Attachment 3

UC MERCED 2020 PROJECT

Addendum No. 6 to the 2009 UC Merced Long Range Development Plan
Environmental Impact Statement / Environmental Impact Report

The following Addendum has been prepared in compliance with CEQA.

Prepared for:

University of California, Merced
5200 N. Lake Road,
Merced, California 95343

Prepared by:

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1.0 PROJECT INFORMATION

1. Project title:

   UC Merced 2020 Project

2. Lead agency name and address:

   The Regents of the University of California
   1111 Franklin Street
   Oakland, CA 94607

3. Contact person and phone number:

   Phillip Woods, AIA, AICP
   Director of Physical & Environmental Planning
   209-349-2561

4. Project location:

   University of California, Merced
   Merced County

5. Project sponsor's name and address: (See #2 & #3)

   Office of Planning and Budget
   University of California
   767 E. Yosemite, Suite C
   Merced, California 95343

6. Custodian of the administrative record for this project (if different from response to item 3 above.):

   See Project Sponsor

7. Identification of previous EIRs relied upon for tiering purposes (including all applicable LRDP and project EIRs and address where a copy is available for inspection.)

   The 2009 UC Merced Long Range Development Plan Final Environmental Impact Statement/Environmental Impact Report (2009 EIS/EIR). Copies of the document can be found at:

   Office of Planning & Budget
   University of California
   5200 North Lake Road
   Merced, California 95343

2.0 INTRODUCTION

The University of California ("University"), as the lead agency pursuant to the California Environmental Quality Act ("CEQA"), prepared the Final Environmental Impact Statement/Environmental Impact Report ("Final EIS/EIR") for the 2009 Long Range Development Plan ("LRDP") for the University of California, Merced ("UC Merced") and the UC Merced 2020 Project (the "UCM 2020 Project") (State Clearinghouse No. 2008041009). On March 2009, The Board of Regents of the University of California ("The Regents") certified that the Final EIS/EIR was completed in compliance with the California Environmental Quality Act ("CEQA") and adopted Findings and a Statement of Overriding Considerations in connection with its approval of the 2009 LRDP.

The Final EIS/EIR consists of the November 2008 Draft Environmental Impact Statement/Environmental Impact Report ("Draft EIS/EIR") and the March 2009 Final Environmental Impact Statement/Environmental Impact Report ("Final EIS/EIR") (collectively the "2009 EIS/EIR"). Volumes 1 and 2 of the EIS/EIR assess the potential environmental effects of implementation of the 2009 LRDP and identify means to eliminate or reduce potential adverse impacts, and evaluate a reasonable range of alternatives to the 2009 LRDP. Volume 3 builds upon the broader programmatic analysis of campus development in EIS/EIR Volumes 1 and 2, and focuses on evaluating and disclosing environmental impacts that could potentially result if the development proposed as part of the UCM 2020 Project is implemented.

The 2009 LRDP is the land use planning document used by UC Merced to guide the development of the new campus to eventually support a projected student body of 25,000 full time equivalent students on up to 815 net acres of land in Merced County. UC Merced has completed the construction of the Phase 1 campus that provides adequate facilities for enrollment of up to 5,600 full-time equivalent (FTE) students.[1] The UCM 2020 Project, also referred to as Phase 2, comprises the second phase of campus development, with facilities needed to support an enrollment level of approximately 10,000 FTE students. These facilities would include academic, administrative, research, and recreational buildings, student residences and student services buildings, utilities and infrastructure, outdoor recreation areas, and associated roadways, parking, and landscaping.

The UCM 2020 Project is described in Volume 3 of the Final EIR/EIS as the development of additional building space on the campus such that at the full build-out of the UCM 2020 Project, the campus would

[1] Phase 1 campus was planned and developed to provide facilities for an enrollment level of 5,000 FTE students. UC Merced has absorbed the additional enrollment by moving some of the campus' administrative functions to downtown locations.

contain up to 2.5 million square feet of building space to accommodate enrollment of up to 10,000 FTE students. UC Merced has commenced construction of the first UCM 2020 Project (Phase 2) facilities. The Student Services Building and Housing 4 are currently under construction and the next academic building is in the planning stages.

The Campus proposes to deliver all of the remaining facilities included in the UCM 2020 Project as a single integrated planned development, to be delivered in one or more phases in a portion of the area previously identified for the UCM 2020 Project. To allow for the revised UCM 2020 Project to be implemented in this manner, the UCM 2009 LRDP would be amended. This amendment, UCM 2009 LRDP Amendment No. 1, proposes revisions to the 2009 LRDP text and graphics to:

(1) Redefine campus districts and neighborhoods to create a better planning framework and identify a new Central Campus District within which the revised UCM 2020 Project would be developed;

(2) Add a new land use designation called Campus Mixed Use (CMU) and apply this designation to a portion of the Central Campus District that currently has other land use designations under the existing LRDP;

(3) Clarify within the Central Campus District (where facilities have already been developed) which areas will remain in residential land use, which areas will remain in student services, which area will remain in passive open space, and which area will be used for recreation;

(4) Within the Central Campus District, add a transportation buffer along the east side of Lake Road to ensure that the land is not developed with land uses that could preclude transportation improvements in the future; and

(5) Make minor changes to the planned on-campus circulation system to provide additional access to the Central Campus District.

The lands within the Central Campus District that are designated CMU would be used to develop the remaining facilities of the revised UCM 2020 Project. All of the revised UCM 2020 Project buildings would be located in a building subarea of the Central Campus District which generally corresponds with the currently developed portion of the campus. Low-intensity UCM 2020 Project support facilities, such as parking lots and playing fields, could be located in the same building subarea, or in a support subarea located adjacent to and immediately east of the building subarea.

The creation of the CMU designation enables flexibility to implement the revised UCM 2020 Project at higher densities than previously envisioned, as part of a single integrated planned development. The

CMU designation does not modify the total square footage of new development proposed under the previously envisioned UCM 2020 Project and the allowable land uses within the CMU are also consistent with the land uses identified in the previously envisioned UCM 2020 Project. Whether the revised UCM 2020 Project is developed consistent with existing 2009 LRDP land use designations or the proposed CMU, the campus at full implementation of the 2009 LRDP would still provide facilities for the enrollment of up to 25,000 FTE students, with the goal of accommodating half the students in on-campus housing.

Section 15164(a) of the CEQA Guidelines states "The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or declaration have occurred." The revised UCM 2020 Project requires the establishment of a new CMU land use designation through UCM 2009 LRDP Amendment No. 1. As documented in Section 4.0 of this Addendum No. 6 to the Final EIR/EIS, implementation of the revised UCM 2020 Project on lands designated CMU would not trigger any of the conditions necessitating preparation of a subsequent or supplemental EIR or negative declaration; therefore, no additional environmental document beyond this Addendum is necessary to evaluate the environmental effects of the development of the revised UCM 2020 Project.

3.0 PROJECT DESCRIPTION

3.1 Description of Proposed LRDP Amendment No. 1

As noted above, the proposed LRDP Amendment No. 1 comprises five key changes to the 2009 LRDP graphics and text. Each of the proposed changes is described below.

1. Changes to District and Neighborhood Boundaries. The proposed LRDP amendment proposes to change the boundaries of previously planned campus districts and neighborhoods to create an improved planning framework and identify a new Central Campus District within which the revised UCM 2020 Project would be developed. The redefined campus districts and neighborhoods are shown in **Figure 1, Campus Districts and Neighborhoods**.

2. Addition of Campus Mixed Use Land Use Designation. The proposed amendment adds a new land use category, Campus Mixed Use or CMU, and applies it to lands within the Central Campus District that have other land use designations under the currently approved land use diagram for the campus. CMU land use designation allows for a combination of academic uses that provides for a wide range of land uses which supports academic activity including facilities for teaching and research activities. This category includes academic, research, student housing and support services, athletic and recreational facilities, administrative offices, service facilities, and parking. This category allows residential density up

to 320 beds/gross acre. The portion of the campus that would be designated CMU is shown on **Figure 2, Land Use Plan**.

The CMU designation provides flexibility to the Campus and its development partners to arrange revised UCM 2020 Project facilities within the CMU area in an efficient arrangement, allows for a higher density of development, and provides for delivery sequencing that is not available under the 2009 LRDP land use designations. The CMU designation allows a combination of both horizontal and vertical mixed use according to the University's programmatic needs for the UCM 2020 Project, which is intended to implement the 2009 LRDP. This approach provides a development framework for UC Merced to arrange and integrate different land uses and allows flexible placement of buildings, roads, and infrastructure. The maximum total cumulative development on the campus lands designated CMU will not exceed the existing developed conditions plus the remainder of the UCM 2020 Project build-out.

Campus lands designated CMU within the Central Campus District are expected to be organized into two subareas: a building subarea and a support subarea (**Figure 3, Central Campus District Subareas**). The boundary between these two areas is not formally designated. The building subarea is anticipated to include the existing campus and areas immediately adjacent to it that are already served by infrastructure for a total of approximately 138 acres. New buildings would be constructed within the building subarea. The support subarea is anticipated to include approximately 81 acres and would be used to develop campus facilities that require minimal infrastructure such as parking lots, sports fields, and a corporation yard. Both the building and support subareas allow flexibility for the placement of transportation circulation infrastructure that includes pedestrian, bicycle, transit, and vehicular access right-of-ways. The maximum height allowed on CMU lands would be 120 feet.

3. Confirmation of Existing Developed Land Uses. For the portion of the Central Campus District that has already been developed with campus facilities, the proposed amendment clarifies which areas will remain in residential land use, which will remain in student services, which will remain in passive open space, and which areas will be used for recreation. The land use designations correspond to existing land uses developed in those areas. The proposed amendment affirms that these areas will not change in terms of their land use even though adjacent lands would be redesignated CMU and developed with campus mixed uses. The existing land uses are shown on **Figure 2**.

