landfills. As described in Impact UTL-4 above, the Project would generate 1 percent of the annual 490,000 tons received at the Monterey Peninsula Landfill. In addition, the campus would continue to comply with applicable CalRecycle requirements. As per the CSU Sustainability Policy (see Table 4.14-5), CSUMB shall also seek to reduce solid waste diversion by 80 percent by 2020 and then continue toward zero waste by 2040. The Campus Sustainability Plan provides an interim objective of diverting 90 percent of waste from the landfill by 2030. Compliance with the CSU Sustainability Policy and the Campus Sustainability Plan overtime will increase CSUMB's diversion rate over existing conditions. Given the ample remaining landfill capacity in Monterey County, implementation of applicable solid waste regulations and policies, and the relatively limited amount of solid waste that would be generated by the Project, the contribution of the Project to cumulative impacts related to landfill capacity would not be cumulatively considerable, and cumulative impacts would be *less than significant*.

Energy

Potential cumulative impacts on energy would result if the Project, in combination with past, present, and future projects, would result in the wasteful or inefficient use of energy. This could result from development that would not incorporate sufficient building energy efficiency features, would not achieve building energy efficiency standards, or would result in the unnecessary use of energy during construction and/or operation.

All cumulative projects would be required to comply with regulatory measures such as CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, minimizing construction fuel consumption. Additionally, petroleum use by cumulative projects relative to construction activities is reasonably expected to continue to decline, as Tier 4 construction equipment, which is more fuel efficient, becomes more widely available. While construction activities related to the Project would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Regarding operations, the cumulative projects within the areas serviced by PG&E would be applicable to this analysis. Projects that include development of large buildings or other structures that would have the potential to consume energy in an inefficient manner would have the potential to contribute to a cumulative impact. However, as discussed in Impacts UTL-5 and UTL-6-, comprehensive state regulations are designed and would be implemented to increase and ensure energy efficiency.

As described in Impact UTL-5, the Project would not result in wasteful, inefficient, or unnecessary use of energy due to the implementation of water, energy and mobility PDFs and compliance with and exceedance of Title 24 building standards. For the same reason, the Project would not conflict with relevant energy-related plans, as discussed in the analysis for Impact UTL-6. Cumulative projects that include long-term energy demand, such as residential and/or non-residential developments, would be subject to CALGreen, which provides energy efficiency standards for commercial and residential buildings. CALGreen is used to implement increasingly stringent energy efficiency standards that would require the Project and the cumulative projects to minimize the wasteful and inefficient use of energy. In addition, cumulative projects would be required to meet or exceed the Title 24 building standards, further reducing the inefficient use of energy. Furthermore, various federal and state regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would serve to reduce the transportation fuel demand of cumulative projects.

In consideration of cumulative energy use, the Project would not contribute to a wasteful or inefficient demand on energy resources or services, and would not conflict with energy-related plans. Therefore, the Project's contribution would not be cumulatively considerable and cumulative impacts related to the use of energy would be *less than significant.*

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CHAPTER 5
OTHER CEQA CONSIDERATIONS

5.1 INTRODUCTION

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation (Cal. Code Regs. tit. 14, § 15126). As part of this analysis, the EIR must identify the following types of impacts:

- Significant environmental effects which cannot be avoided if the proposed project is implemented;
- Significant irreversible environmental effects which would be caused by the proposed project should it be implemented; and
- Growth-inducing impacts of the proposed project.

The following sections identify each of these types of impacts based on analyses contained in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures.

5.2 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

This section identifies significant impacts that could not be eliminated or reduced to less than significant through the implementation of mitigation measures imposed by the University. The final determination of significance of impacts and of the feasibility of mitigation measures will be made by the California State University Board of Trustees as part of its certification action for the EIR. Chapter 1, Executive Summary, of this Draft EIR contains a summary of the environmental impacts and mitigation measures. Chapter 4, Environmental Setting, Impacts, and Mitigation Measures, provides a comprehensive identification of the Project's environmental effects, including the level of significance both before and after mitigation.

Most of the potentially significant impacts identified in this Draft EIR can be reduced to less than significant through incorporation of mitigation measures identified in Chapter 4. The Proposed Project, however, would have a significant and unavoidable impact related to roadway noise associated with the Project one off-campus location (ST-7), located at Sixth Avenue and Gigling Road (see Impact NOI-2, in Section 4.10, Noise and Vibration). Given that there are no feasible mitigation measures that the University can implement to reduce roadway noise to less than significant, the Project roadway noise impact would be considered significant and unavoidable. However, as indicated in Impact NOI-4, the cumulative impact of the Project related to roadway noise is less than significant, as the Project's contribution to the cumulative impact does not exceed the threshold.

5.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

The CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by a proposed project (Cal. Code Regs. tit. 14, § 15126.2(d)), as follows:

> *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 generations 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 proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).
- The project would involve a large commitment of nonrenewable resources.
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project.

Development under the Project would result in the continued commitment of the CSUMB campus to institutional uses, thereby precluding any other uses for the lifespan of the campus. The California State University System's ownership of the campus represents a long-term commitment of the campus lands to an institutional use. Restoration of the campus to pre-developed conditions is not feasible given the degree of disturbance, the urbanization of the area, and the level of capital investment.

Resources that would be permanently and continually consumed by Project implementation include water, electricity, natural gas, and fossil fuels; however, the consumption of these resources would not represent unnecessary, inefficient, or wasteful use of resources, as documented in Section 4.14, Utilities and Energy. The growth in student enrollment, and the associated growth in the campus population, is in response to growth that has already occurred in the state. Therefore, natural resources are currently being consumed by this demographic group and would continue to be consumed by this group throughout California. Nonetheless, construction 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.

The proposed Master Plan includes Project Design Features (PDFs) related to water conservation (PDF-W-1), integrating low-impact design into all landscaping and outdoor areas, and percolating all stormwater within the campus footprint (PDF-W-2). The proposed Master Plan also contains PDFs related to energy conservation, including achieving carbon neutrality for scope 1 and 2 emissions by 2030 and striving for net positive energy (PDF-E-1), designing and retrofitting infrastructure and buildings to minimize energy use (PDF-E-2), and managing the energy supply to meet future demands (PDF-E-3).

In addition, the campus would continue to construct new facilities under the Project in accordance with specifications contained in Title 24 (Cal. Code Regs, tit. 24), and with the California Green Building Standards Code (CalGreen) (Cal. Code Regs. tit 24, part 11). Further, PDF-E-2 promotes energy efficiency and new buildings would be developed to meet target goals of exceeding current Title 24 standards by a minimum of 15 percent while existing facilities would strive to reduce energy consumption by 5 percent. Additionally, PDF-E-2 also includes a requirement design and build all new buildings and major renovations to meet minimum requirements equivalent to LEED "Silver," while aiming for the highest green building energy standards possible, which includes designing systems to meet LEED Platinum or equivalent, or net zero energy.

With respect to operational activities on campus, compliance with all applicable building codes, the PDFs above, and Project objectives would ensure that natural resources, including water, are conserved to the maximum extent feasible. It is also possible that new technologies or systems will emerge, or will become more cost-effective, to further reduce the campus's reliance upon nonrenewable energy resources. Overall, the consumption of natural resources would increase at a lesser rate than the projected population increase due to the variety of energy and water conservation measures that the campus has implemented and will continue to implement.

The CEQA Guidelines also requires a discussion of the potential for irreversible environmental damage caused by an accident associated with the Project. While the campus uses, transports, stores, and disposes of hazardous wastes, as described in Section 4.7, Hazards and Hazardous Materials and Wildfire, the campus complies with all applicable state and federal laws and existing campus programs, practices, and procedures related to hazardous materials, which reduces the likelihood and severity of accidents that could result in irreversible environmental damage. Thus, the potential for the Project to cause irreversible environmental damage from an accident or upset of hazardous materials is very low.

5.4 GROWTH-INDUCING IMPACTS

As required by the CEQA Guidelines, an EIR must discuss ways in which a potential project could induce growth. This discussion should include consideration of ways in which the project could directly or indirectly foster economic or population growth in adjacent and/or surrounding areas. The removal of obstacles to population growth (such as removal of infrastructure limitations or regulatory constraints) must also be considered in this discussion. According to CEQA Guidelines Section 15126.2(e), "it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment" (Cal. Code Regs. tit. 14, § 15126.2(e).

According to the CEQA Guidelines, a project would have the potential to induce growth if it would:

- Remove obstacles to population growth (e.g., through the expansion of public services into an area that does not currently receive these services), or through the provision of new access to an area, or a change in restrictive zoning or land use designation; or
- Result in economic expansion and population growth through employment opportunities and/or construction of new housing.

5.4.1 Growth-Inducing Impacts

The Project would directly increase the study area population by providing facilities such that campus student population and employment would increase. The proposed Master Plan would also indirectly increase employment and population in the region through the expenditures made by the campus and by students, faculty, and staff. These aspects of growth inducement are further discussed below.

5.4.2 Direct Population and Employment Growth

The information provided in this section is based on the analysis of direct population and employment growth provided in Section 4.11, Population and Housing. As discussed in Impact POP-1, direct population growth related to the proposed Master Plan could result from development of academic uses, student services, and other campus uses that would allow CSUMB to increase its student enrollment. An increase in student enrollment would also result in an increase in faculty, staff, and their families. Construction of 3,820 beds for student housing on the Main Campus and conversion of 757 units of existing housing in East Campus Housing for faculty and staff use would increase the number of residents living on the CSUMB campus.

Overall, the Project would result in a net increase in CSUMB population of approximately 8,550 students, faculty, staff, and family members by 2035, based on FTE population numbers and approximately 9,740 students, faculty, staff, and family members by 2035, based on headcount population numbers (see Section 4.11, Population and Housing, Table 4.11-8). This net population growth is conservatively assumed to be new to the study area (i.e., would relocate into Monterey County from other areas) even though many new CSUMB students and staff already live in Monterey County at the time of their enrollment or employment at CSUMB. While the Project would induce growth through the construction of new on-campus housing and increased employment, the growth anticipated in the proposed Master Plan is accounted for in AMBAG's 2018 Regional Growth Forecasts and thus is considered planned growth, as indicated in Section 4.11.

5.4.3 Indirect Employment Growth

In addition to the direct population changes described above, additional changes in regional population would result as campus-serving businesses or other businesses move into the area or expand in response to the increased demand for goods and services. Therefore, apart from the direct jobs on the campus, the operation of the campus under the proposed Master Plan would result in the creation of new indirect and induced jobs. Indirect jobs are those that are created or supported when the campus purchases goods and services from businesses in the region, and induced jobs are created or supported when wage incomes of those employed in direct and indirect jobs or students are spent on the purchase of goods and services in the region. These indirect and induced jobs are likely accounted for in AMBAG's 2018 Regional Growth Forecasts, which indicate that 57,400 jobs will be added to the region between 2015 and 2040 (AMBAG 2018). It would be expected that most of these indirect and induced jobs would be created in the food, entertainment, and service sectors within the study area. It would also be expected that the campus-related indirect and induced employment growth would result in some commercial development on lands that are underutilized, especially in those parts of Marina, Seaside, and unincorporated Monterey County that are near the campus.

5.4.4 Indirect Population Growth

The indirect and induced employment that would result from the implementation of the proposed Master Plan could result in additional population growth if individuals move into the study area to fill these jobs. According to commuting flow data collected by the U.S. Census Bureau (U.S. Census Bureau 2015), about 90% of workers who reside in Monterey County also work in Monterey County. The remaining 10% commute to other counties. It is anticipated that some of these persons would stop commuting and would take up the new indirect and induced locally available jobs related to campus growth. In addition, approximately 24,000 people (12 percent) in the labor force in Monterey County were unemployed in 2017 with that number dropping to 12,900 people (7 percent) in 2021 (EDD 2019 and 2022). There should be a pool of local labor available to fill these jobs, given current unemployment rates. Furthermore, the vast majority of the anticipated indirect and induced jobs would be in the retail and services sectors and would not require special skills, and therefore could be filled by students or by dependents/spouses of persons who move to the area to fill jobs on the campus. Therefore, the indirect and induced jobs generated by the Project would not be expected to result in substantial population growth in Monterey County.

5.4.5 Other Indirect Growth

As indicated previously, growth can potentially be induced through the removal of obstacles to population growth (e.g., through the expansion of public services into an area that does not currently receive these services), or through the provision of new access to an area, or a change in restrictive zoning or land use designation. As indicated in Section 4.11, development under the proposed Master Plan would consist of infill development on parking lots or previously disturbed areas including redevelopment of existing low-density building sites with higher-density buildings to accommodate the proposed enrollment cap increase and related population growth (see Impact POP-1). No new external roads would be constructed as part of the Project. An extension of Fifth Street between Eighth Street and General Jim Moore Boulevard would be implemented on the campus with the Project, which would be designed as a “restricted access street” to provide access for shuttle, transit, service and emergency vehicle access only. This extension would serve proposed Master Plan housing development along Fifth Street and would not indirectly induce additional growth. Restricted access is also proposed on other roads through the campus core to create a more bicycle- and pedestrian-oriented environment. All utility connections and improvements would be sized to accommodate proposed buildings and projected campus population growth (see Section 4.14, Utilities and Energy). Additionally, the proposed Master Plan would maintain the existing pattern of development on the Main Campus and does not propose development in areas not already designated for development. As such, the proposed Master Plan would not result in indirect growth inducement through the removal of obstacles to growth.

5.5 REFERENCES

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CHAPTER 6
ALTERNATIVES

6.1 INTRODUCTION

This chapter describes alternatives to the Project, consistent with California Environmental Quality Act (CEQA) Guidelines Section 15126.6. This chapter presents the objectives of the Project, a summary of its significant environmental impacts, and a description of the alternatives that were considered but eliminated from further consideration, followed by an analysis of the three alternatives evaluated, including the No Project Alternative. A comparison of the three alternatives to the Project is provided and the environmentally superior alternative is identified.

According to CEQA Guidelines Section 15126.6, an environmental impact report (EIR) shall describe a range of reasonable alternatives to the project or to the location of the project, that would feasibly attain most of the basic objectives of the project and could avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. This section of the guidelines further requires that the discussion focus on alternatives capable of eliminating significant adverse impacts of the project or reducing them to a level of insignificance even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. The alternatives analysis also should identify any significant effects that may result from a given alternative.

The lead agency is responsible for selecting a reasonable range of potentially feasible project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. The range of alternatives is governed by a “rule of reason” that requires the EIR to set forth only those potentially feasible alternatives necessary to permit a reasoned choice. The alternatives shall be limited to those that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only those that the lead agency determines could feasibly attain most of the basic objectives of the project while substantially lessening any of the significant effects of the project. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

An EIR is not required to consider alternatives which are infeasible. “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (CEQA Guidelines Section 15364). 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 already owns the alternative site). None of these factors establishes a fixed limit on the scope of reasonable alternatives. Under CEQA case law, the concept of feasibility also "encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors." (*City of Del Mar v. City of San Diego* [1982] 133 Cal.App.3d 410, 417; *California Native Plant Society v. City of Santa Cruz* [2009] 177 Cal.App.4th 957.) In assessing the feasibility of alternatives, agency decisionmakers may also take account of the extent to which the alternatives meet or further the agency's underlying purpose or objectives in considering a proposed project. (*Sierra Club v. County of Napa* [2004] 121 Cal.App.4th 1490, 1506-1509; *Citizens for Open Government v. City of Lodi* [2012] 296 Cal.App.4th 296, 314-315; *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* [2008] 43 Cal.4th 1143, 1165, 1166.)

No public and agency comments related to alternatives were received during the public scoping periods in response to the Notice of Preparation and the Revision to Previously Issued NOP. For a complete list of public comments received during the public scoping periods refer to Appendix B.

6.2 PROJECT OBJECTIVES

Alternatives considered in the EIR should be feasible and should attain most of the basic project objectives. CEQA provides that the statement of a project's objectives should be clearly written to define the underlying purpose of a project in order to permit development of a reasonable range of alternatives and aid the lead agency in making findings when considering the Project for approval. The underlying purpose of the Project is to support and advance the University's educational mission, as defined by the California Education Code, 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 Project would authorize the physical development of the campus in a manner that would accommodate an on-campus enrollment of 12,700 full-time equivalent students (FTES). The following objectives of the Project have been established in support of its underlying purpose:

1. 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 12,700 FTES;
    - Provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population; and
    - Develop into a comprehensive university campus that graduates students that can meet the needs of regional and statewide employers, while preserving and enhancing the quality of campus life.

2. Implement strategies to facilitate student academic success, academic excellence, institutional capacity, and regional stewardship.
3. Focus new building development on existing paved and developed infill sites on the Main Campus to provide compact and clustered development and make efficient use of campus land.
4. Provide and concentrate facilities for expansion of academic programs and administrative functions on the Main Campus, in or near the campus core to:
   - Create a compact campus core;
   - Provide synergies between existing and new educational and research programs;
   - Provide for a 10-minute walking distance from transportation hubs and between classroom buildings;
   - Facilitate use of shared resources among programs, such as classroom and lab space;
   - Facilitate faculty and student interaction; and
   - Promote an environment conducive to learning.
5. Provide on-campus housing for 60 percent of FTES and 65 percent of FTE faculty and staff to reduce vehicle trips to campus, meet other Master Plan Guideline's sustainability priorities and objectives, and promote recruitment, retention and engagement of faculty and staff.
6. Provide a diversity of housing types to serve a broad range of student, faculty and staff housing needs.
7. Create a unique campus character through buildings, outdoor spaces, pathways, bikeways, and roadways that connect those spaces while also producing a sense of community on campus.
8. Provide emphasis on pedestrian access and alternative transportation and attain a modal shift from vehicles to more pedestrian, bicycle, and transit use by:
   - Establishing bicycle and pedestrian networks that provide safe, direct, and attractive connections to work and school;
   - Establishing restrictions to general vehicle travel through the campus core and locate vehicle circulation and parking on the campus periphery to provide for a walkable campus core; and
   - Providing other land development strategies (e.g., multimodal hubs) to support TDM (Transportation Demand Management), which is intended to reduce drive-alone travel modes and encourage greater use of transit, walking, and bicycle commuting and reduce dependence on automobiles.

9. Preserve and enhance natural open spaces and develop formal open spaces so they become integral to the character of the campus.
10. Integrate natural and formal open spaces into the framework for capital development. Organize the built environment around an open space network to integrate the natural and built environments and enhance outdoor learning, social interaction, recreation, and the overall campus ambiance.

6.3 OVERVIEW OF SIGNIFICANT IMPACTS OF PROPOSED PROJECT

The range of alternatives studied in the EIR must be broad enough to permit a reasoned choice by decision-makers when considering the merits of the Project. The analysis should focus on alternatives that are feasible. Under CEQA, alternatives that are remote or speculative should not be discussed in the analysis of alternatives. Furthermore, alternatives must avoid or substantially lessen any of the significant environmental impacts associated with the proposed project (CEQA Guidelines 15126.6[a]). Chapter 1, Executive Summary, presents a detailed summary of the environmental impacts associated with implementation of the Project (see Table 1-1). Campus growth under the Project would result in the following potentially significant impacts:

Biological Resources:

- **Impact BIO-1:** The Project could result in substantial adverse effects to special-status plant and wildlife species and their habitat.
- **Impact BIO-2:** The Project could result in a substantial adverse effect on riparian habitat or other sensitive community as identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or on state or federally protected wetlands.

Cultural Resources:

- **Impact CULT-1:** The Project could cause a substantial adverse change in the significance of unique archaeological resources or historic resources of an archaeological nature.
- **Impact CULT-2:** The Project could inadvertently disturb human remains.
- **Impact CULT-3:** The Project could cause a substantial adverse change in the significance of a tribal cultural resource.

Geology and Soils:

- **Impact GEO-5:** Project construction could directly or indirectly destroy a unique paleontological resource or site.

Greenhouse Gas Emissions:

- **Impact GHG-1:** The Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- **Impact GHG-2:** The Project may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Specifically, the Project may conflict with CARB's Scoping Plan and related GHG reduction targets for 2030 and 2050, but would not conflict with the CSU Sustainability Policy, the CSUMB Campus Sustainability Plan, or AMBAG's 2040 MTP/SCS.

Noise and Vibration:

- **Impact NOI-1:** The Project would generate a substantial temporary construction-related increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- **Impact NOI-2:** The Project would generate a substantial permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Most of the potentially significant impacts listed above can be reduced to less than significant through incorporation of mitigation measures identified in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures. The Proposed Project, however, would have a significant and unavoidable impact related to **Impact NOI-2**. Given that there are no feasible mitigation measures that the University can implement to reduce roadway noise to less than significant at one off-campus location (ST-7), located at Sixth Avenue and Gigling Road, the Project roadway noise impact would be considered significant and unavoidable. However, as indicated in Impact NOI-4, the cumulative impact of the Project related to roadway noise is less than significant, as the Project's contribution to the cumulative impact does not exceed the threshold.

6.4 ALTERNATIVES CONSIDERED BUT ELIMINATED

This section discusses alternatives that were considered for the Project but were eliminated from detailed consideration and evaluation because they did not meet most of the basic project objectives, were found to be infeasible for technical, environmental, or social reasons, and/or did not avoid or substantially lessen any of the significant environmental impacts of the Project. Section 15126.6(c) of the CEQA Guidelines indicates that the range of potential alternatives 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. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible, and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives, (2) infeasibility (see introduction to this Chapter), or (3) inability to avoid significant environmental impacts.

6.4.1 Alternative Site Plans

In the course of the development of the proposed Master Plan, CSUMB considered a number of urban design concept alternatives to accommodate the same growth in population and building space that is envisioned under the proposed Master Plan. These alternatives explored different configurations for the new academic facilities, housing, and other key uses on the Main Campus. However, these alternatives are not dramatically different from one another. The various urban design concept alternatives for the Main Campus are not evaluated in detail in this EIR as project alternatives, as they would not reduce or otherwise substantially lessen any of the significant effects of the Project, and the same level of growth would occur with all of these alternatives.