4. Transportation Buffer. The proposed amendment includes a transportation buffer to ensure that land along the east side of Lake Road within the Central Campus District is not developed in a manner that could preclude transportation improvements in the future. The transportation buffer is shown on **Figure 2.**

5. Minor Changes to Planned On-campus Circulation System. The proposed amendment includes minor changes to the planned on-campus circulation system to provide additional access to the Central Campus District. The primary changes include extension of Bellevue Road to the east and a new local access road that extends from Bellevue Road extension in a northwesterly direction to the center of the Central Campus District.

3.2 Description of the Revised UCM 2020 Project

The addition of the CMU designation as well as other changes to the LRDP reported above would allow the Campus to deliver the remaining facilities included in the UCM 2020 Project as a single integrated planned development, to be completed in one or more phases. The incorporation of the CMU designation in the 2009 LRDP or any of the other proposed changes would not change any of the key elements of the previously envisioned UCM 2020 Project. The only changes would be the proposed location of the remaining facilities to be developed under the revised UCM 2020 Project and the intensification of development within the Central Campus District.

Table 1 presents a summary comparison of the previously envisioned UCM 2020 Project and the revised UCM 2020 Project as proposed to be implemented consistent with the LRDP Amendment No. 1. The table also reports conditions that exist on the campus at the present time. Three of the buildings proposed as part of the UCM 2020 Project are currently under development in either the construction or planning stage. When these are completed, the campus will consist approximately 1.4 million gross square feet of building space, 2,074 parking spaces, and 1,651 student beds in on-campus housing, located within the campus' original Phase 1 area.

Table 1
Comparison of Previously Envisioned and Revised UCM 2020 Project

	Existing Conditions	Approved Phase 1 Build-out	Previously Envisioned UCM 2020 Project Build-out	Revised UCM 2020 Project Build-out
Acres developed (cumulative)	162	162	355	219
Enrollment level	5,600	5,000	10,000	10,000
Academic Space (in million square feet)	1.4*	1.25	2.5	2.5
Total Student Beds	1,651	2,500	5,000	5,000
Approximate Year of Completion	NA	2013	2020	2020

Note:
** The total square footage number includes buildings that are existing, under construction, or currently in the planning process.*

The academic building space square footage and amount of on-campus housing proposed as part of the revised UCM 2020 Project would be the same as the previously envisioned UCM 2020 Project evaluated in Volume 3 of the 2009 LRDP EIS/EIR (also called Phase 2 build-out), as shown in **Table 1**. However, the additional academic space and on-campus housing would be constructed within the building subarea. Some existing uses within the building subarea, such as the parking lots, would be developed within the support subarea to provide additional space within the building subarea for the construction of the new buildings near existing infrastructure.

No changes to the enrollment capacity analyzed in the 2009 LRDP EIS/EIR following completion of the UCM 2020 Project (i.e., 10,000 FTE students) are proposed. However, because the proposed LRDP amendment would enable implementation of the revised UCM 2020 Project on fewer acres, the CMU authorizes new development at higher densities than allowable in the Phase 1 development area. The revised UCM 2020 Project would cluster campus buildings in the Central Campus District and some of the new buildings could be as tall as 10 stories (120 feet). However, it should be noted that according to a preliminary building space demand analysis the majority of the UCM 2020 Project building program can be accommodated with three to five story buildings within the building subarea.

As described above, the proposed LRDP amendment would allow for Bellevue Road to be extended along the southern edge of the Central Campus District and for a new public access street to be added from the Bellevue Road extension to the center of the Central Campus District to provide additional access to the campus site. No changes to roadways outside the campus boundaries would be required.

As determined in Volume 3 of the 2009 LRDP EIS/EIR, all of the existing utilities that serve the campus are adequate to serve the build-out of the campus under the UCM 2020 Project, including the existing campus well and water pipelines that supplies water to the campus, the existing wastewater line that carries campus wastewater to the City's wastewater treatment plant, and power lines and natural gas pipelines that serve the campus. Any required upgrade of existing on-site infrastructure to deliver utility services to UCM 2020 Project development within the CMU area would be evaluated as part of any future development. As with the previously envisioned UCM 2020 Project, it will be necessary to increase the capacity of the campus' central utility plant to serve the larger campus. This expansion was analyzed in the Final EIR/EIS as part of the UCM 2020 Project.

3.2 Project Objectives

The objective of the revised UCM 2020 Project remains unchanged from the objective of the previously envisioned UCM 2020 Project described in Volume 3 of the 2009 LRDP EIS/EIR, which is to support the instructional and research mission of the University of California by providing essential academic space,

infrastructure and facilities to support expanding enrollment up to 10,000 students and optimize the use of existing UC Merced campus infrastructure.

The revised implementation of the UCM 2020 Project within the Central Campus District maximizes the efficient utilization of land area by increasing densities and rearranging existing uses on-site to accommodate the growth in enrollment. The project also furthers the overall goal of UC Merced to create an environment that is welcoming to students, reflects new technologies in building design, and sets the standard for environmental stewardship and sustainability, while providing a model for growth in the San Joaquin Valley.

3.3 Surrounding Land Uses and Environmental Setting

The roughly triangular Central Campus District within which the revised UCM 2020 would be constructed is bounded to the west by Lake Road, and Ranchers Road and Le Grand Canal to the north, and undeveloped campus lands to the southeast. The northern and western portions of the project site are developed with academic, administrative, and student housing buildings; parking lots; and sports fields, and the southern and eastern portions are undeveloped land that has previously been graded.

Land outside the Central Campus District is mostly undeveloped grasslands used for cattle grazing and agricultural use. A few rural residential homes are located to the southwest of the project site along Lake Road.

3.4 Discretionary Approval Authority

As a public agency principally responsible for approving or carrying out the revised UCM 2020 Project, the University of California is the Lead Agency under CEQA and is responsible for reviewing the adequacy of the existing environmental document, determining whether further environmental review is required as a result of the changes to the project, and approving the proposed project. Following approval of LRDP Amendment No. 1, the campus' Physical Design Framework will be revised to reflect the revised UCM 2020 Project. Approval of design and a development agreement for the revised UCM 2020 Project would occur thereafter. The Campus anticipates construction of the revised UCM 2020 Project would commence in early 2015 with final project completion by late 2020.

3.5 Consistency with the 2009 LRDP

The following discussion describes the proposed project's relationship to and consistency with the development projections, population projections, land use designations, and objectives contained in the 2009 LRDP and its relationship to the analysis contained in the 2009 EIS/EIR.

3.5.1 LRDP Scope of Development

The existing UC Merced campus space inventory totals approximately 1.4 million square feet. The revised UCM 2020 Project remains unchanged from the description in the Final EIR/EIS and would add the same amount of building space and new facilities to the campus such that at completion the total building space on the campus would be up to 2.5 million square feet. This level of development is within the development envelope of the 2009 LRDP, which envisioned that at build-out of the entire campus, the campus would contain 6.25 million square feet of academic and research building space; 1.0 million square feet of building space for student services; 1.25 million square feet of building space for campus services; 400,000 square feet of athletic and recreational buildings; student housing with approximately 12,500 beds; approximately 15,500 parking spaces; and 140 acres of athletics and recreational land uses and open space.

3.5.2 LRDP Land Use Designation

The 2009 LRDP identifies the long-term land uses of the revised UCM 2020 Project site (i.e., Central Campus District) as an area intended for *Academic/Laboratory* land uses. This land use designation allows for the development of classrooms; instructional and research laboratories; undergraduate, graduate, and professional schools and programs; ancillary support facilities such as administrative facilities, libraries, performance and cultural facilities, clinical facilities, research institutes, conference facilities, and services supporting academic operations. The proposed LRDP Amendment No. 1 would revise the existing LRDP land use map by adding the CMU designation to the majority of the lands within the Central Campus District, which would allow high density, mixed use development including academic buildings, residences, and student services within the building subarea. The CMU designation would also allow low-intensity, non-infrastructure dependent uses in the support subarea. This compact footprint approach emphasizes sustainable design and maximizes the use of existing utility infrastructure such as roads, water, and sewer connections. The proposed LRDP Amendment No. 1 would also clarify and affirm the continuation of a number of existing land uses in the northwestern corner of the Central Campus District. These developed land uses would remain in place and would not be changed or otherwise affected by the CMU designation. None of the proposed changes to the land use designations within the Central Campus District would conflict with the land use designations of adjacent campus lands outside the Central Campus District.

3.5.3 LRDP Population Projections

Implementation of the revised UCM 2020 Project within the Central Campus District is also within the scope of the 2009 LRDP in terms of population projections. The 2009 LRDP contemplates development

necessary to accommodate 25,000 FTE students with half the students accommodated in on-campus housing. In 2008-09, the student population was approximately 2,736. In 2009-2010 the student population grew to approximately 3,400. More than 4,300 FTE students were enrolled at UC Merced during 2010-11. UC Merced began its eighth academic year in August 2012, with a total enrollment of 5,760 students. The proposed LRDP Amendment No. 1 and modifications to the UCM 2020 Project will not increase the student, faculty, and staff populations. Upon completion of the revised UCM 2020 Project within the Central Campus District, the Campus would be able to enroll 10,000 FTE students and house 5,000 of the students on campus. The revised UCM 2020 Project is within the scope of the 2009 LRDP's campus population projections.

3.5.4 LRDP Objectives

The primary objective of the 2009 LRDP is to plan for the Merced campus' share of the University of California's short- and long-term enrollment demands. Development of the revised UCM 2020 Project within the Central Campus District would support this LRDP objective by developing the necessary facilities on the campus for an enrollment level of 10,000 FTE students in a timely manner using a public-private partnership approach to the delivery of the facilities. In addition, the 2009 LRDP aims to model environmental stewardship and to provide a high-quality campus setting. The revised UCM 2020 Project would be developed in a compact area which would allow for more efficient use of the existing infrastructure as well as promote a walkable campus. In addition, the 2009 LRDP includes specific objectives that are relevant to implementation of the revised UCM 2020 Project consistent with the CMU designation. These specific objectives include the following:

Zero Net Energy Commitment: Achieve zero net energy by 2020 through aggressive conservation efforts and development of renewable power. Zero net energy means producing the same amount of renewable energy that is consumed.

- The project would support the 2009 LRDP's "Zero Net Energy Commitment" objectives by incorporating energy conservation measures in its design that would assist in the campus' sustainability efforts leading toward energy independence.