6.4.2 Off-Campus Alternatives

Alternative sites were not considered in detail during the master planning process for a number of reasons. CSUMB, like most university campuses, is long-established in its present location and represents a traditional campus typology, with educational instruction offered, for the most part, in a single geographic location. CSUMB is primarily an undergraduate institution with a critical mass of students and faculty and a diversity of course offerings designed to satisfy regional demand. The campus was opened in the fall of 1995 on the former Fort Ord military base following transfer of the land from the federal government to the CSU in the spring of 1994. As discussed in Section 4.4, Cultural Resources, of this Draft EIR, many of the permanent buildings within Fort Ord became part of the CSUMB campus when the land was transferred to the CSU and were adapted to meet the needs of the university. Moving some of the educational programs and faculty to a new off-campus location or new satellite campus would not support the educational mission of CSUMB, as presented in the project objectives.

Additionally, CSUMB does not own or lease any other land that would be suitable for such a new off-campus site or new satellite campus that could provide for campus growth as anticipated in the proposed Master Plan. Off-campus sites are limited to the CSUMB University Corporation-owned building at Ryan Ranch, located at 8 Upper Ragsdale Drive, in the City of Monterey, that is approximately 41,000 gross square feet (GSF) and is occupied by University Corporation offices, Gear Up offices, Osher Lifelong Learning Institute (OLLI) offices and classrooms, and storage space; and 25,000 GSF of University Corporation-owned space at the Salinas City Center (National Steinbeck Center), located at 1 Main Street, in the City of Salinas, that provides office, storage, archival, and gallery space, a museum store, and meeting rooms.

Neither of these existing off-campus sites have sufficient space to support even a small portion of the proposed growth in enrollment and facilities contemplated by the Project. The two off-campus sites combined could support only approximately 3 percent of the net increase in space provided by the proposed Master Plan (approximately 2.6 million GSF). Additionally, such off-campus locations would not fulfill the basic project objectives, as they would not allow for the growth of the on-campus FTES enrollment cap to meet the needs of regional and statewide employers; would not concentrate facilities on the CSUMB campus to provide synergies between existing and new educational and research programs, a walkable campus, use of shared resources among programs, faculty and student interaction, and an environment conducive to learning; and would not provide for meeting the on-campus housing objectives to reduce vehicle trips to campus and meet other sustainability priorities and objectives.

Other off-site alternatives, such as the purchase of property for a new satellite campus, were also not considered as such off-site alternatives were considered potentially financially infeasible and would not fulfill most of the basic project objectives summarized above. Operational costs for CSU off-campus locations, such as those associated with additional staff, physical plant, and other institutional support, are additive to the budgets for campuses without any savings to that campus; for this reason, off-campus locations are typically required to be at least partially self-supporting, translating to potentially higher costs for students.

Additionally, the construction of a new satellite campus has the potential to result in additional significant and unavoidable impacts, as compared to the Project which provides infill development on the CSUMB campus on already paved or developed sites. The CSUMB campus is one of the least densely developed campuses in the CSU and has ample space within existing campus boundaries to accommodate planned growth.

6.5 ALTERNATIVES EVALUATED IN DETAIL

This section describes the alternatives to the Project that were selected and analyzed according to CEQA Guidelines Section 15126.6(a) after elimination of some considered alternatives as explained in Section 6.4, Alternatives Considered but Eliminated. As required by the CEQA Guidelines, a No Project Alternative is also analyzed. This section presents an evaluation of the three selected alternatives to the proposed Master Plan (see also Table 6-1):

- **Alternative 1: No Project Alternative / Existing Master Plan** – This alternative assumes the continued implementation of the 2007 Master Plan. Planned growth as anticipated in the 2007 Master Plan would continue up to its planned capacity (8,500 FTES enrollment on campus), which would allow for limited development of academic facilities.
- **Alternative 2: Reduced Enrollment Alternative** – This alternative would involve reduced enrollment growth on the campus, to a maximum of 10,500 FTES enrollment,

and an associated reduction in new building space and housing, as compared to the Project, which provides for 12,700 FTES.

- **Alternative 3: Expanded Housing Growth Alternative** – This alternative would maintain the same proposed student enrollment growth to a maximum of 12,700 FTES as proposed under the Project; however, additional student beds would be provided on campus to house approximately 70 percent of students on campus, in comparison to 60 percent of students under the Project. The net increase in building space would also increase under this alternative to accommodate the additional housing.

Table 6-1
Alternatives Summary

Project Components	Proposed Project	Alternative 1 No Project Alternative / Existing Master Plan	Alternative 2 Reduced Enrollment Alternative	Alternative 3 Expanded Housing Growth Alternative
Enrollment Cap (FTES)	12,700	8,500	10,500	12,700
Net Increase in Building Space	2.6 million GSF	0.17 million GSF	1.7 million GSF	3 million GSF
Net Increase in Housing Beds and Units	3,820 beds 757 units	None	2,450 beds 485 units	5,020 beds 757 units
Near-Term Development Components	Yes	Only Academic IV and Academic V	Yes	Yes
Project Design Features	Yes	No	Yes	Yes

6.5.1 Assumptions and Methodology

The alternatives analysis is presented as a comparative analysis to the Project. For each alternative, a brief description is presented, followed by a summary impact analysis relative to the Project, and an assessment of the degree to which the alternative would meet the project objectives.

The impact analysis focuses on whether the alternative would avoid or reduce significant impacts of the Project or cause other new or increased impacts. The alternatives analysis assumes that all applicable mitigation measures (MM) recommended for the Project would also apply to potentially significant environmental impacts of each alternative, except for Alternative 1, No Project Alternative / Existing Master Plan. However, similar project design features and mitigation measures are identified in the 2007 Master Plan EIR (DDA 2009) that would apply under the Alternative 1. The following analysis compares the potentially significant environmental impacts of the three alternatives with those of the Project for the environmental topics analyzed in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures. A significance finding for each impact is provided, as well as an indication as to whether the impact would be greater or lesser, as compared to the Project. A summary of the alternatives analysis conclusions is provided in Section 6.5, Environmentally Superior Alternative and shown in Tables 6-2 and 6-3.

6.5.2 Alternative 1: No Project Alternative / Existing Master Plan

6.5.2.1 Description

As required by the CEQA Guidelines, an EIR's alternatives analysis must include consideration of the No Project Alternative. The "No Project" analysis discusses "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" (Cal. Code Regs. tit. 14, § 15126.6 (e)(2) and (3)(A)). 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 necessarily 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]).

Under the No Project Alternative, the proposed Master Plan and an enrollment cap increase to 12,700 FTES would not be adopted, and the campus would continue to operate under the previously adopted 2007 Master Plan, as amended most recently in 2016. As the 2007 Master Plan is the existing plan for the campus, implementation of this plan would continue if the CSU does not adopt the proposed Master Plan and associated FTES increase for the campus.

Under the No Project Alternative, the campus would not be able to increase on-campus enrollment above 8,500 FTES, as authorized by the existing 2007 Master Plan. Given that during the 2016-2017 academic school year, CSUMB's total enrollment was 6,634 FTES, some modest amount of additional FTES growth could be achieved under the existing Master Plan (approximately 1,866 FTES). While the existing Master Plan does identify multiple sites for new academic buildings, housing, and other uses, FTES capacity beyond 8,500 FTES cannot be built until an enrollment ceiling increase is approved by the CSU Board of Trustees. Based on the approved 2007 Master Plan, as amended through 2016, Academic IV and Academic V could potentially be implemented under Alternative 1, which would provide for approximately 172,000 GSF of additional space to accommodate the remaining FTES increase under the 2007 Master Plan. As indicated in Chapter 3, Project Description, Academic IV and Academic V are near-term development components of the Project but are also included in the approved 2007 Master Plan. For the purposes of this analysis, it is assumed that no new on-campus housing would be built under Alternative 1. Additionally, the proposed PDFs associated with the Project would not be implemented under this alternative.

6.5.2.2 Impact Analysis

Aesthetics

As described in Section 4.1, Aesthetics, Project impacts related to scenic vistas, scenic quality, and light and glare would be less than significant (see Impact AES-1 through Impact AES-3).

Impacts related to scenic vistas, scenic quality, and light and glare would also be less than significant for Alternative 1. However, impacts would be reduced as compared to the Project given that very limited development would be implemented under this alternative, based on the approved 2007 Master Plan, which identifies Academic IV and Academic V as being located on the same sites as under the Project. Both buildings would involve infill development on existing development sites and demolition of existing buildings and parking lots. Similar to the Project overall, development on these sites under Alternative 1 would also not be visible from Highway 1 and would not otherwise significantly impact scenic vistas, scenic quality or light and glare. Development of Academic IV and V under the 2007 Master Plan and this alternative would also be subject to the CSU design review process, the CSU Outdoor Lighting Design Guide, and the CALGreen-mandated BUG (Backlight/Uplight/Glare) ratings, which would reduce impacts to visual resources and light pollution and glare (see Section 4.1, Aesthetics). Overall, aesthetic impacts under Alternative 1 would be reduced as compared to the Project *(less than significant; lesser impact)*.

Air Quality

As described in Section 4.2, Air Quality, Project impacts related to conflicts with the applicable air plan, criteria air pollutant emissions, exposure to substantial pollutant emissions, and emissions affecting a substantial number of people would be less than significant (see Impact AIR-1 through Impact AIR-4).

Impacts related to air quality would also be less than significant for Alternative 1. However, impacts would be reduced as compared to the Project given that very limited development would be implemented under this alternative, based on the approved 2007 Master Plan. Given the limits on development under Alternative 1, construction and operational emissions associated with this alternative also would not exceed the Monterey Bay Air Resources District (MBARD) significance thresholds for ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$, as reported for the Project in Section 4.1, Air Quality. Overall, air quality impacts under Alternative 1 would be reduced, as compared to the Project *(less than significant; reduced)*.

Biological Resources

As described in Section 4.3, Biological Resources, Project impacts related to special-status species, and riparian and wetland habitat would be reduced to less than significant with the implementation of mitigation (MM-BIO-1a through MM-BIO-1g, and MM-BIO-2) (see Impact BIO-1 and Impact BIO-2). Project impacts related to wildlife corridors and conflicts with policies and ordinances protecting biological resources would be less than significant (see Impact BIO-3 and Impact BIO-4). The Project would result in no impacts related to conflicts with an adopted HCP (see Impact BIO-5).

Alternative 1 impacts related to special-status species, and riparian and wetland habitat would also be reduced to less than significant with the implementation of the mitigation measures from the 2007 Master Plan EIR. However, impacts would be reduced as compared to the Project given the limits on development under this alternative, and therefore the potential to result in direct or indirect impacts to special-status species, and riparian and wetland habitat would be correspondingly reduced *(less than significant with mitigation; lesser impact)*.

Impacts related to wildlife corridors and conflicts with policies and ordinances protecting biological resources would also be less than significant for Alternative 1. However, impacts would be reduced as compared to the Project given that very limited development would be implemented under this alternative *(less than significant; lesser impact)*.

Cultural Resources

As described in Section 4.4, Cultural Resources, Project impacts related to unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would be reduced to less than significant with the implementation of mitigation (MM-CUL-1a through MM-CUL-1c, and MM-CUL-2) (see Impact CUL-1 through Impact CUL-3). The Project would result in no impacts related to historic built environment resources.

Alternative 1 impacts related to unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would also be reduced to less than significant with the implementation of the mitigation measures from the 2007 Master Plan EIR. However, impacts would be reduced as compared to the Project given the limits on development under this alternative and therefore the potential to encounter unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would be correspondingly reduced *(less than significant with mitigation; lesser impact)*.

Geology, Soils and Paleontology

As described in Section 4.5, Geology, Soils and Paleontology, Project impacts related to seismic hazards, landslides, soil erosion, and unstable geologic units or soils would be less than significant (see Impact GEO-1 through Impact GEO-4). Project impacts related to paleontological resources would be reduced to less than significant with the implementation of mitigation (MM-GEO-1) (see Impact GEO-5). The Project would result in no impacts related to earthquake fault rupture, expansive soils and septic tanks or alternative wastewater disposal systems.

Impacts related to seismic hazards, landslides, soil erosion, and unstable geologic units or soils would also be less than significant for Alternative 1. However, impacts would be reduced as compared to the Project given the limits on development under this alternative *(less than significant; lesser impact)*.

Impacts related to paleontological resources under Alternative 1 would also be reduced to less than significant with the implementation of mitigation (MM-GEO-1). However, impacts would be reduced as compared to the Project, as the potential to encounter paleontological resources would be reduced due to the limits on development under this alternative *(less than significant with mitigation; lesser impact)*.

Greenhouse Gas Emissions

As described in Section 4.6, Greenhouse Gas Emissions, Project impacts related to the generation of greenhouse gas (GHG) emissions and conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases would be less than significant with the implementation of mitigation (MM-GHG-1) (see Impact GHG-1 and Impact GHG-2).

Impacts related to GHG would be less than significant for Alternative 1 and would not require mitigation measures to reduce impacts, given the limits on development under this alternative. Similar to the Project, Alternative 1 would comply with the CSU Sustainability Policy through meeting the State building code requirements, including use of energy-efficient HVAC systems, installing LED lighting, retrofitting campus water fixtures to reduce consumption, and compliance with waste recycling requirements. Overall, impacts related to GHG emissions under Alternative 1 would be reduced, as compared to the Project *(less than significant; lesser impact)*.

Hazards, Hazardous Materials, and Wildfire

As described in Section 4.7, Hazards, Hazardous Materials, and Wildfire, Project impacts related to routine transport, use, or disposal of hazardous materials; upset and release of hazardous materials; hazardous materials use near schools; emergency response; and wildfire hazards would be less than significant (see Impact HAZ-1 through Impact HAZ-5). The Project would result in no impacts related to airport safety.

Impacts related to hazards, hazardous materials, and wildfire would also be less than significant for Alternative 1. As under the Project, construction under this alternative would comply with requirements to report on and abate hazardous building materials or other hazardous materials site conditions, as well as implement standard CSU construction specifications, in accordance with the Integrated California State University Administrative Manual (ICSUAM). The State Water Resources Board Construction General Permit, which requires a stormwater pollution prevention plan (SWPPP), would also be implemented on each site, which would avoid or minimize the release of contaminants during construction. As under the Project, operations under this alternative would continue to comply with all applicable state and federal regulations. Additionally, review of building designs under Alternative 1 by CSU building officials and the State Fire Marshal would ensure compliance with the California Building Code regulations related to the use, storage, and handling of hazardous materials, as well as related to access, fire and life safety. Overall, impacts would be reduced as compared to the Project given the limits on development under this alternative *(less than significant; lesser impact)*.

Hydrology and Water Quality

As described in Section 4.8, Hydrology and Water Quality, Project impacts related to surface water quality standards or waste discharge requirements, groundwater supplies and recharge, and stormwater drainage patterns would be less than significant (see Impact HYD-1 through Impact HYD-3). The Project would result in no impacts related to groundwater quality and flooding-related risks.

Impacts related to hydrology and water would also be less than significant for Alternative 1. However, impacts would be reduced as compared to the Project given the limits on development under this alternative. Similar to the Project overall, Alternative 1 would not discharge into the Monterey Bay or CWA Section 303(d)-listed water bodies (e.g., the Lower Salinas River); would implement a Stormwater Pollution Prevention Plan (SWPPP) on each site, which would avoid or minimize erosion and sedimentation; would implement Low Impact Development (LID) features in the design of these components in compliance with the CSUMB Stormwater Master Plan to infiltrate stormwater; and would comply with Title 24 to reduce demand for potable water from groundwater. Overall, hydrology and water quality impacts under Alternative 1 would be reduced, as compared to the Project *(less than significant; lesser impact)*.

Land Use and Planning

As described in Section 4.9, Land Use and Planning, Project impacts related to physically dividing an established community and conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would be less than significant (see Impact LDU-1 and Impact LDU-2).

Impacts related to land use and planning would also be less than significant for Alternative 1. Alternative 1 would not physically divide an established community given that Academic VI and Academic VI would be developed on infill development sites on the Main Campus and would not otherwise result in the construction of physical barriers or removal or impairment of access to the campus or surrounding areas. Alternative 1 would also not conflict with relevant local general plan policies or the Marina Airport Land Use Compatibility Plan. Overall, impacts would be reduced as compared to the Project given the limits on development under this alternative *(less than significant; lesser impact)*.

Noise and Vibration

As described in Section 4.10, Noise and Vibration, Project impacts related to temporary construction noise would be less than significant with the implementation of mitigation (MM-NOI-1) (see Impacts NOI-1). Project impacts related to permanent operational noise would be significant and unavoidable at one off-campus location due to the Project's contribution to roadway noise (see Impact NOI-2). However, as indicated in Impact NOI-4, the cumulative impact of the Project related to roadway noise would be less than significant, as the Project's contribution to the cumulative impact does not exceed the threshold. Project impacts related to vibration would be less than significant (see Impact NOI-3). Lastly, the Project would have no impacts related to airport noise.

Alternative 1 impacts related to temporary construction noise would also be less than significant with the implementation of an identified mitigation measure from the 2007 Master Plan EIR. Additionally, vibration impacts of Alternative 1 would also be less than significant. However, construction noise and vibration impacts would be reduced as compared to the Project given the limits on development under this alternative. Overall, temporary construction noise under Alternative 1 would be reduced, as compared to the Project *(less than significant with mitigation; lesser impact)*. Vibration impacts would also be reduced compared to the Project *(less than significant; lesser impact)*.

Given the limited development under Alternative 1, it is likely that the significant and unavoidable roadway noise impact associated with operations would be reduced to less than significant under this alternative *(less than significant; lesser impact)*.

Population and Housing

As described in Section 4.11, Population and Housing, Project impacts related to inducing substantial unplanned population growth and displacing substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere would be less than significant (see Impact POP-1 and Impact POP-2).

Impacts related to population and housing would also be less than significant for Alternative 1, as this alternative would also not result in substantial unplanned population growth given that the 2018 AMBAG Regional Growth Forecast assumes 12,000 FTES for campus enrollment by 2025. Like the Project, Alternative 1 would not displace people or housing. Overall, impacts would be reduced as compared to the Project given the limits on development and enrollment under this alternative *(less than significant; lesser impact).*

Public Services and Recreation

As described in Section 4.12, Public Services and Recreation, Project impacts related to the provision of new or physically altered fire, police, schools and parks and recreation facilities, and the physical deterioration of parks and recreation facilities would be less than significant (see Impact PSR-1 through Impact PSR-5).

Impacts related to public services and recreation would also be less than significant for Alternative 1. While Alternative 1 would result in an incremental increase in the demand for fire, police, schools and parks and recreation services, the limited enrollment increase and building development would not result in the need for new or physically altered fire, police, schools and parks and recreation facilities that could cause significant environmental impacts. Alternative 1 would also not result in the physical deterioration of parks and recreation facilities. Overall, impacts would be reduced as compared to the Project given the limits on development under this alternative *(less than significant; lesser impact).*

Transportation

As described in Section 4.13, Transportation, Project impacts related to conflicts with a program, plan, ordinance or policy addressing the circulation system, vehicle miles travelled (VMT), design hazards, and emergency access would be less than significant (see Impact TRA-1 through Impact TRA-4).

Level of service (LOS) was the basis for evaluating transportation impacts of the 2007 Master Plan in 2007 Master Plan EIR. Recent legislation in California, Senate Bill 743, changed the metric by which significant transportation impacts under CEQA are assessed from LOS, to VMT. Transportation mitigation measures contained in the 2007 Master Plan EIR required CSUMB to conduct traffic counts to monitor increases in campus-related trip generation. A baseline traffic level tied to Fall 2008 levels was established at 8,550 average daily vehicle trips, with the allowable increase capped at 4,361 additional average daily trips, for a total of 12,911 average daily trips. Above this level, the 2007 Master Plan EIR determined that significant traffic impacts could occur, based on the LOS analysis included in that EIR. As indicated in Chapter 3, Project Description, CSUMB is obligated to undertake further environmental review prior to exceedance of this cap to assess the potential for corresponding significant environmental impacts, or, absent further environmental review, to decrease impacts by increasing TDM measures or limiting campus growth, including enrollment growth.

Since 2008, CSUMB has conducted the required traffic counts to determine the number of vehicle trips generated by the 2007 Master Plan, and with one exception, the annual total of campus-related average daily vehicle trips has gradually increased due primarily to increasing enrollment. For the fall of 2019, which reflects existing conditions prior to COVID-19 pandemic, the campus generated 11,626 trips per day, which remains under the allowable annual cap (Higgins 2021).

If Alternative 1 is selected, the trip cap from the 2007 Master Plan EIR would continue to apply to the campus. Based on the existing trips per day presented above, there appears to be some limited remaining capacity on the campus to grow under the 2007 Master Plan and not exceed the annual cap; however, under Alternative 1, annual trip counts would continue to be conducted to verify that the campus remains under the allowable annual cap.

Academic IV and Academic V are included in the 2007 Master Plan, are assumed to be developed under Alternative 1, and are also near-term development components of the Project. Based on the evaluation in Section 4.13, Transportation, the VMT impacts of Alternative 1 would be less than significant, similar to the Project, given the limited additional enrollment and development that would result under this alternative. Other transportation impact categories including conflicts with a program, plan, ordinance, or policy addressing the circulation system, design hazards, and emergency access would also be less than significant. Overall, impacts would be reduced as compared to the Project given the limits on development under this alternative *(less than significant; lesser impact)*.

Utilities and Energy

As described in Section 4.14, Utilities and Energy, Project impacts related to the construction of new or replacement water, wastewater treatment, electric power, natural gas, or telecommunications facilities, adequacy of water supplies and wastewater treatment capacity, solid waste, and energy use would be less than significant (see Impact UTL-1 through Impact UTL-6).

Impacts related to utilities and energy would also be less than significant for Alternative 1. Like the Project, Alternative 1 would not require new or upgraded potable water, recycled water infrastructure, or wastewater infrastructure identified in Marina Coast Water District (MCWD) Water Master Plan, Recycled Water Master Plan, and Sewer Master Plan. Sufficient water supplies would be available to serve development under Alternative 1 and reasonably foreseeable future development in the service area during normal, dry, and multiple-dry years, as CSUMB would not exceed and would be well under the University's allocated water supplies. Alternative 1 would not generate solid waste in excess of state standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Alternative 1 would also not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, with compliance with ICSUAM and Title 24 Energy Codes. Overall, impacts would be reduced as compared to the Project given the limits on development under this alternative *(less than significant; lesser impact)*.