Communities/Land Use: Develop the campus in a compact, grid-based format to minimize impacts on the land, and the cost of infrastructure.

- The project would support this objective by developing the new facilities in a compact manner which maximizes the use of land and existing infrastructure and minimizes the cost associated with building new infrastructure.

Architecture: Design campus facilities to achieve U.S. Green Building Council LEED Gold certification at a minimum, when employing all campus base credits.

- The proposed project would employ U.S. Green Building Council's LEED for New Construction Rating System to work toward ensuring the building's design achieves LEED Gold certification at a minimum.

3.5.5 Relationship to the 2009 EIS/EIR

Volume 3 of the 2009 EIS/EIR presents a project-level analysis that assesses the potentially significant environmental effects of the previously envisioned UCM 2020 Project. The previously envisioned UCM 2020 Project would develop the UC Merced Campus with facilities needed to support an enrollment level of approximately 10,000 FTE students. The proposed revision to the UCM 2020 Project would add the CMU designation to the LRDP land use map and make other changes to the 2009 LRDP which would permit the construction of the buildings and facilities necessary to accommodate 10,000 FTE students within a smaller project site. A comparison between the previously envisioned UCM 2020 Project and the revised UCM 2020 Project is provided in **Table 1** above.

The 2.5 million square feet of academic space and 5,000 student beds to support the previously envisioned UCM 2020 Project and included as part of the revised UCM 2020 Project, were evaluated in Volume 3 of the 2009 EIS/EIR. All of the mitigation measures identified in the 2009 EIS/EIR as applicable to the previously envisioned UCM 2020 Project would likewise be applicable to and adopted as part of the approval of the revised UCM 2020 Project. This Addendum No. 6 takes into consideration the smaller project site proposed as part of the revised UCM 2020 Project compared to the site evaluated in Volume 3 of the 2009 EIS/EIR. The changes to the UCM 2020 Project evaluated in this Addendum consist of the following:

- *Condensing development on UC Merced campus to maximize use of existing infrastructure:* Volume 3 of the 2009 EIS/EIR described and evaluated the previously envisioned UCM 2020 Project to be built out on 355 acres of land. The revised UCM 2020 Project would require amendment of the 2009 LRDP to create a CMU land use designation on the 2009 LRDP land use map. The CMU designation will allow for the land use flexibility to design and deliver a single integrated planned development. The revised UCM 2020 Project would decrease the acreage of land on which the proposed academic facilities, on-campus housing, and infrastructure would be built on as compared to the previously envisioned UCM 2020 Project.

4.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation/Traffic	☐ Utilities/Service Systems
☐ Greenhouse Gas Emissions	☐ Minerals	

5.0 DETERMINATION

On the basis of the initial evaluation that follows:

☐ I find that the proposed revisions to the UCM 2020 Project could have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, and that these effects have not been adequately analyzed by an earlier EIR. A TIERED ENVIRONMENTAL IMPACT REPORT will be prepared.

☒ I find that although the proposed revisions to the UCM 2020 Project could have a significant effect on the environment, because all potentially significant effects (1) have been addressed adequately in an earlier environmental document pursuant to applicable standards, and (2) either no changes or no substantial changes to the project are proposed, and no new information of substantial importance has been identified. An ADDENDUM and FINDINGS will be prepared.

Phillip Woods — 4·11·13

Signature — Date

PHILLIP WOODS — UC MERCED

Printed Name — For

6.0 EVALUATION OF ENVIRONMENTAL IMPACTS

As described in greater detail below and in the Environmental Checklist, the revised UCM 2020 Project, with the implementation of relevant 2009 EIS/EIR mitigation measures, will contribute to the impacts previously identified in the 2009 EIS/EIR, but will not result in any new significant impacts, increase the severity of significant impacts previously identified in the 2009 EIS/EIR, or cause any environmental effects not previously analyzed and disclosed in the 2009 EIS/EIR. All significant impacts to which the revised UCM 2020 Project would contribute are identified in the Environmental Checklist, and were analyzed in the 2009 EIS/EIR and listed in the 2009 EIS/EIR Findings. The revised UCM 2020 Project does not involve new information of substantial importance which would require mitigation measures or alternatives that are considerably different from those analyzed in the 2009 EIS/EIR. No additional mitigation measures are feasible to substantially lessen any significant and unavoidable impacts previously identified in the 2009 EIS/EIR.

While the revised UCM 2020 Project will contribute to cumulative impacts previously identified in the 2009 EIS/EIR associated with full 2009 LRDP implementation, it will not result in any new significant cumulative impacts, increase the severity of significant cumulative impacts previously identified in the 2009 EIS/EIR, or cause any environmental effects not previously evaluated in the 2009 EIS/EIR. All significant cumulative impacts to which the revised UCM 2020 Project would contribute are discussed in the Environmental Checklist.

Each of the impacts of the revised UCM 2020 Project is discussed separately below by environmental topic.

6.1 AESTHETICS

6.1.1 Relevant Elements of the Revised UCM 2020 Project

The revised UCM 2020 Project proposes to develop the building subarea, approximately half of the Central Campus District, with a total of 2.5 million square feet of academic space and on-campus housing for 5,000 students. Additional support facilities and infrastructure would be constructed on the remaining portion of the district, referred to as the support subarea. The build-out of the revised UCM 2020 Project would be accommodated on a total of 219 acres. The CMU designation is proposed to allow UCM 2020 Project buildings within the building subarea to be up to 10 stories (120 feet) tall, depending on the number and size of the buildings. Lighting within and around the buildings would be shielded in a manner that would avoid light spillage into surrounding areas.

The previously envisioned UCM 2020 Project, evaluated in Volume 3 of the 2009 EIS/EIR, would have developed the same amount of building space and types of academic space, on-campus housing, and infrastructure on a larger site encompassing 355 acres of land. Under the previously envisioned UCM 2020 Project, the densest area, Central Campus, was envisioned to be developed with four- to six-story tall buildings. Other uses such as student housing were envisioned to be developed in four- to five-story buildings.

6.1.2 Analysis of Project

Development under the revised UCM 2020 Project would not result in a new significant impact to scenic vistas.

Potential impacts of the previously envisioned UCM 2020 Project on scenic vistas were evaluated in detail in Volume 3 of the 2009 EIS/EIR, along with program and project-level mitigation. Similar to the effect from the previously envisioned UCM 2020 Project, with the construction of the revised UCM 2020 Project, it is likely that scenic vistas in the area would be interrupted in some, although not all, locations. As with the previously envisioned UCM 2020 Project, under the revised UCM 2020 Project, long-range views of the Sierra Nevada available from Lake Road west of the southern portion of the Campus and from Lake Yosemite Regional Park would not be lost. This is because the revised UCM 2020 Project would concentrate all the remaining facilities within the Central Campus District north of Bellevue Road, and to the extent campus development after 2020 occurs in the area south of Bellevue Road, only a small portion of that development would adjoin the portions of Lake Road south of Bellevue Road. This less than significant impact would be further reduced by Mitigation Measure AES-1b. Mitigation Measure AES-1b requires where possible, major vehicular and pedestrian transportation corridors on the campus to be located and designed to provide views of the Sierra Nevada.

The 2009 EIS/EIR concluded that the previously envisioned UCM 2020 Project would obstruct views of the Sierra Nevada range from certain vantage points on the campus. With the construction of denser and taller buildings under the revised UCM 2020 Project, the impact to views of the Sierra Nevada range from certain vantage points on the campus would slightly increase. However, as with the previously envisioned project, this would not be a significant adverse impact because views would still be available from other campus vantage points.

As described in the 2009 EIS/EIR, because the development of the previously envisioned UCM 2020 Project is proposed in the middle ground between Lake Yosemite and views to the southeast, the scenic vistas as currently available from the Lake Yosemite Regional Park would change with the construction of additional campus facilities. The previously envisioned UCM 2020 Project allowed for building heights

that ranged from 50 feet in some parts of the Central Campus to up to 100 feet in the southeastern portion of the Central Campus. The revised UCM 2020 Project would cluster campus buildings in the Central Campus District within the building subarea. It would allow for some of the new buildings to be as tall as 10 stories (120 feet), however, it is expected that the majority of the 2020 Project buildings would be three to five story buildings. Therefore, the impact on scenic vistas as viewed from Lake Yosemite viewpoints would be substantially the same as the impact identified and analyzed for the previously envisioned UCM 2020 Project in the 2009 EIS/EIR or slightly greater due to the higher density of development and greater heights of a few buildings. However, with the implementation of Mitigation Measure AES-1a this impact would be reduced to less than significant. Mitigation Measure AES-1a requires the University to plant tall trees along the western campus boundary to screen views of the campus facilities from Lake Yosemite Regional Park.

In summary, although the revised UCM 2020 Project could increase the magnitude of potential impacts to scenic vistas over the conclusions in Volume 3 of the 2009 EIS/EIR for the previously envisioned UCM 2020 Project, with implementation of previously adopted mitigation, the revised UCM 2020 Project would continue to have a less than significant impact on scenic vistas. A subsequent or supplemental EIR is therefore not required.

Development under the revised UCM 2020 Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

The UC Merced campus is not located near any state-designated scenic highways and there are no resources present on the site that would quality as scenic resources. Therefore, the revised UCM 2020 Project would have no impact on scenic resources. No further environmental evaluation is required.

Development under the revised UCM 2020 Project would not result in a substantial increase in the severity of previously identified impacts to the visual quality and character of the site and its surroundings.