6.5.2.3 Ability to Meet Project Objectives

Alternative 1 would not meet most of the identified project objectives (see Table 6-3). Specifically, while Alternative 1 would allow for an increase of approximately 1,866 FTES up to the existing enrollment cap of 8,500 FTES, it would not support the University's educational mission to accommodate student enrollment growth up to a future enrollment of 12,700 FTES (Objective #1). Such an increase in enrollment would provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population and would allow CSUMB to develop into a comprehensive university campus that graduates students that can meet the needs of regional and statewide employers.

Alternative 1 would also not implement strategies to facilitate institutional capacity (Objective #2), provide on-campus housing or a diversity of housing types (Objectives #5 and #6), contribute to providing a unique campus character (Objective #7), and provide emphasis on pedestrian access and alternative transportation and attain a modal shift from vehicles to alternatives modes of transportation (Objective #8). Alternative 1 also would not meet objectives related to natural and formal open spaces, as proposed under the Project (Objectives #9 and #10).

Given that Alternative 1 would implement Academic IV and Academic V on or near the campus core on already paved and developed infill sites, it would partially meet Objectives #3, but would not meet Objective #4, as it would not create a compact campus core.

6.5.3 Alternative 2: Reduced Enrollment Growth Alternative

6.5.3.1 Description

The primary objective of the Project is to accommodate an increase in the on-campus enrollment to 12,700 FTES, which is an increase of 4,200 FTES over the existing cap of 8,500 FTES on campus, and an increase of 6,066 FTES over existing 2016-2017 enrollment. CSU campuses typically grow in 5,000 FTES increments, as providing for lower increments of growth does not typically provide for a long enough period of growth for the campus before needing to seek another enrollment increase. Based on the proposed Master Plan, it is anticipated that the proposed 12,700 FTES cap would allow for about a 15-year period of growth on the campus.

Alternative 2 provides for a reduced enrollment growth that considers an increase in the on-campus enrollment to 10,500 FTES, which would provide about an 8-year period of growth on the campus. Ultimately, CSUMB and the CSU Board of Trustees would need to determine whether such an alternative is feasible given the time and expense involved in developing the proposed Master Plan and EIR. However, such a reduced enrollment growth alternative is potentially feasible and therefore is evaluated herein.

To support the lower enrollment growth, the net increase in building space under Alternative 2 would be reduced to approximately 1.7 million GSF, as compared to 2.6 million GSF with the Project. Likewise, the net increase in housing would be reduced to approximately 2,450 student beds and 485 units for faculty and staff, which would allow the campus to house 60 percent of students and 65 percent of faculty and staff per PDF-MO-1 and PDF-MO-2. The above growth would include development of all five of the near-term development components of the Project (i.e., Academic IV, Academic V, Student Housing IIB, Student Housing III, and Student Recreation Phases I and II). Alternative 2 would also focus development on the Main Campus on already paved and developed sites in a similar pattern as the Project; however, fewer buildings would be required to support the enrollment increase, as compared to the Project. All other proposed PDFs associated with the Project would also be implemented under this alternative.

6.5.3.2 Impact Analysis

Aesthetics

As described in Section 4.1, Aesthetics, Project impacts related to scenic vistas, scenic quality, and light and glare would be less than significant (see Impact AES-1 through Impact AES-3).

Impacts related to scenic vistas, scenic quality, and light and glare would also be less than significant for Alternative 2. However, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative. Given that Alternative 2 would also focus development on the Main Campus on already paved and developed sites in a similar pattern as the Project, development on these sites under Alternative 2 would also not be visible from Highway 1 and would not otherwise significantly impact scenic vistas, scenic quality or light and glare. Development under this alternative would also be subject to the CSU design review process, the CSU Outdoor Lighting Design Guide, and the CALGreen-mandated BUG (Backlight/Uplight/Glare) ratings, which would reduce impacts to visual resources and light pollution and glare (see Section 4.1, Aesthetics). Overall, aesthetic impacts under Alternative 2 would be reduced, as compared to the Project *(less than significant; lesser impact)*.

Air Quality

As described in Section 4.2, Air Quality, Project impacts related to conflicts with the applicable air plan, criteria air pollutant emissions, exposure to substantial pollutant emissions, and emissions affecting a substantial number of people would be less than significant (see Impact AIR-1 through Impact AIR-4).

Impacts related to air quality would also be less than significant for Alternative 2. However, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative. Given that development would be reduced under Alternative 2, as compared to the Project, construction and operational emissions associated with this alternative also would not exceed the Monterey Bay Air Resources District (MBARD) significance thresholds for ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$, as reported for the Project in Section 4.1, Air Quality. Overall, air quality impacts under Alternative 2 would be reduced, as compared to the Project *(less than significant; lesser impact)*.

Biological Resources

As described in Section 4.3, Biological Resources, Project impacts related to special-status species, and riparian and wetland habitat would be reduced to less than significant with the implementation of mitigation (MM-BIO-1a through MM-BIO-1g, and MM-BIO-2) (see Impact BIO-1 and Impact BIO-2). Project impacts related to wildlife corridors and conflicts with policies and ordinances protecting biological resources would be less than significant (see Impact BIO-3 and Impact BIO-4). The Project would result in no impacts related to conflicts with an adopted HCP (see Impact BIO-5).

Alternative 2 impacts related to special-status species, and riparian and wetland habitat would also be reduced to less than significant with the implementation of mitigation (MM-BIO-1a through MM-BIO-1g, and MM-BIO-2). However, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative, as compared to the Project, and therefore the potential to result in direct or indirect impacts to special-status species, and riparian and wetland habitat would be correspondingly reduced *(less than significant with mitigation; lesser impact)*.

Impacts related to wildlife corridors and conflicts with policies and ordinances protecting biological resources would also be less than significant for Alternative 2. However, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative *(less than significant; lesser impact)*.

Cultural Resources

As described in Section 4.4, Cultural Resources, Project impacts related to unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would be reduced to less than significant with the implementation of mitigation (MM-CUL-1a through MM-CUL-1c, and MM-CUL-2) (see Impact CUL-1 through Impact CUL-3). The Project would result in no impacts related to historic built environment resources.

Alternative 2 impacts related to unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would also be reduced to less than significant with mitigation (MM-CUL-1a through MM-CUL-1c, and MM-CUL-2). However, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative and therefore the potential to encounter unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would be correspondingly reduced *(less than significant with mitigation; lesser impact).*

Geology, Soils and Paleontology

As described in Section 4.5, Geology, Soils and Paleontology, Project impacts related to seismic hazards, landslides, soil erosion, and unstable geologic units or soils would be less than significant (see Impact GEO-1 through Impact GEO-4). Project impacts related to paleontological resources would be reduced to less than significant with the implementation of mitigation (MM-GEO-1) (see Impact GEO-5). The Project would result in no impacts related to earthquake fault rupture, expansive soils and septic tanks or alternative wastewater disposal systems.

Impacts related to seismic hazards, landslides, soil erosion, and unstable geologic units or soils would also be less than significant for Alternative 2. However, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative *(less than significant; lesser impact).*

Impacts related to paleontological resources under Alternative 2 would also be reduced to less than significant with the implementation of mitigation (MM-GEO-1). However, impacts would be reduced, as compared to the Project, as the potential to encounter paleontological resources would be reduced given that less development would be implemented under this alternative *(less than significant with mitigation; lesser impact).*

Greenhouse Gas Emissions

As described in Section 4.6, Greenhouse Gas Emissions, Project impacts related to the generation of greenhouse gas (GHG) emissions and conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases would be less than significant with the implementation of mitigation (MM-GHG-1) (see Impact GHG-1 and Impact GHG-2).

Alternative 2 impacts related to GHG would be reduced as compared to the Project but the implementation of mitigation (MM-GHG-1) would likely still be required to reduce the impact to less than significant. Similar to the Project, Alternative 2 would comply with the CSU Sustainability Policy through meeting the State building code requirements, including use of energy-efficient HVAC systems, installing LED lighting, retrofitting campus water fixtures to reduce consumption, and compliance with waste recycling requirements. Overall, impacts related to GHG emissions under Alternative 2 would be reduced, as compared to the Project *(less than significant with mitigation; lesser impact)*.

Hazards, Hazardous Materials, and Wildfire

As described in Section 4.7, Hazards, Hazardous Materials, and Wildfire, Project impacts related to routine transport, use, or disposal of hazardous materials; upset and release of hazardous materials; hazardous materials use near schools; emergency response; and wildfire hazards would be less than significant (see Impact HAZ-1 through Impact HAZ-5). The Project would result in no impacts related to airport safety.

Impacts related to hazards, hazardous materials, and wildfire would also be less than significant for Alternative 2. As under the Project, construction under this alternative would comply with requirements to report on and abate hazardous building materials or other hazardous materials site conditions, as well as implement standard CSU construction specifications, in accordance with the Integrated California State University Administrative Manual (ICSUAM). The State Water Resources Board Construction General Permit, which requires a stormwater pollution prevention plan (SWPPP), would also be implemented on each site, which would avoid or minimize the release of contaminants during construction. As under the Project, operations under this alternative would continue to comply with all applicable state and federal regulations. Additionally, review of building designs under Alternative 1 by CSU building officials and the State Fire Marshal would ensure compliance with the California Building Code regulations related to the use, storage, and handling of hazardous materials, as well as related to access, fire and life safety. Overall, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative *(less than significant; lesser impact)*.

Hydrology and Water Quality

As described in Section 4.8, Hydrology and Water Quality, Project impacts related to surface water quality standards or waste discharge requirements, groundwater supplies and recharge, and stormwater drainage patterns would be less than significant (see Impact HYD-1 through

Impact HYD-3). The Project would result in no impacts related to groundwater quality and flooding-related risks.

Impacts related to hydrology and water would also be less than significant for Alternative 2. However, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative. Similar to the Project overall, Alternative 2 would not discharge into the Monterey Bay or CWA Section 303(d)-listed water bodies (e.g., the Lower Salinas River); would implement a Stormwater Pollution Prevention Plan (SWPPP) on each site, which would avoid or minimize erosion and sedimentation; would implement Low Impact Development (LID) features in the design of these components in compliance with the CSUMB Stormwater Master Plan to infiltrate stormwater; and would comply with Title 24 to reduce demand for potable water from groundwater. Overall, hydrology and water quality impacts under Alternative 2 would be reduced as compared to the Project *(less than significant; lesser impact).*

Land Use and Planning

As described in Section 4.9, Land Use and Planning, Project impacts related to physically dividing an established community and conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would be less than significant (see Impact LDU-1 and Impact LDU-2).

Impacts related to land use and planning would also be less than significant for Alternative 2. Like the Project, Alternative 2 would not physically divide an established community as it would build on infill development sites on the Main Campus and would not otherwise result in the construction of physical barriers or removal or impairment of access to the campus or surrounding areas. Alternative 2 would also not conflict with relevant local general plan policies or the Marina Land Use Compatibility Plan. Overall, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative *(less than significant; lesser impact).*

Noise and Vibration

As described in Section 4.10, Noise and Vibration, Project impacts related to temporary construction noise would be less than significant with the implementation of mitigation (MM-NOI-1) (see Impacts NOI-1). Project impacts related to permanent operational noise would be significant and unavoidable at one off-campus location due to the Project's contribution to roadway noise (see Impact NOI-2). However, as indicated in Impact NOI-4, the cumulative impact of the Project related to roadway noise would be less than significant, as the Project's contribution to the cumulative impact does not exceed the threshold. Project impacts related to vibration would be less than significant (see Impact NOI-3). Lastly, the Project would have no impacts related to airport noise.

Alternative 2 impacts related to temporary construction noise would also be less than significant with the implementation of mitigation (MM-NOI-1). Additionally, vibration impacts of Alternative 2 would also be less than significant. However, construction noise and vibration impacts would be reduced as compared to the Project given that less development would be implemented under this alternative. Overall, temporary construction noise under Alternative 2 would be reduced, as compared to the Project *(less than significant with mitigation; lesser impact)*. Vibration impacts would also be reduced compared to the Project *(less than significant; lesser impact)*.

Given that less development would be implemented under Alternative 2, it is likely that the significant and unavoidable roadway noise impact associated with operations would be reduced to less than significant under this alternative *(less than significant; lesser impact)*.

Population and Housing

As described in Section 4.11, Population and Housing, Project impacts related to inducing substantial unplanned population growth and displacing substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere would be less than significant (see Impact POP-1 and Impact POP-2).

Impacts related to population and housing would also be less than significant for Alternative 2, as this alternative would also not result in substantial unplanned population growth given that the 2018 AMBAG Regional Growth Forecast assumes 12,000 FTES by 2025. Like the Project, Alternative 2 would not displace people or housing. Overall, impacts would be reduced as compared to the Project given that less development and enrollment would result under this alternative *(less than significant; lesser impact)*.

Public Services and Recreation

As described in Section 4.12, Public Services and Recreation, Project impacts related to the provision of new or physically altered fire, police, schools and parks and recreation facilities, and the physical deterioration of parks and recreation facilities would be less than significant (see Impact PSR-1 through Impact PSR-5).

Impacts related to public services and recreation would also be less than significant for Alternative 2. While Alternative 2 would result in an incremental increase in the demand for fire, police, schools and parks and recreation services, the reduced enrollment increase and building development would not result in the need for new or physically altered fire, police, schools and parks and recreation facilities that could cause significant environmental impacts. Alternative 2 would also not result in the physical deterioration of parks and recreation facilities. Overall, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative *(less than significant; lesser impact)*.

Transportation

As described in Section 4.13, Transportation, Project impacts related to conflicts with a program, plan, ordinance or policy addressing the circulation system, VMT, design hazards, and emergency access would be less than significant (see Impact TRA-1 through Impact TRA-4).

Impacts related to transportation would also be less than significant for Alternative 2. Alternative 2 would result in less development than the Project, to accommodate a reduced enrollment increase to 10,500 FTES, and would provide for additional on campus housing to meet the same housing objectives of the Project (60 percent of students and 65 percent of faculty and staff) per PDF-MO-1 and PDF-MO-2. Given that less development would be implemented under this alternative and the above housing goals would be met, which reduces VMT, Alternative 2 would not result in significant VMT impacts. Other mobility PDFs (e.g., expansion of TDM strategies) would also be implemented under this alternative, which would reduce VMT. Other transportation impact categories including conflicts with a program, plan, ordinance or policy addressing the circulation system, design hazards, and emergency access would also be less than significant. Overall, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative *(less than significant; lesser impact)*.

Utilities and Energy

As described in Section 4.14, Utilities and Energy, Project impacts related to the construction of new or replacement water, wastewater treatment, electric power, natural gas, or telecommunications facilities, adequacy of water supplies and wastewater treatment capacity, solid waste, and energy use would be less than significant (see Impact UTL-1 through Impact UTL-6).

Impacts related to utilities and energy would also be less than significant for Alternative 2. Like the Project, Alternative 2 would not require new or upgraded potable water, recycled water infrastructure, or wastewater infrastructure identified in Marina Coast Water District (MCWD) Water Master Plan, Recycled Water Master Plan, and Sewer Master Plan. Sufficient water supplies would be available to serve development under Alternative 2 and reasonably foreseeable future development in the service area during normal, dry, and multiple-dry years, as CSUMB would not exceed and would be well under the University's allocated water supplies. Alternative 2 would not generate solid waste in excess of state standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Alternative 2 would also not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, with compliance with ICSUAM and Title 24 Energy Codes. Overall, impacts would be reduced as compared to the Project given that less development would be implemented under this alternative *(less than significant; lesser impact)*.

6.5.3.3 Ability to Meet Project Objectives

Alternative 2 would partially but not fully meet most of the identified project objectives (see Table 6-3). Specifically, while Alternative 2 would allow for an increase of approximately 3,900 FTES up to an increased enrollment cap of 10,500 FTES, it would not fully support the University's educational mission to accommodate student enrollment growth up to a future enrollment of 12,700 FTES (Objective #1). Such an increase in enrollment would provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population and would allow CSUMB to develop into a comprehensive university campus that graduates students that can meet the needs of regional and statewide employers.

Alternative 2 would partially meet the objective to implement strategies to facilitate institutional capacity (Objective #2) and contribute to providing a unique campus character (Objective #7) given that less development would be implemented under this alternative. With less development on the Main Campus, Alternative 2 would not fully meet the objective of creating a compact campus core and walkable environment (Objective #4), which in turn would impair the ability to fully meet the objective to provide emphasis on pedestrian access and alternative transportation and attain a modal shift from vehicles to alternatives modes of transportation (Objective #8). Alternative 2 also would not fully meet objectives related to natural and formal open spaces, as proposed by under Project (Objectives #9 and #10), given that less development would result in less formal open spaces being integrated into the campus.

Alternative 2 would meet the objective of focusing development on the Main Campus on already paved and developed sites (Objective #3). Given that Alternative 2 would meet the on-campus housing goals for students, faculty and staff, this alternative would also meet the housing objectives for the Project (Objectives #5 and #6).

6.5.4 Alternative 3: Expanded Housing Growth Alternative

This alternative considers an increase in the amount of on-campus housing to reduce trip generation associated with the Project. While the Project would not result in significant transportation impacts related to VMT, it would result in a roadway noise level increase at one off-campus location (ST-7) located at Sixth Avenue and Gigling Road, along the southern edge of the Main Campus, that would be potentially significant. Additional housing could be accommodated on the Main Campus in areas identified as development reserve located in proximity to other existing and proposed housing (see Chapter 3, Project Description, Figure 3-6). This alternative would provide for a projected increase of 5,020 student beds (an increase of 1,200 student beds over the 3,820 beds contemplated by the Project), which would allow for housing approximately 70 percent of students on campus, instead of 60 percent proposed under the Project per PDF-MO-1 and PDF-MO-2. This increase in student bed spaces would also result a greater net increase in building space (3 million GSF), as compared to the Project (2.6 million GSF). This alternative would include development of all five of the near-term development components of the Project (i.e., Academic IV, Academic V, Student Housing IIB, Student Housing III, and Student Recreation Phases I and II). Alternative 3 would also focus development on the Main Campus on already paved and developed sites in a similar pattern as the Project, with the addition of housing on one or more of the sites designated as development reserve, as previously indicated. All proposed PDFs associated with the Project would also be implemented under this alternative; however, as indicated above, Alternative 3 would increase the percent of students housed on campus under the Project, as anticipated by PDF-MO-2.

Ultimately, CSUMB and the CSU Board of Trustees would need to determine whether development of 1,200 additional on-campus student beds under Alternative 3 is feasible and whether it would be fully occupied by the anticipated enrollment (12,700 FTES). However, such an expanded housing growth alternative is potentially feasible and therefore is evaluated herein.

6.5.4.1 Impact Analysis

Aesthetics

As described in Section 4.1, Aesthetics, Project impacts related to scenic vistas, scenic quality, and light and glare would be less than significant (see Impact AES-1 through Impact AES-3).

Impacts related to scenic vistas, scenic quality, and light and glare would also be less than significant for Alternative 3. However, impacts would be greater as compared to the Project given that more housing development, and thus more developed square footage overall, would be implemented under this alternative compared to the Project. Alternative 3 would focus development on the Main Campus on already paved and developed sites as under the Project, with the addition of housing on development reserve land in proximity to other existing or proposed housing. However, development on these sites under Alternative 3 would still not be visible from Highway 1 and would not otherwise significantly impact scenic vistas, scenic quality or light and glare. Development under this alternative would also be subject to the CSU design review process, the CSU Outdoor Lighting Design Guide, and the CALGreen-mandated BUG (Backlight/Uplight/Glare) ratings, which would reduce impacts to visual resources and light pollution and glare (see Section 4.1, Aesthetics). Overall, aesthetic impacts under Alternative 3 would be greater as compared to the Project *(less than significant; greater impact).*

Air Quality

As described in Section 4.2, Air Quality, Project impacts related to conflicts with the applicable air plan, criteria air pollutant emissions, exposure to substantial pollutant emissions, and emissions affecting a substantial number of people would be less than significant (see Impact AIR-1 through Impact AIR-4).

Impacts related to air quality would also be less than significant for Alternative 3. However, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative. While development would be greater under Alternative 3, as compared to the Project, construction and operational emissions associated with this alternative also would not exceed the Monterey Bay Air Resources District (MBARD) significance thresholds for ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$, as reported for the Project in Section 4.1, Air Quality. While area and energy emission sources would increase somewhat with Alternative 3, mobile emission sources would be reduced with the increase in on-campus housing and percentage of students housed on campus. Overall, air quality impacts under Alternative 3 would be greater, as compared to the Project *(less than significant; greater impact).*

Biological Resources

As described in Section 4.3, Biological Resources, Project impacts related to special-status species, and riparian and wetland habitat would be reduced to less than significant with the implementation of mitigation (MM-BIO-1a through MM-BIO-1g, and MM-BIO-2) (see Impact BIO-1 and Impact BIO-2). Project impacts related to wildlife corridors and conflicts with policies and ordinances protecting biological resources would be less than significant (see Impact BIO-3 and Impact BIO-4). The Project would result in no impacts related to conflicts with an adopted HCP (see Impact BIO-5).

Alternative 3 impacts related to special-status species, and riparian and wetland habitat would also be reduced to less than significant with the implementation of mitigation (MM-BIO-1a through MM-BIO-1g, and MM-BIO-2). However, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative, as compared to the Project, and therefore the potential to result in direct or indirect impacts to special-status species, and riparian and wetland habitat would be correspondingly greater *(less than significant with mitigation; greater impact).*

Impacts related to wildlife corridors and conflicts with policies and ordinances protecting biological resources would also be less than significant for Alternative 3. However, impacts would be greater as compared to the Project given that more development would be implemented under this alternative *(less than significant; greater impact).*

Cultural Resources

As described in Section 4.4, Cultural Resources, Project impacts related to unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would be reduced to less than significant with the implementation of mitigation (MM-CUL-1a through MM-CUL-1c, and MM-CUL-2) (see Impact CUL-1 through Impact CUL-3). The Project would result in no impacts related to historic built environment resources.