The potential impacts of the previously envisioned UCM 2020 Project to the visual quality and character of the site were evaluated in detail in Volume 3 of the 2009 EIS/EIR, along with program and project-level mitigation. Volume 3 concluded that build-out of the previously envisioned UCM 2020 Project would result in a significant and unavoidable aesthetic impact as a result of permanently and substantially altering the visual quality and character of the project site and its surroundings. The project site of the revised UCM 2020 Project is smaller than the site analyzed in the 2009 EIS/EIR, and would be more densely developed. The existing buildings on the campus are generally two stories tall with some

buildings, such as the library and science and engineering, up to four stories tall. Under the revised UCM 2020 Project, some buildings constructed on the campus could be up to 10 stories tall in comparison to the previously envisioned UCM 2020 Project which anticipated buildings up to four stories high with the Student Union Building potentially up to six stories high. However, as discussed above, the majority of the 2020 Project buildings within the building subarea would likely be three to five story buildings. The support subarea would change from largely undeveloped grasslands and irrigated pasture to an urbanized area with sidewalks, paved parking lots, infrastructure, and landscaping. As a result of concentrating building development within the building subarea, the support subarea would be less intensely developed compared to the previously envisioned UCM 2020 Project, and about 136 acres of land (south of Belleview Road) that would have been developed as part of the previously envisioned UCM 2020 Project would remain undeveloped through 2020. Therefore, the revised UCM 2020 Project would alter the visual quality and character of the campus site. Mitigation Measure AES-3a would be implemented to reduce this impact. Mitigation Measure AES-3a requires the University to design new aboveground infrastructure on the campus to follow a specific set of standards to reduce the impact on scenic vistas and visually sensitive areas. However, as with the previously envisioned UCM 2020 Project, mitigation would not reduce the impact. Therefore, the revised UCM 2020 Project would have a significant and unavoidable impact on visual quality and character even after mitigation. The revised UCM 2020 Project would not substantially change the nature or magnitude of the impacts to visual quality and character or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. A subsequent or supplemental EIR is therefore not required.

Development under the revised UCM 2020 Project would not significantly increase the severity of previously identified impacts related to new sources of light and glare.

Potential impacts associated with creating new sources of light and glare as part of the previously envisioned UCM 2020 Project were evaluated in detail in Volume 3 of the 2009 EIS/EIR, along with program and project-level mitigation. The 2009 EIS/EIR concluded that build-out of the previously envisioned UCM 2020 Project would result in a significant and unavoidable impact associated with creating new sources of light and glare as a result of developing buildings with surfaces and windows that may reflect and cause glare. The revised UCM 2020 Project would create new sources of light and glare associated with new facilities and infrastructure. Some of the buildings in the building subarea may be as tall as 10 stories which would be taller than the six-story Student Union Building included in the previously envisioned UCM 2020 Project. However, as discussed above, the majority of the revised UCM 2020 Project buildings within the building subarea would likely be three- to five-story buildings. The proposed project would be constructed on a smaller site and the taller buildings would have a greater chance of casting light and glare to adjacent campus buildings. UC Merced has developed and adopted

Campus standards for site lighting that would be incorporated into the revised UCM 2020 Project. However, as with the previously envisioned project, campus standards would not fully reduce the project's impact related to nighttime illumination of an area that would otherwise be dark at night. Therefore, the impact would remain significant and unavoidable. The revised UCM 2020 Project would not change the nature or significantly increase the magnitude of the impacts resulting from new sources of light and glare or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. A subsequent or supplemental EIR is therefore not required.

6.1.3 Analysis of Cumulative Impacts

Cumulative visual impacts of the previously analyzed UCM 2020 Project are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that implementation of the previously envisioned UCM 2020 Project, in conjunction with cumulative development, would alter the visual character and scenic vistas, and result in additional light and glare. As with the previously envisioned UCM 2020 Project, the cumulative impacts of the revised UCM 2020 Project related to visual character, scenic vistas, and light and glare would be significant, and the cumulative impact to scenic resources would be less than significant. Implementation of Mitigation Measures AES-1a and 3a described above would not reduce the cumulative significant impacts, which would remain significant and unavoidable. The revised UCM 2020 Project's cumulative aesthetic impacts are adequately addressed in Volume 1 of the 2009 EIS/EIR. As discussed above, the revised UCM 2020 Project will not result in a substantial increase in the severity of the previously identified cumulative impact and therefore a subsequent or supplemental EIR is not required.

6.1.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised project would be undertaken. No new information has become available and no new regulations related to visual resources have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.1.5 Conclusion

The revised UCM 2020 Project would not adversely affect any scenic resources. The revised UCM 2020 Project would have a significant and unavoidable impact on visual quality and character and a significant and unavoidable impact related to light and glare. The differences between the previously envisioned UCM 2020 Project and the revised UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to aesthetic resources or the conclusions in the 2009 EIS/EIR.

6.2 AGRICULTURE AND FORESTRY RESOURCES

6.2.1 Relevant Elements of the Revised UCM 2020 Project

The revised UCM 2020 Project would occupy approximately 219 acres of land on the UC Merced campus and is located in an area currently identified by the Department of Conservation's 2010 Farmland Mapping and Monitoring Program (FMMP) as Urban and Built-Up land. A small portion of the land is considered Vacant or Disturbed land which does not quality as agricultural land. The closest Williamson Act contract areas are located east of the revised UCM 2020 Project site. There is nearby active farmland cultivated with field crops, interspersed with rural residential uses beginning about 1.5 to 2 miles west of the project site

6.2.2 Analysis of Project

The revised UCM 2020 Project would not result in the conversion of Important Farmland, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance or conflict with existing zoning for agricultural use, or a Williamson Act contract.

As discussed in the 2009 EIS/EIR, the entire revised UCM 2020 Project site is identified as Urban and Built-Up Land and Vacant or Disturbed Land. Therefore, the revised UCM 2020 Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to Urban and Built-Up Land. No portion of the project site is under Williamson Act contract. Therefore, there would be no impact from the revised UCM 2020 Project resulting from conversion of Important Farmland or land under Williamson Act contract. No additional environmental analysis is required.

The revised UCM 2020 Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, or result in the loss of forest land or conversion of forest land to non-forest use.

A field analysis of the revised UCM 2020 Project site indicates that there are no forest lands (as defined in Public Resources Code (PRC) Section 12220[g]) on the site. Therefore, the revised project would not result in conflicts with existing zoning for, or cause rezoning of, forest land. There is no timberland (as defined by PRC Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]) on any portion of the project site. The project site does not contain trees managed for public benefit. Therefore, implementation of the revised UCM 2020 Project would not result in conflicts with existing zoning for, or cause rezoning of, forest land or timberland. No additional environmental analysis is required.

The revised UCM 2020 Project would not result in the conversion of farmland to non-agricultural use.

The lands surrounding the revised UCM 2020 Project site to the northeast, east, and south are campus lands. They are not in agricultural use and would remain in non-agricultural use for the foreseeable future. Off-campus lands to the northwest and west of the campus are undeveloped lands which are used only for grazing and do not contain soils that would support field crops. Therefore, the development of the campus would not create land use conflicts with adjacent agricultural lands that could result in the abandonment of agricultural uses or cause the lands to convert to non-agricultural uses. The development of the revised UCM 2020 Project would not change the conclusions of the previous analysis. There would be no impact. No additional environmental analysis is required.

6.2.3 Analysis of Cumulative Impacts

Cumulative agricultural impacts of the previously analyzed UCM 2020 Project are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that implementation of the 2009 LRDP, including the previously envisioned UCM 2020 Project, in conjunction with cumulative development, would result in the loss of agricultural land. The UC Merced campus site contains Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance located in the southern portion of the site, which would be lost. However, as part of the University's environmental commitments, adequate acreage of Important Farmland has already been placed under conservation easements that will allow farming to continue. Therefore, the contribution of the campus development under the 2009 LRDP, including previously envisioned UCM 2020 Project, to the significant cumulative impact on Important Farmland would not be cumulatively considerable. As noted above, the revised UCM 2020 Project would not affect any Important Farmland and would not contribute to a cumulative impact. It would not change any of the other previously analyzed cumulative impacts. No further environmental evaluation is required.

6.2.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

Since certification of the 2009 EIS/EIR, the 2010 FMMP map was released that increases the area on the UC Merced campus site that is designated Urban and Built-Up Land. In addition, since certification of the 2009 EIS/EIR, the CEQA Guidelines Appendix G checklist has been amended to include impacts to forestry resources. As noted above, the project site does not contain any forestry resources or timberland and there would be no impact on these resources. There are no additional changes in circumstances in which the revised project would be undertaken and no new information has become available since the certification of the 2009 EIS/EIR that would alter the previous analysis or change its conclusions relative to the revised UCM 2020 Project.

6.2.5 *Conclusion*

The revised UCM 2020 Project would not result in the conversion of Important Farmland, conflict with land under Williamson Act contract, conflict with land zoned forest or timberland, convert forest or timberland, or convert agricultural land. The differences between the previously envisioned UCM 2020 Project and the revised UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to agricultural or forestry resources or the conclusions in the 2009 EIS/EIR.

6.3 AIR QUALITY

6.3.1 *Relevant Elements of the Revised UCM 2020 Project*

The revised UCM 2020 Project includes the construction of over 1.25 million square feet of academic buildings, in addition to on-campus housing, and support infrastructure, for a total of 2.5 million square feet of academic buildings, and on-campus housing for 5,000 students. Construction is expected to occur from 2015 to 2020. The revised UCM 2020 Project would result in the development of campus facilities that would accommodate approximately 10,000 FTE students and associated faculty and staff by 2020.

Nearby sensitive receptors for the revised UCM 2020 Project include the existing childcare facility in the Central Campus District and the residents of homes on Lake Road and Bellevue Road.

6.3.2 *Analysis of Project*

Development of the revised UCM 2020 Project would not result in construction emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation.

The potential impacts on air quality from construction emissions associated with the previously envisioned UCM 2020 Project were evaluated in detail in Volume 3 of the 2009 EIS/EIR, along with program and project-level mitigation. The URBEMIS 2007 model was used to estimate the construction emissions reported in the 2009 EIS/EIR. Based on the estimated emissions of criteria pollutants, which were below significance thresholds, the 2009 EIS/EIR concluded that the impact would be less than significant. As with the previously envisioned UCM 2020 Project, the revised UCM 2020 Project would require grading, trenching, pavement and asphalt installation, construction, and architectural coatings. The revised UCM 2020 Project would grade less land than the previously envisioned UCM 2020 Project (219 acres compared to 355 acres under the previously envisioned project) but would construct the same amount of total building space on the project site. Therefore, the estimated construction emissions would be very similar or slightly lower than the emissions estimated and reported in the 2009 EIS/EIR. As a

result, the revised UCM 2020 Project would not change the nature or magnitude of the potential impacts resulting from construction emissions or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. The revised UCM 2020 Project would have a less than significant impact resulting from construction emissions. No further environmental evaluation is required.