Alternative 3 impacts related to unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would also be reduced to less than significant with mitigation (MM-CUL-1a through MM-CUL-1c, and MM-CUL-2). However, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative and therefore the potential to encounter unique archaeological resources, historic resources of an archaeological nature, human remains, and tribal cultural resources would be correspondingly greater *(less than significant with mitigation; greater impact)*.

Geology, Soils and Paleontology

As described in Section 4.5, Geology, Soils and Paleontology, Project impacts related to seismic hazards, landslides, soil erosion, and unstable geologic units or soils would be less than significant (see Impact GEO-1 through Impact GEO-4). Project impacts related to paleontological resources would be reduced to less than significant with the implementation of mitigation (MM-GEO-1) (see Impact GEO-5). The Project would result in no impacts related to earthquake fault rupture, expansive soils and septic tanks or alternative wastewater disposal systems.

Impacts related to seismic hazards, landslides, soil erosion, and unstable geologic units or soils would also be less than significant for Alternative 3. However, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative *(less than significant; greater impact)*.

Impacts related to paleontological resources under Alternative 3 would also be reduced to less than significant with the implementation of mitigation (MM-GEO-1). However, impacts would be greater, as compared to the Project, as the potential to encounter paleontological resources would be greater given that more development would be implemented under this alternative *(less than significant with mitigation; greater impact)*.

Greenhouse Gas Emissions

As described in Section 4.6, Greenhouse Gas Emissions, Project impacts related to the generation of greenhouse gas (GHG) emissions and conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases would be less than significant with the implementation of mitigation (MM-GHG-1) (see Impact GHG-1 and Impact GHG-2).

Alternative 3 impacts related to GHG would also be less than significant with the implementation of mitigation (MM-GHG-1). However, impacts would likely be greater as compared to the Project given that more housing development would be implemented under this alternative. While area, energy, solid waste, water, and wastewater sources of GHG emissions would increase under this alternative with more on-campus housing and development overall, mobile sources of GHG would be reduced with the increase in on-campus housing and percentage of students housed on campus. Similar to the Project, Alternative 3 would comply with the CSU Sustainability Policy through meeting the State building code requirements, including use of energy-efficient HVAC systems, installing LED lighting, retrofitting campus water fixtures to reduce consumption, and compliance with waste recycling requirements. Overall, impacts related to GHG emissions under Alternative 3 would be greater, as compared to the Project *(less than significant with mitigation; greater impact)*.

Hazards, Hazardous Materials, and Wildfire

As described in Section 4.7, Hazards, Hazardous Materials, and Wildfire, Project impacts related to routine transport, use, or disposal of hazardous materials; upset and release of hazardous materials; hazardous materials use near schools; emergency response; and wildfire hazards would be less than significant (see Impact HAZ-1 through Impact HAZ-5). The Project would result in no impacts related to airport safety.

Impacts related to hazards, hazardous materials, and wildfire would also be less than significant for Alternative 3. As under the Project, construction under this alternative would comply with requirements to report on and abate hazardous building materials or other hazardous materials site conditions, as well as implement standard CSU construction specifications, in accordance with the Integrated California State University Administrative Manual (ICSUAM). The State Water Resources Board Construction General Permit, which requires a stormwater pollution prevention plan (SWPPP), would also be implemented on each site, which would avoid or minimize the release of contaminants during construction. As under the Project, operations under this alternative would continue to comply with all applicable state and federal regulations. Additionally, review of building designs under Alternative 1 by CSU building officials and the State Fire Marshal would ensure compliance with the California Building Code regulations related to the use, storage, and handling of hazardous materials, as well as related to access, fire and life safety. Overall, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative *(less than significant; greater impact).*

Hydrology and Water Quality

As described in Section 4.8, Hydrology and Water Quality, Project impacts related to surface water quality standards or waste discharge requirements, groundwater supplies and recharge, and stormwater drainage patterns would be less than significant (see Impact HYD-1 through Impact HYD-3). The Project would result in no impacts related to groundwater quality and flooding-related risks.

Impacts related to hydrology and water would also be less than significant for Alternative 3. However, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative. Similar to the Project overall, Alternative 3 would not discharge into the Monterey Bay or CWA Section 303(d) listed water bodies (e.g., the Lower Salinas River); would implement a Stormwater Pollution Prevention Plan (SWPPP) on each site, which would avoid or minimize erosion and sedimentation; would implement Low Impact Development (LID) features in the design of these components in compliance with the CSUMB Stormwater Master Plan to infiltrate stormwater; and would comply with Title 24 to reduce demand for potable water from groundwater. Overall, hydrology and water quality impacts under Alternative 3 would be greater, as compared to the Project *(less than significant; greater impact)*.

Land Use and Planning

As described in Section 4.9, Land Use and Planning, Project impacts related to physically dividing an established community and conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would be less than significant (see Impact LDU-1 and Impact LDU-2).

Impacts related to land use and planning would also be less than significant for Alternative 3. Like the Project, Alternative 3 would not physically divide an established community as it would build on infill development sites on the Main Campus and would not otherwise result in the construction of physical barriers or removal or impairment of access to the campus or surrounding areas. Development of additional housing under this alternative on development reserve sites near other housing would not result in such physical barriers or access issues, as such development would not change the circulation system of the campus. Alternative 3 would also not conflict with relevant local general plan policies or the Marina Airport Land Use Compatibility Plan. Overall, impacts would be greater as compared to the Project given that more housing development would be implemented under Alternative 3 *(less than significant; greater impact)*.

Noise and Vibration

As described in Section 4.10, Noise and Vibration, Project impacts related to temporary construction noise would be less than significant with the implementation of mitigation (MM-NOI-1) (see Impacts NOI-1). Project impacts related to permanent operational noise would be significant and unavoidable at one off-campus location due to the Project's contribution to roadway noise (see Impact NOI-2). However, as indicated in Impact NOI-4, the cumulative impact of the Project related to roadway noise would be less than significant, as the Project's contribution to the cumulative impact does not exceed the threshold. Project impacts related to vibration would be less than significant (see Impact NOI-3). Lastly, the Project would have no impacts related to airport noise.

Alternative 3 impacts related to temporary construction noise would also be less than significant with the implementation of mitigation (MM-NOI-1). Additionally, vibration impacts of Alternative 3 would also be less than significant. However, construction noise and vibration impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative. Overall, temporary construction noise under Alternative 3 would be greater, as compared to the Project *(less than significant with mitigation; greater impact)*. Vibration impacts would also be greater compared to the Project *(less than significant; greater impact)*.

Given that more on-campus housing development would be implemented under Alternative 3, it is likely that the significant and unavoidable roadway noise impact associated with operations would be reduced to less than significant under this alternative, given that more on-campus housing would reduce vehicle trips to the campus *(less than significant; reduced impact)*.

Population and Housing

As described in Section 4.11, Population and Housing, Project impacts related to inducing substantial unplanned population growth and displacing substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere would be less than significant (see Impact POP-1 and Impact POP-2).

Impacts related to population and housing would also be less than significant for Alternative 3, as this alternative would also not result in substantial unplanned population growth given that the 2018 AMBAG Regional Growth Forecast assumes 12,000 FTES by 2025. Like the Project, Alternative 3 would not displace people or housing. However, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative *(less than significant; greater impact)*.

Public Services and Recreation

As described in Section 4.12, Public Services and Recreation, Project impacts related to the provision of new or physically altered fire, police, schools and parks and recreation facilities, and the physical deterioration of parks and recreation facilities would be less than significant (see Impact PSR-1 through Impact PSR-5).

Impacts related to public services and recreation would also be less than significant for Alternative 3. Like the Project, Alternative 3 would result in an incremental increase in the demand for fire, police, schools and parks and recreation services with the same enrollment increase as the Project. While Alternative 3 would result in more on-campus housing and associated residential population, it would not result in the need for new or physically altered fire, police, schools and parks and recreation facilities, the construction of which would result in significant impacts. Alternative 3 would also not result in the physical deterioration of parks and recreation facilities. Overall, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative *(less than significant; greater impact).*

Transportation

As described in Section 4.13, Transportation, Project impacts related to conflicts with a program, plan, ordinance or policy addressing the circulation system, VMT, design hazards, and emergency access would be less than significant (see Impact TRA-1 through Impact TRA-4).

Impacts related to transportation would also be less than significant for Alternative 3. Alternative 3 would result in the same enrollment but greater development than the Project, to accommodate additional on-campus housing (70 percent of students and 65 percent of faculty and staff), which exceeds the requirements of PDF-MO-2. While more development would be implemented under this alternative, the additional development would consist entirely of on-campus student housing to house a greater percentage of students on campus, which would reduce VMT, as compared to the Project, as fewer students would commute to the campus. Other mobility PDFs (e.g., expansion of TDM strategies) would also be implemented under this alternative, which would reduce VMT. Other transportation impact categories including conflicts with a program, plan, ordinance or policy addressing the circulation system, design hazards, and emergency access would also be less than significant. Overall, impacts would be reduced as compared to the Project given that more housing development would be implemented under this alternative, which would reduce VMT *(less than significant; lesser impact).*

Utilities and Energy

As described in Section 4.14, Utilities and Energy, Project impacts related to the construction of new or replacement water, wastewater treatment, electric power, natural gas, or telecommunications facilities, adequacy of water supplies and wastewater treatment capacity, solid waste, and energy use would be less than significant (see Impact UTL-1 through Impact UTL-6).

Impacts related to utilities and energy would also be less than significant for Alternative 3. Like the Project, Alternative 3 would not require new or upgraded potable water, recycled water infrastructure, or wastewater infrastructure identified in Marina Coast Water District (MCWD) Water Master Plan, Recycled Water Master Plan, and Sewer Master Plan. While Alternative 3 would result in more on-campus housing and somewhat greater water demand it would not exceed CSUMB's allocated water supplies for the campus or exceed the wastewater treatment capacity of the regional wastewater treatment plant. Alternative 3 would not generate solid waste in excess of state standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. While electricity and natural gas use would increase under Alternative 3 with more on-campus housing, petroleum use would be reduced with the increase in on-campus housing and percentage of students housed on campus, which would reduce vehicle trips to the campus. Alternative 3 would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, with compliance with ICSUAM and Title 24 Energy Codes. Overall, impacts would be greater as compared to the Project given that more housing development would be implemented under this alternative *(less than significant; greater impact).*

6.5.4.2 Ability to Meet Project Objectives

Alternative 3 would fully meet most of the identified project objectives (see Table 6-3). Specifically, Alternative 3 would fully support the University's educational mission to accommodate student enrollment growth up to a future enrollment of 12,700 FTES, as it would increase the enrollment cap to 12,700 FTES and provide the physical development to accommodate such enrollment (Objective #1). Alternative 3 would fully meet the objective to implement strategies to facilitate institutional capacity (Objective #2) and contribute to providing a unique campus character (Objective #7) given that the same enrollment capacity and similar pattern of on-campus development would be implemented under this alternative. With somewhat more development on the Main Campus, Alternative 3 would fully meet the objective of creating a compact campus core and walkable environment (Objective #4), which in turn would meet the objective to provide emphasis on pedestrian access and alternative transportation and attain a modal shift from vehicles to alternatives modes of transportation (Objective #8). Given that Alternative 3 would meet and exceed the on-campus housing goals for students, faculty and staff, this alternative would also meet the housing objectives for the Project (Objectives #5 and #6).