The revised UCM 2020 Project would not result in a substantial increase in the severity of previously identified impacts from operational emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation.

URBEMIS2007 was used to estimate the operational emissions expected to result at the build-out of the previously envisioned UCM 2020 Project. The expansion of the central plant was included in the operational emissions estimate. The analysis concluded that operational emissions from the implementation of the previously envisioned UCM 2020 Project would exceed the San Joaquin Valley Air Pollution Control District (SJVAPCD) significance thresholds for ROG and NOx. While the 2009 EIS/EIR Volume 3 Mitigation Measures AQ-2a through AQ-2c would be imposed to reduce the operational air quality impact, however, the impact would remain significant. Mitigation Measure AQ-2a requires the Campus to work with SJAPCD to ensure direct and indirect emissions are accounted for and mitigated in the applicable air quality planning efforts. Mitigation Measure AQ-2b requires the Campus to implement specific measures to reduce vehicle emissions. Mitigation Measure AQ-2c requires the Campus to implement specific measures to reduce area source emissions. The UC Merced Campus has monitored vehicle traffic to the campus since the adoption of the 2009 LRDP and has determined that the trip generation rate used in the 2009 EIS/EIR was higher than what has been recorded. Therefore, the URBEMIS2007 model likely over-reported the operational emissions and can be used as a conservative estimate. The revised UCM 2020 Project would support the same student enrollment growth as the previously envisioned UCM 2020 Project and would result in similar or lower number of daily vehicle trips. Therefore, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts resulting from operational emissions or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. The revised UCM 2020 Project would have a significant and unavoidable impact resulting from operational emissions. No further environmental evaluation is required.

The revised UCM 2020 Project would not result in a substantial increase in the severity of the previously identified impact related to a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).

The analysis in Volume 3 of the 2009 EIS/EIR concluded that implementation of the previously envisioned UCM 2020 Project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under SJVAPCD air quality standards. Although Mitigation Measures AQ-1 and AQ-2 would be implemented to reduce motor vehicle emissions, the impact from cumulative operational emissions would remain significant. Mitigation Measure AQ-1 requires the Campus to implement specific measures to reduce construction emissions including fugitive dust, vehicle emissions, and equipment exhaust. Mitigation Measure AQ-2 is described above. For reasons presented above, the revised UCM 2020 Project would not increase the construction and operational emissions estimated for the previously envisioned UCM 2020 Project. Therefore, as with the previously envisioned UCM 2020 Project, the operation of the revised UCM 2020 Project would continue to have a significant and unavoidable cumulative impact related to criteria pollutants for which the project region is nonattainment. No further environmental evaluation is required.

The revised UCM 2020 Project would not expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors, considered to be places where children, the elderly, and other sensitive people are located, are more susceptible to the effects of air pollution than the general population. Nearby toxic air contaminants and carbon monoxide pollution can impact sensitive receptors. As determined by the analysis in the 2009 EIS/EIR, development of the campus, including the previously envisioned UCM 2020 Project, would not result in TAC emissions that would result in a significant human health risk on- or off-site. The previously envisioned UCM 2020 Project was also evaluated for its potential to cause high levels of carbon monoxide (CO) due to congestion resulting from project-related traffic. The results, which are included in Volume 1 of the 2009 EIS/EIR, indicate that under worst-case conditions, future CO concentrations would not exceed the state 1-hour and 8-hour standards. Based on this analysis, the EIS/EIR concluded that the previously envisioned UCM 2020 Project would not cause CO levels that exceed state standards. As the revised UCM 2020 Project would support the same enrollment level of 10,000 FTE students and would house 5,000 students on the campus, it would generate the same number or less vehicle trips as the previously envisioned project. Therefore, the revised UCM 2020 Project also would have a less than significant impact on sensitive receptors from exposure to high concentrations of CO. No further environmental evaluation is required.

The revised UCM 2020 Project would not create objectionable odors affecting a substantial number of people.

The potential odor impacts associated with the previously envisioned UCM 2020 Project were evaluated in Volume 3 of the 2009 EIS/EIR. According to that analysis, construction of the UCM 2020 Project would require the use of diesel-fueled equipment, architectural coatings, and asphalt, all of which produce associated odors. However these odors would not be pervasive enough to cause objectionable odors affecting a substantial number of people. The analysis also concluded that the facilities proposed under the previously envisioned UCM 2020 Project would not be significant sources of odors. In addition, the previously envisioned UCM 2020 Project would not be located near any significant odors sources. The revised UCM 2020 Project is not different from the previously envisioned UCM 2020 Project in terms of the construction activities that would be involved or the types of facilities that would be constructed. The revised UCM 2020 Project would therefore not change the nature or increase the magnitude of the potential impacts related to odors or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. The revised UCM 2020 Project would have a less than significant impact related to odors. No further environmental evaluation is required.

6.3.3 Analysis of Cumulative Impacts

In addition to the analysis above, cumulative air quality impacts of campus development under the 2009 LRDP, including the previously envisioned UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that implementation of the 2009 LRDP, including the previously envisioned UCM 2020 Project, in conjunction with cumulative development, would result in significant emissions from construction activities and from vehicle trips and stationary sources during operation. However, the cumulative impact from CO hotspots would be less than significant. Implementation of Mitigation Measures 2a through 2c described above would not reduce the cumulative significant impacts, which would remain significant and unavoidable. The revised UCM 2020 Project is identical to the previously envisioned UCM 2020 Project in terms of the magnitude of development as well as associated population, and as a result would make a similar contribution to cumulative impacts as the previously envisioned UCM 2020 Project. Therefore, the cumulative air quality impacts of the revised UCM 2020 Project are adequately addressed in Volume 1 of the 2009 EIS/EIR. The revised UCM 2020 Project will not result in a substantial increase in the severity of the previously identified cumulative impact and therefore a subsequent or supplemental EIR is not required.

6.3.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to air quality have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.3.5 Conclusion

The revised UCM 2020 Project would not result in construction emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollution, or produce objectionable odors. The revised UCM 2020 Project would have a significant and unavoidable impact from operational emissions and a significant and unavoidable cumulative impact related to criteria air pollutants. The differences between the previously envisioned UCM 2020 Project and the revised UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to air quality or the conclusions in the 2009 EIS/EIR.

6.4 BIOLOGICAL RESOURCES

6.4.1 Relevant Elements of the Revised UCM 2020 Project

The revised project would construct new buildings on the campus for a total of 2.5 million square feet of academic space and on-campus housing for 5,000 students, within the building subarea, which is already developed with buildings, parking lots, and other campus facilities. Facilities that require minimal infrastructure would be constructed in the support subarea, which is undeveloped but has previously been graded and is currently disturbed grassland.

6.4.2 Analysis of Project

The revised UCM 2020 Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species and would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or migratory wildlife corridors.

Potential impacts to special-status plant and wildlife species for the entire 815-acre campus, including the previously envisioned UCM 2020 Project site as well as the current revised UCM 2020 Project site, were analyzed in Volume 1 of the 2009 EIS/EIR. The analysis in the EIS/EIR concluded that development of the campus would result in both direct and indirect impacts on special-status plants. However with the

implementation of the *Conservation Strategy* which is a part of campus development and Mitigation Measure BIO-2, the impacts would be reduced to less than significant levels. Similarly, the analysis in the EIS/EIR concluded that campus development, including the previously envisioned UCM 2020 Project, would not result in a substantial adverse impact on special-status invertebrate species, special-status amphibians (California tiger salamander and western spadefoot), western pond turtle, Swainson's hawk, or special-status avian species from the loss of habitat because the environmental commitments detailed in the *Conservation Strategy*, along with the acquisition of Conservation Lands would reduce significant impacts to special-status wildlife to a less than significant level.

The revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to special-status species as analyzed for the previously envisioned UCM 2020 Project. The revised UCM 2020 Project is proposed to be implemented within the Central Campus District. The building subarea is completely developed with buildings, parking lots and roadways, and although the resources previously present in the support subarea have been removed and the area has been graded, the impacts to resources present in that area have been mitigated by conservation easements placed by the Campus on a number of land parcels and the Campus is in the process of implementing additional mitigation in compliance with its Section 404 permit for the development of the entire campus. No further environmental evaluation is required.

The revised UCM 2020 Project would not substantially affect any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

As analyzed in the 2009 EIS/EIR, there are no riparian areas or other sensitive natural communities present on the campus site and therefore no impacts would occur. Campus development, including the previously envisioned UCM 2020 Project, would not result in a substantial adverse impact on vernal pool species critical habitat. As discussed in Section 4.4 of Volume 1, the designated critical habitat boundary for vernal pool species is located adjacent to the campus site but does not overlap with the campus boundary. Therefore, no critical habitat for vernal pool species would be directly impacted. Activities associated with campus development could indirectly affect critical habitat. However, the Campus would implement the environmental commitments in the *Conservation Strategy* and *Management Plan for Conservation Lands* which would avoid, minimize, and compensate for indirect impacts on critical habitat and ensure that critical habitat would not be diminished, thereby reducing the potential impact of the previously envisioned UCM 2020 Project to less than significant. As the revised UCM 2020 Project would be located within the 815-acre campus, it would not change the nature or increase the magnitude of the potential impacts to critical habitat or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The impact to the waters of the U.S. from campus development, including the previously envisioned UCM 2020 Project, was analyzed in the 2009 EIS/EIR Volume 1, and compensation for losses of wetland acreage and functions was developed and implemented by the Campus. In addition, there are no remaining vernal pools within the Central Campus District which is the site of the revised UCM 2020 Project, as the area has been graded since certification of the 2009 EIS/EIR. There are still canal and irrigation wetlands remaining on the site; however, the analysis in the 2009 EIS/EIR accounted for the filling of canal and irrigation wetlands and the compensatory mitigation that is being provided by the Campus pursuant to the Section 404 permit will compensate for the loss of these wetlands. The revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to the waters of the U.S. or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not result in a new significant impact with regards to the movement of any native resident or migratory fish or wildlife species or migratory wildlife corridors or affect nesting birds.

Potential impacts to nesting birds and wildlife movement for the entire 815-acre campus, including the previously envisioned UCM 2020 Project site as well as the revised UCM 2020 Project site, were analyzed in the 2009 EIS/EIR. As described in Section 4.4 of Volume 1, development of the previously envisioned UCM 2020 Project would result in the removal of occupied burrowing owl nesting habitat and suitable nesting habitat for other special-status and non-special-status migratory birds, including raptors through the removal of annual grassland, irrigated pasture, and seasonal freshwater marsh communities, and the removal of individual trees and shrubs. It would also result in the potential disturbance of active special-status and non-special-status migratory bird nests adjacent to the project site. The impact of the development of the UCM 2020 Project would be potentially significant but would be reduced to a less-than-significant level through the implementation of Mitigation Measures BIO-9a and -9b. Mitigation Measures BIO-9a and -9b requires the Campus to limit construction to the non-breeding season or conduct pre-construction nest surveys. Although the potential to affect nesting birds is low on the site of the revised UCM 2020 Project, the project would implement Mitigation Measures BIO-9a and 9b to ensure no nesting birds are affected.

As described in Section 4.4 of Volume 1, development of the previously envisioned UCM 2020 Project would contribute to the combined loss of 823 acres of residence kit fox habitat, 1,621 acres of dispersal

habitat, and as a result of indirect impacts an additional 531 acres of residence habitat and 341 acres of dispersal habitat on adjacent lands. Measures to avoid and minimize impacts during design, construction, and operations and maintenance will reduce potential for impacts to individual kit foxes. The acquired Conservation Lands would compensate for the loss of suitable habitat and improve the quality of dispersal habitat for the kit fox east and north of the campus site, which is consistent with the recovery objectives for the species.

The revised UCM 2020 Project, which would be located within the 815-acre campus site, would not change the nature or increase the magnitude of the impacts described above or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not conflict with any applicable policies protecting biological resources.

As with the previously envisioned UCM 2020 Project, the revised UCM 2020 Project would not result in an impact related to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to biological resources or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

There are no Habitat Conservation Plans or Natural Community Conservation Plans that apply to the 2009 LRDP campus site. As analyzed in the 2009 EIS/EIR, the Campus would implement Mitigation Measure BIO-10 to ensure consistency with the Upland Species Recovery Plan for San Joaquin kit fox. Therefore, campus development would not conflict with any habitat conservation plans. The revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to habitat conservation plans or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.4.3 Analysis of Cumulative Impacts

Cumulative biological impacts of campus development under the 2009 LRDP, including the previously analyzed UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The analysis concluded that

with the implementation of the mitigation program put forth by the Campus, the cumulative impacts of campus development, including the previously envisioned UCM 2020 Project, on biological resources would not be cumulatively considerable. As noted above, sensitive biological resources are not present on the site of the revised UCM 2020 Project, and to the extent that there could be any direct or indirect impacts from the development on the project site, they would be mitigated by the mitigation measures in the 2009 EIS/EIR. As with the previously envisioned UCM 2020 Project, the revised UCM 2020 Project's contribution to cumulative impacts would not be considerable. No further environmental evaluation is required.

6.4.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised project would be undertaken. No new information has become available and no new regulations related to biological resources have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.4.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect on biological resources. The differences between the previously envisioned UCM 2020 Project and the revised UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to biological resources or the conclusions in the 2009 EIS/EIR.

6.5 CULTURAL RESOURCES

6.5.1 Relevant Elements of the Revised UCM 2020 Project

The UC Merced Campus is located in an area with a long history of human occupation, first by the aboriginal inhabitants of the area and subsequently by settlers of European origin. The project site has been used for agricultural purposes, primarily grazing, and no potential historical archaeological remains or features associated with the Spanish or Mexican periods are known to existing within or adjacent to the project site. The majority of the building subarea was used as a golf course in recent years. The Le Grand Canal, which borders the project site to the north, was built by the Merced Irrigation District between 1922 and 1927. The Fairfield Canal, which traverses the project site, was constructed by the Crocker-Huffman Land & Water Company between 1903 and 1909. There are no known paleontological resources within the project site or the vicinity and no paleontological deposits were identified during a 2001 survey.

6.5.2 Analysis of Project

The revised UCM 2020 Project would not result in a new significant impact on cultural resources and paleontological resources.

Potential impacts to cultural resources within the entire 815-acre campus, including the previously envisioned UCM 2020 Project site as well as the revised UCM 2020 Project site, were analyzed in the 2009 EIS/EIR. The Le Grand Canal and Fairfield Canal were evaluated and recommended as not eligible for listing on the NRHP or CRHR. As analyzed in the 2009 EIS/EIR, ground-disturbing construction activities have the potential to inadvertently unearth and damage buried cultural resources, human remains, or paleontological resources that were not identified by the 2001 survey of the campus. However, Mitigation Measure CUL-2 would reduce the impact to cultural resources to less than significant, Mitigation Measure CUL-3 would reduce the impact to human remains to less than significant, and Mitigation Measures CUL-4a and CUL-4b would reduce the impact to paleontological resources to less than significant. Mitigation Measure CUL-2 requires that if a buried cultural resource is inadvertently discovered during ground disturbing activities that work will stop and a qualified archaeologist will assess the significance. Mitigation Measure CUL-3 requires that if buried Native American remains are inadvertently discovered during ground disturbing activities that work will stop and the Campus will comply with state laws relating to Native American burials. Mitigation Measures CUL-4a and CUL-4b requires that if paleontological resources are inadvertently discovered during ground disturbing activities that work will stop and a paleontologist will assess the significance. In addition, a qualified paleontologist will be intermittently present during construction near certain formations. Therefore, the impact to cultural and paleontological resources from campus development would be less than significant. The revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to cultural and paleontological resources or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.5.3 Analysis of Cumulative Impacts

Cumulative cultural resources impacts of campus development under the 2009 LRDP, including the previously analyzed UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that implementation of the 2009 LRDP, including the previously envisioned UCM 2020 Project, in conjunction with cumulative development, could potentially disturb previously unknown cultural and paleontological resources. As with the previously envisioned UCM 2020 Project, the cumulative impacts of the revised UCM 2020 Project to previously unknown cultural and paleontological resources would be reduced to less than significant with the mitigation measures described above. The revised UCM 2020

Project's cumulative cultural resources impacts are adequately addressed in Volume 1 of the 2009 EIS/EIR. No further environmental evaluation is required.

6.5.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised project would be undertaken. No new information has become available and no new regulations related to cultural and paleontological resources have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.5.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect on cultural resources. The differences between the previously envisioned UCM 2020 Project and the revised UCM 2020 Project would not change the nature or magnitude of potential impacts to cultural and paleontological resources or the conclusions in the 2009 EIS/EIR.

6.6 GEOLOGY AND SOILS

6.6.1 Relevant Elements of the Revised UCM 2020 Project

The topography of the revised project site consists of gently rolling flatland that rarely reaches 10 percent slopes. The geologic formations present on the project site include the Mehrten formation, Pliocene Laguna formation, North Merced Gravel formation, Riverbank formation, and Turlock Lake formation. The soils within the project site are generally alluvial, forming a thin layer over bedrock units. These soil types are generally gravelly and acidic, and have low fertility. The soils have a moderate shrink-swell potential with granular, clayey, and relatively consolidated and cemented nature.

The only known fault in Merced County is the Ortigalita fault (also known as the Telsa-Ortigalita fault) located in the western quarter of Merced County, which has not experienced displacement in historic times. The closest fault or fault system to the study area is the northwest-trending Foothills fault system which terminates at its southern extent approximately 15 miles northeast of the project site and is inactive. The closest active fault (besides the Ortigalita) is the San Andreas fault, located approximately 50 miles west of the project site. The area is characterized by low seismic activity.

6.6.2 Analysis of Project

Development under the revised UCM 2020 Project would not result in a new significant impact associated with exposure of people or structure to increased risk related to rupture of a known earthquake fault, ground shaking, and seismically induced ground failure, including slope failure and liquefaction.

Potential impacts related to risk from fault rupture, ground shaking and seismically induced ground failure and liquefaction for the entire 815-acre campus, including the previously envisioned UCM 2020 Project site as well as the revised UCM 2020 Project site, were analyzed in the 2009 EIS/EIR. The analysis concluded that the previously envisioned UCM 2020 Project would not expose people or structures or risk of injury or structural damage from fault rupture as there are no active faults that cross the campus site and the site is not subject to significant seismic hazards.

The 2009 EIS/EIR also noted that there is no specific liquefaction hazard area within Merced County or on the project site. However, the potential for liquefaction exists throughout the San Joaquin Valley where unconsolidated sediments and a high water table coincide. Construction on such a site would exposure structures or people to risk of damage or injury which is considered potentially significant. As analyzed in the 2009 EIS/EIR, implementation of Mitigation Measure GEO-2 would reduce this impact to less than significant. Mitigation Measure GEO-2 requires a site-specific geotechnical investigation to be performed during project-specific building design.

The Fairfield Canal, which traverses the project site, and Le Grand Canal, which borders the northern edge of the project site, could potentially experience levee failure or other adverse effects during a seismic event. However, the soils surrounding the canals are clay-like with some silt whereas levee failure from seismic shaking generally occurs when the surrounding soil is sandy. Therefore, impacts associated with levee failure would be less than significant.

The revised UCM 2020 Project would be constructed within the 815-acre campus on a site that is substantially similar to the site of the previously envisioned UCM 2020 Project with similar geologic conditions. Therefore, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts due to exposure of people or structures to hazards from seismic events, such as landslides, levee failure, or liquefaction, or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

Development under the revised UCM 2020 Project would not result in a new significant impact associated with substantial soil erosion or the loss of topsoil, expansive soil, or soil incapable of adequately supporting the use of septic tanks or alternative wastewater disposal units.