Alternative 3 would partially meet the objective of focusing development on the Main Campus on already paved and developed sites, as it would require some housing development on development reserve sites, which are not all paved or developed (Objective #3). Likewise, Alternative 3 also would not fully meet objectives related to natural and formal open spaces, as proposed under the Project (Objectives #9 and #10), given that some development on existing open space located on campus development reserve sites could be required under this alternative.

6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines (Section 15126.6[a]) requires that an EIR's analysis of alternatives identify the "environmentally superior alternative" among all of those considered. In addition, Section 15126.6(e)(2) states that if the environmentally superior alternative is the No Project Alternative, the EIR must also identify an environmentally superior alternative among the other alternatives. Furthermore, Public Resources Code Sections 21002 and 21081 require lead agencies to adopt feasible mitigation measures or feasible alternatives in order to substantially lessen or avoid otherwise significant adverse environmental effects, unless specific economic, legal, social, technological, or other conditions make such mitigation measures or alternatives infeasible.

The analysis contained herein and the summary in Table 6-2 present a comparison of impacts between the Project and the alternatives. Alternative 1 (No Project Alternative / Existing Master Plan) would reduce impacts in numerous impact categories and would reduce the significant and unavoidable operational noise impact at the one off-campus location (Sixth Avenue and Gigling Road) to less than significant. Given that Alternative 1 is likely the environmentally superior alternative, the EIR must also identify an environmentally superior alternative among the other alternatives, as indicated previously. Alternative 3 (Expanded Housing Growth Alternative) has greater impacts in numerous impact categories but would likely reduce the significant and unavoidable operational noise impact at the one off-campus location to less than significant with the provision of additional on-campus housing, which would reduce vehicle trips to campus. Alternative 2 (Reduced Enrollment Alternative), is the environmentally superior alternative, as it would reduce impacts in numerous impact categories, as well as reduce the significant and unavoidable operational noise impact at one off-campus location to less than significant.

However, Alternative 2 does not fully meet the project objectives. In particular, while Alternative 2 would allow for an increase of approximately 3,900 FTES up to an increased enrollment cap of 10,500 FTES, it would not fully support the University's educational mission to accommodate student enrollment growth up to a future enrollment of 12,700 FTES (Objective #1). Such an increase in enrollment to 12,700 FTES would provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population and would allow CSUMB to develop into a comprehensive university campus that graduates students that can meet the needs of regional and statewide employers.

Table 6-2
Comparison of Environmental Impacts from the Alternatives

Section # and Topic	Proposed Project	Alternative 1 No Project Alternative / Existing Master Plan	Alternative 2 Reduced Enrollment Alternative	Alternative 3 Expanded Housing Growth Alternative
4.1. Aesthetics (Scenic Resources within Scenic Highway)	NI	NI	NI	NI
4.1. Aesthetics (Scenic Vistas, Scenic Quality, Light and Glare)	LS	LS↓	LS↓	LS↑
4.2. Air Quality	LS	LS↓	LS↓	LS↑
4.3. Biological Resources (Special-Status Species, Riparian and Wetland Habitat	LSM	LSM↓	LSM↓	LSM↑

Table 6-2
Comparison of Environmental Impacts from the Alternatives

Section # and Topic	Proposed Project	Alternative 1 No Project Alternative / Existing Master Plan	Alternative 2 Reduced Enrollment Alternative	Alternative 3 Expanded Housing Growth Alternative
4.3. Biological Resources (Wildlife Corridors, Conflicts with Biological Resource Policies and Ordinances)	LS	LS↓	LS↓	LS↑
4.3. Biological Resources (Conflicts with Adopted HCP)	NI	NI	NI	NI
4.4. Cultural Resources (Historic Built Environment Resources)	NI	NI	NI	NI
4.4. Cultural Resources (Archaeological Resources, Human Remains, and Tribal Cultural Resources)	LSM	LSM↓	LSM↓	LSM↑
4.5. Geology and Soils (Fault Rupture, Expansive Soils, Septic Tanks)	NI	NI	NI	NI
4.5. Geology and Soils (Seismic Hazards, Landslides, Soil Erosion, Unstable Geologic Units or Soils)	LS	LS↓	LS↓	LS↑
4.5. Geology and Soils (Paleontological Resources)	LSM	LSM↓	LSM↓	LSM↑
4.6. Greenhouse Gas Emissions	LSM	LS	LSM↓	LSM↑
4.7. Hazards, Hazardous Materials, and Wildfire (Airport Safety)	NI	NI	NI	NI
4.7. Hazards, Hazardous Materials, and Wildfire (Hazardous Materials, Emergency Response, Wildfire)	LS	LS↓	LS↓	LS↑
4.8. Hydrology and Water Quality	LS	LS↓	LS↓	LS↑
4.9. Land Use and Planning	LS	LS↓	LS↓	LS↑
4.10. Noise (Temporary Construction Noise)	LSM	LSM↓	LSM↓	LSM↑
4.10. Noise (Permanent Operational Noise)	SU	LS	LS	LS
4.10. Noise (Vibration)	LS	LS↓	LS↓	LS↑
4.11. Population and Housing	LS	LS↓	LS↓	LS↑
4.12. Public Services	LS	LS↓	LS↓	LS↑
4.13. Transportation	LS	LS↓	LS↓	LS↓
4.14. Utilities and Energy	LS	LS↓	LS↓	LS↑

Notes: NI = no impact; LS = less than significant; LSM = less than significant with mitigation; SU = significant and unavoidable; ↑ = greater; ↓ = lesser.

Table 6-3
Ability of Alternatives to Meet Project Objectives

Project Objectives	Proposed Project	Alternative 1 No Project Alternative / Existing Master Plan	Alternative 2 Reduced Enrollment Alternative	Alternative 3 Expanded Housing Growth Alternative
1. 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 12,700 FTES; provide expanded access to higher education in response to the increasing higher education needs and demands of a growing statewide population; and develop into a comprehensive university campus that graduates students that can meet the needs of regional and statewide employers, while preserving and enhancing the quality of campus life.	Meets Objective	Does Not Meet Objective	Partially Meets Objective	Meets Objective
2. Implement strategies to facilitate student academic success, academic excellence, institutional capacity, and regional stewardship.	Meets Objective	Does Not Meet Objective	Partially Meets Objective	Meets Objective
3. Focus new building development on existing paved and developed infill sites on the Main Campus to provide compact and clustered development and make efficient use of campus land.	Meets Objective	Partially Meets Objective	Partially Meets Objective	Partially Meets Objective
4. Provide and concentrate facilities for expansion of academic programs and administrative functions on the Main Campus, in or near the campus core to: create a compact campus core; provide synergies between existing and new educational and research programs; provide for a 10-minute walking distance from transportation hubs and between classroom buildings; facilitate use of shared resources among programs, such as classroom and lab space; facilitate faculty and student interaction; and promote an environment conducive to learning.	Meets Objective	Does Not Meet Objective	Partially Meets Objective	Meets Objective
5. Provide on-campus housing for 60 percent of FTE students and 65 percent of FTE faculty and staff to reduce vehicle trips to campus, meet other Master Plan Guideline's sustainability priorities and objectives, and promote recruitment, retention and engagement of faculty and staff.	Meets Objective	Does Not Meet Objective	Meets Objective	Meets Objective

Table 6-3
Ability of Alternatives to Meet Project Objectives

Project Objectives	Proposed Project	Alternative 1 No Project Alternative / Existing Master Plan	Alternative 2 Reduced Enrollment Alternative	Alternative 3 Expanded Housing Growth Alternative
6. Provide a diversity of housing types to serve a broad range of student, faculty and staff housing needs.	Meets Objective	Does Not Meet Objective	Partially Meets Objective	Meets Objective
7. Create a unique campus character through buildings, outdoor spaces, pathways, bikeways, and roadways that connect those spaces while also producing a sense of community on campus.	Meets Objective	Does Not Meet Objective	Partially Meets Objective	Meets Objective
8. Provide emphasis on pedestrian access and alternative transportation and attain a modal shift from vehicles to more pedestrian, bicycle, and transit use by: establishing bicycle and pedestrian networks that provide safe, direct, and attractive connections to work and school; establishing restrictions to general vehicle travel through the campus core and locate vehicle circulation and parking on the campus periphery to provide for a walkable campus core; and providing other land development strategies (e.g., multimodal hubs) to support TDM (Transportation Demand Management), which is intended to reduce drive-alone travel modes and encourage greater use of transit, walking, and bicycle commuting and reduce dependence on automobiles.	Meets Objective	Does Not Meet Objective	Partially Meets Objective	Meets Objective
9. Preserve and enhance natural open spaces and develop formal open spaces so they become integral to the character of the campus.	Meets Objective	Does Not Meet Objective	Partially Meets Objective	Partially Meets Objective
10. Integrate natural and formal open spaces into the framework for capital development. Organize the built environment around an open space network to integrate the natural and built environments and enhance outdoor learning, social interaction, recreation, and the overall campus ambiance.	Meets Objective	Does Not Meet Objective	Partially Meets Objective	Partially Meets Objective

6.7 REFERENCES

Denise Duffy & Associates, Inc. 2007. *Draft Environmental Impact Report for the California State University Monterey Bay 2007 Master Plan* (SCH #1997091036). Prepared for California State University Monterey Bay, December 2007.

Denise Duffy & Associates, Inc. 2009. *Final Environmental Impact Report for the California State University Monterey Bay 2007 Master Plan* (SCH #1997091036). Prepared for California State University Monterey Bay, November 2008. Certified in 2009.

CHAPTER 7
LIST OF PREPARERS AND PERSONS CONSULTED

7.1 LIST OF EIR PREPARERS

7.1.1 Lead Agency

7.1.1.1 California State University

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Lacy Raak	Director of Sustainability
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Melanie Beretti	Housing and Special Programs Services Manager
Enrique Saavedra	Traffic Engineer
Michael Urquides	Fire Chief, Monterey County Regional Fire District
Karen Riley-Olms	Management Analyst

7.2.5 Transportation Agency of Monterey County

Rich Deal	Principal Engineer (retired)

7.2.6 California Department of Transportation

Hallie Holden	Transportation Engineer
Jenna Schudson	Transportation Planner

7.2.7 Marina Coast Water District

Patrick Breen	Water Resources Manager
Michael Wegley	District Engineer
Brian True	Senior Civil Engineer

Donald Wilcox	Senior Engineer

7.2.8 Association of Monterey Bay Area Governments

Bhupendra Patel	Director of Modeling
Heather Adamson	Director of Planning

7.2.9 Monterey Peninsula Unified School District

Veronica Beardsley	Executive Assistant II for Ryan Altemeyer, Associate Superintendent

7.2.10 Ohlone/Costanoan-Esselen Nation (OCEN)

Louise J. Miranda Ramirez	Tribal Chairwoman

7.2.11 Fort Ord Reuse Authority (Prior to Dissolution)

Michael Houlemard	Executive Officer (retired)
Johnathan Brinkman	Principal Planner (retired)
Peter Said	Project Manager (retired)

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