Potential impacts related to soil erosion for the entire 815-acre campus, including the previously envisioned UCM 2020 Project site as well as the revised UCM 2020 Project site, were analyzed in the 2009 EIS/EIR. Any construction on the campus that would disturb one acre or more would be required to comply with NPDES requirements to control discharges from construction sites. As analyzed in the 2009 EIS/EIR, compliance with the NPDES regulations for control of pollutant discharge during construction would reduce the potential for soil erosion or sedimentation due to construction, to less than significant.

The analysis in the 2009 EIS/EIR noted that the project site contains soils with moderate to high shrink-swell potential. However, as new facilities and structures would be constructed using the current CBSC standards, the potential impacts on campus development from expansive soils would be less than significant.

The 2009 EIS/EIR noted that UCM 2020 Project would not include the use of septic tanks or alternative wastewater disposal systems that would require percolation of treated effluent. Therefore, the potential impacts from campus development would be less than significant.

The revised UCM 2020 Project would be constructed within the 815-acre campus on a site that is substantially similar to the site of the previously envisioned UCM 2020 Project with similar geologic and soil conditions. Therefore the revised UCM 2020 Project would not change the nature or increase the magnitude of any of the impacts described above, or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.6.3 Analysis of Cumulative Impacts

Cumulative impacts related to geology and soils from the implementation of the 2009 LRDP, including the previously analyzed UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that implementation of the 2009 LRDP, including the previously envisioned UCM 2020 Project, in conjunction with cumulative development, would not result in construction-site soil erosion. As with the previously envisioned UCM 2020 Project, the cumulative impacts related to soil erosion from construction of the revised UCM 2020 Project would be less than significant. The revised UCM 2020 Project's cumulative impacts related to geology and soils are adequately addressed in the 2009 EIS/EIR. No further environmental evaluation is required.

6.6.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to seismic activity, local geology, or soils resources have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.6.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect from seismic activity, local geology, or soils. The differences between the previously envisioned UCM 2020 Project and the revised UCM 2020 Project would not change the nature or magnitude of potential impacts from seismic activity, local geology, or soils or the conclusions in the 2009 EIS/EIR.

6.7 GREENHOUSE GAS EMISSIONS

6.7.1 Relevant Elements of the Revised UCM 2020 Project

As described under Section 6.3 Air Quality, the revised project includes the construction of over 1.25 million square feet of academic buildings, as well as on-campus housing, and support infrastructure, for a total of 2.5 million square feet of academic buildings and on-campus housing for 5,000 students. Construction is expected to occur from 2015 to 2020. Build-out is expected to be completed by 2020. The revised UCM 2020 Project would result in the development of campus facilities that would accommodate approximately 10,000 FTE students and associated faculty and staff.

6.7.2 Analysis of Project

The revised UCM 2020 Project would not impede or conflict with the emissions reduction targets and strategies prescribed in or developed to implement AB 32.

Potential impacts related to greenhouse gas emissions for the entire 815-acre campus, including the development of the previously envisioned UCM 2020 Project site as well as the revised UCM 2020 Project site, were analyzed in the 2009 EIS/EIR. Based on the development program associated with campus build-out, the total annual GHG emissions from construction activities on the campus were estimated to be about 236 metric tons CO_2E in 2009 and just over 1,500 metric tons CO_2E each year after that. The annual operational emissions were anticipated to be approximately 150,821 metric tons CO_2E. The 2009 EIS/EIR noted that there were no numeric thresholds available to evaluate the significance of the proposed project's construction and operational greenhouse gas emissions. Therefore, the significance of

the project's impact was evaluated by comparing 2009 LRDP goals and policies and the programs that the Campus has developed in addition to the University's Sustainable Practices Policy to AB 32 Scoping Plan measures. The analysis concluded that there are no applicable scoping plan measures that would not be addressed by the 2009 LRDP and other UC programs and the Campus' development program is thus consistent with applicable AB 32 Proposed Scoping Plan measures. Therefore, the development of the Campus would not impede or conflict with the emissions reduction targets and strategies prescribed in or developed to implement AB 32 and would not result a contribution to global climate change that would be cumulatively considerable.

The previously envisioned UCM 2020 Project was a subset of campus development that was evaluated for its impact on global climate. Since the previously envisioned UCM Project and the revised UCM 2020 Project are the same in terms of the scale of development as well as the total population that the development would serve, the revised UCM 2020 Project would not change the nature or magnitude of the potential impacts from greenhouse gas emissions or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.7.3 Analysis of Cumulative Impacts

The potential for the revised UCM 2020 Project to result in cumulative impacts from greenhouse gas emissions are analyzed above. Further cumulative analysis and additional mitigation measures are not required.

6.7.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available related to greenhouse gas emissions have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project. Although new laws and regulations related to greenhouse gas emissions have been passed since the 2009 EIS/EIR was certified, they have no effect on the conclusions of the 2009 EIS/EIR.

6.7.5 Conclusion

The revised UCM 2020 Project would have a less than significant effect related to greenhouse gas emissions. The differences between the previously envisioned UCM 2020 Project and the revised UCM

2020 Project would not change the nature or magnitude of potential impacts from greenhouse gas emissions or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.8 HAZARDS AND HAZARDOUS MATERIALS

6.8.1 Relevant Elements of the Revised UCM 2020 Project

The revised UCM 2020 Project site consists of 219 acres of land, of which approximately half is undeveloped land. There are existing research and laboratory facilities within the project site that produce biohazardous and chemical waste each year. Other campus facilities also generate hazardous waste such as batteries, fluorescent bulbs, and electronics which are centrally stored for pick up by a licensed hazardous waste contractor. In addition, there is on-site fuel storage. There are no known areas with soil or groundwater contamination on the campus site. The revised UCM 2020 Project site is not located in a 100-year floodplain and would not be subject to on-site flooding.

6.8.2 Analysis of Project

Development of the revised UCM 2020 Project would not substantially increase the severity of impact to the public or the environment from being located on a site that potentially contains hazardous materials.

Potential impacts related to hazards and hazardous materials for the entire 815-acre campus, including the development of the previously envisioned UCM 2020 Project site as well as the revised UCM 2020 Project site, were analyzed in the 2009 EIS/EIR. According to the analysis in the 2009 EIS/EIR, the people on the campus would not be at risk from known hazardous material sites. However, there may be non-permitted disposal sites such as trash burn pits, wells, or other underground storage devices that may exist on or adjacent to the project site. A portion of the campus site has been historically used for agricultural purposes which may have led to soil and groundwater contamination from the application of pesticides, herbicides, and other agricultural chemicals, or from illegal debris disposal in the past. Implementation of Mitigation Measure HAZ-4 would reduce the chance of non-permitted and unreported hazardous materials and sites posing a hazard to the public or the environment. Mitigation Measure HAZ-4 requires that construction activities stop if contaminated areas are encountered, until the area is identified and remediated or removed.

The revised UCM 2020 Project would disturb less land than the project analyzed in the 2009 EIS/EIR reducing the chance of encountering unreported hazardous materials. However, there would still be a risk of encountering the hazard, which would be a potentially significant impact and Mitigation Measure HAZ-4 would apply. The mitigation would reduce the impact to less than significant. The revised UCM

2020 Project would not substantially change the nature or increase the magnitude of the potential impacts due to hazardous materials creating a hazard to the public or the environment or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

Development under the revised UCM 2020 Project would not create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials, or from the release of hazardous materials; emit hazardous emissions or materials within one-quarter mile of an existing or proposed school.

Potential impacts related to routine transport, use, and disposal of hazardous materials for the entire 815-acre campus, including the previously envisioned UCM 2020 Project, were analyzed in the 2009 EIS/EIR. The analysis concluded that the construction and operation of the campus would comply with all applicable regulations regarding the transport, use, or disposal of hazardous materials. In addition, any transportation of hazardous materials would be required to comply with all federal, state, and local regulations regarding packaging or transport. As analyzed in the 2009 EIS/EIR, this would reduce the potential impacts on the public and environment through the release, transport, use, or disposal of hazardous materials to less than significant. Campus development would not involve hazardous emissions or the handling of hazardous materials within one-quarter mile of an existing or proposed school. Therefore, campus development, including the previously envisioned UCM 2020 Project, would have a less than significant impact.

The revised UCM 2020 Project is substantially the same as the previously envisioned UCM 2020 Project in terms of the scale of development, the types of facilities that would be constructed on the campus to serve an enrollment level of 10,000 FTE students, and the types and amounts of hazardous materials use. As a result, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts due to routine transport, release of hazardous materials, hazardous materials in proximity to a school, or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.8.3 Analysis of Cumulative Impacts

Cumulative impacts related to hazards and hazardous materials from the implementation of the 2009 LRDP, including the previously analyzed UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that campus development, in conjunction with cumulative development, would result in the increased use and transport of hazardous materials and exposure of people to risk from wildland fire. However, the Campus would comply with laws and regulations related

to hazardous materials use and disposal and implement control measures to reduce the risk of wildfire and the cumulative impacts would be less than significant. The revised UCM 2020 Project is substantially the same as the previously envisioned UCM 2020 Project in terms of the scale and types of facilities that would be constructed and types and quantities of hazardous materials used on the campus. Therefore, the cumulative impacts are adequately addressed in Volume 1 of the 2009 EIS/EIR. No further environmental evaluation is required.

6.8.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to hazards and hazardous materials have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.8.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect related to hazards and hazardous materials. The change in the location of the previously envisioned UCM 2020 Project would not change the nature or increase the magnitude of potential impacts from hazards and hazardous materials or the conclusions in the 2009 EIS/EIR.

6.9 HYDROLOGY AND WATER QUALITY

6.9.1 Relevant Elements of the Revised UCM 2020 Project

Lake Yosemite is located to the northwest of the project site and is fed by the Main Canal. The two canals within and adjacent to the project site, the Fairfield Canal and the Le Grand Canal, receive discharges from Lake Yosemite. The canals, operated and owned by MID, are constructed with earthen embankments. None of the watercourses within the project site are included in the 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA).

The project site is located within the Middle San Joaquin-Lower Chowchilla Watershed, within the northern San Joaquin subbasin. This watershed is defined by the U.S. Environmental Protection Agency (EPA) as a priority Category I watershed, indicating the watershed needs restoration.

The City of Merced supplies the Campus with water from an on-site well. There is a second well associated with the former golf course.

6.9.2 Analysis of Project

Construction-related earth disturbing activities under the revised UCM 2020 Project would not result in a new significant impact related to soil erosion and sedimentation, and water quality would not be adversely affected.

Potential impacts on water quality from construction activities associated with campus development, including the previously envisioned UCM 2020 Project, were analyzed in the 2009 EIS/EIR. The analysis concluded that the grading and excavation activities for the previously envisioned UCM 2020 Project would have the potential to cause erosion and sedimentation that could degrade water quality. However, the project would comply with the requirements of the Clean Water Act and would obtain a National Pollutant Discharge Elimination System (NPDES) General Construction Permit as well as implement erosion and sediment control Best Management Practices (BMPs). Any potential impact to water quality from soil erosion and sedimentation would be reduced to less than significant. The revised UCM 2020 Project would involve the construction of the same types of facilities as the previously envisioned UCM 2020 Project but would grade 136 acres less than the previously envisioned UCM 2020 Project. Therefore, the potential for water quality effects would be reduced compared to what were analyzed in the 2009 EIS/EIR and the revised UCM 2020 Project would not substantially change the nature or increase the magnitude of the potential impacts due to soil erosion and sedimentation or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not result in a new significant impact related to an increase the amount of storm runoff and alteration of existing drainage patterns that could increase the risk of flooding downstream and flooding to Cottonwood Creek and Fairfield Canal.

Potential impacts on flooding from increased runoff associated with campus development, including the previously envisioned UCM 2020 Project, were analyzed in the 2009 EIS/EIR. The analysis concluded that increased runoff due to increased impervious surfaces on the campus could result in flooding. However, to reduce storm water flows from the project site, detention facilities would be designed as part of the campus development. These detention facilities would address downstream flooding within Cottonwood Creek by detaining and slowly releasing stormwater. To ensure that the Fairfield Canal does not receive storm water in excess of the capacity of the canal, MID would install water elevation detectors. Therefore, the impact from increased stormwater runoff would be less than significant. The development under the revised UCM 2020 Project would also increase the impervious surfaces on the project site which would result in increased storm water runoff. However, detention facilities would be constructed as part of the proposed development and flooding impacts would be avoided. The revised UCM 2020 Project would

not substantially change the nature or increase the magnitude of the potential impacts due to storm runoff increasing flooding or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not result in a new significant impact by **substantially depleting groundwater supplies, placing housing or structures within a 100-year flood hazard area, exposing people or structure to flooding from levee or dam failure, or inundation by seiche, tsunami, or mudflow.**

Potential impacts on groundwater, flooding and inundation associated with campus development, including the previously envisioned UCM 2020 Project, were analyzed in the 2009 EIS/EIR. The analysis concluded that with implementation of low impact development (LID) methods, bioswales, and detention and retention basins, campus development, including the UCM 2020 Project, would have less than significant impacts on groundwater, flooding, and inundation. The revised UCM 2020 Project site is smaller than the site analyzed for the previously envisioned UCM 2020 Project and would have less impervious surfaces. Therefore, the revised project would have a similar or smaller impact on groundwater, flooding, and inundation. As described above, the project site is not within the 100-year floodplain. The revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts due to groundwater supply, flooding, or inundation, or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.9.3 Analysis of Cumulative Impacts

Cumulative hydrology and water quality impacts of campus development under the 2009 LRDP, including the previously analyzed UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that campus development in conjunction with other cumulative development would produce additional storm water runoff, potentially release sediment and urban pollutant runoff, and affect groundwater. The analysis concluded that the cumulative impacts to local and regional flooding, water quality, and groundwater recharge would be less than significant. However, campus development would have a significant cumulative impact related to groundwater extraction, and that even with implementation of Cumulative Mitigation Measures HYD-3a and HYD-3c, the impact would remain significant and unavoidable. Cumulative Mitigation Measure HYD-3a requires the University to support Merced Area Groundwater Pool Interests (MAGPI). Cumulative Mitigation Measure HYD-3c requires the University to implement an aggressive water conservation program detailed in the Mitigation Monitoring and Reporting Program. The revised UCM 2020 Project is similar to the previously envisioned UCM 2020 Project in terms of the scale and type of facilities that would be constructed and the

total population that would be accommodated in the facilities, and is within the scope of development envisioned under the 2009 LRDP. As a result, the revised UCM 2020 Project would not result in a demand for groundwater that exceeds the previous estimate. The revised UCM 2020 Project's cumulative hydrology and water quality impacts are adequately addressed in Volume 1 of the 2009 EIS/EIR. The revised UCM 2020 Project will not result in a substantial increase in the severity of this previously identified cumulative impact and therefore a subsequent or supplemental EIR is not required.

6.9.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to hydrology and water quality have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.9.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect on hydrology and water quality. The changes to the previously envisioned UCM 2020 Project would not change the nature or increase the magnitude of potential impacts related to hydrology and water quality or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.10 LAND USE AND PLANNING

6.10.1 Relevant Elements of the UCM 2020 Project

The UC Merced Campus is located in unincorporated Merced County. The campus site is within the City of Merced's Sphere of Influence (SOI).

6.10.2 Analysis of Project

The revised UCM 2020 Project would not create a new conflict with the 2030 Merced County General Plan or the City of Merced 2030 General Plan.

Potential impacts related to land use from the development of the campus, including the previously envisioned UCM 2020 Project, were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR concluded that the development of the campus site would not conflict with the 2030 Merced County General Plan or the City of Merced 2030 General Plan because the University is a state entity, and there is no municipal jurisdiction over the campus. In addition, the campus site is identified as part of the UC

Merced UCP with the land use designations of institutional and mixed use. The City of Merced's Vision 2015 General Plan states that the future of Merced includes the 10th University of California campus (UC Merced, including the UCM 2020 Project). Therefore, the previously envisioned UCM 2020 Project would not conflict with the City of Merced 2030 General Plan and the impact would be less than significant. The revised UCM 2020 Project is the same as the previously envisioned UCM 2020 Project in terms of its scale of development, types of land uses, and associated population. Therefore, the revised UCM 2020 Project would not change the nature or magnitude of the land use impacts or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

Development under the revised UCM 2020 Project would not physically divide an established community or conflict with any applicable habitat conservation plan or natural community conservation plan.

The campus site, including the revised UCM 2020 Project site, is located outside of an existing community and surrounded by grazing lands. Therefore project development would not physically divide an established community. There are no habitat conservation plans or natural community conservation plans applicable to the campus site, including the revised UCM 2020 Project site. Therefore, there would be no impact to an established community or with a habitat conservation plan or natural community conservation plan and there is no impact. No further environmental evaluation is required.

6.10.3 Analysis of Cumulative Impacts in 2009 EIS/EIR

There would be no cumulative effects related to land use and planning as analyzed in the 2009 EIS/EIR. No further environmental evaluation is required.

6.10.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to land use and planning have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project. Although the City of Merced has since then adopted a new General Plan, information from a draft version of the City's General Plan was available and used in the preparation of the 2009 EIS/EIR.

6.10.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect on land use and planning. The changes to the previously envisioned UCM 2020 Project would not change the nature or increase the magnitude of potential impacts from land use and planning or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.11 MINERAL RESOURCES

6.11.1 Relevant Elements of the Revised UCM 2020 Project

The UC Merced Campus, which includes the revised UCM 2020 Project site, does not contain any mineral resource zones (MRZ) or MRZs that require managed production (MRZ-2 area). There are patches of undetermined sand and gravel resources (MRZ 3a and MRZ 3b) located in the northern and central southern portion of the campus, some of which may be within the revised UCM 2020 Project site. There are no delineated mineral recovery sites or locally important mineral resource recovery sites delineated on any plans on the campus.

6.11.2 Analysis of Project

Implementation of the revised UCM 2020 Project would not result in a substantial loss of availability of mineral resources.

As analyzed in the 2009 EIS/EIR and stated above, implementation of the revised UCM 2020 Project would not result in the loss of availability of known mineral resources that would be of value to the region or residents of the state. Therefore the revised UCM 2020 Project would have no impact on mineral resources. No further environmental evaluation is required.

6.11.3 Analysis of Cumulative Impacts

There would be no cumulative effects to mineral resources as analyzed in the 2009 EIS/EIR. No further environmental evaluation is required.

6.11.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to mineral resources have come

into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.11.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect on mineral resources. The changes to the previously envisioned UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to mineral resources or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.12 NOISE

6.12.1 Relevant Elements of the Revised UCM 2020 Project

The revised UCM 2020 Project would construct a total of 2.5 million square feet of academic space and on-campus housing for 5,000 students within the building subarea, an area that has existing buildings and facilities. The buildings would be up to 10 stories (120 feet) tall. Additional support facilities and infrastructure would be constructed within the Support Subarea.

Noise sources in the area include traffic on local roadways and noise from agricultural operations. Additional sources include the airstrip to the southeast used by planes involved in agricultural operations and the Lake Yosemite recreational facilities used by boaters to the northwest. Noise-sensitive receptors in the vicinity of the site include a few residences located along Lake and Bellevue Roads to the southwest of the campus site. In addition, Lake Yosemite Regional Park is located to the north.

6.12.2 Analysis of Project

Implementation of the revised UCM 2020 Project would not result in a substantial increase in vehicular traffic on the regional road network, and no new significant impact associated with increased ambient traffic noise levels at existing off-site noise sensitive uses would occur.

Potential impacts related to noise from traffic associated with the development of the campus, including the previously envisioned UCM 2020 Project, were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR concluded the operation of the previously envisioned UCM 2020 Project would increase traffic volumes on the local roadway network, which would result in increased traffic noise levels at noise sensitive receptors locations along the roadways. The previously envisioned UCM 2020 Project would have contributed approximately 20,800 trips to regional and local roadways, which is 10 percent of the total anticipated trips from the 2030 Campus build-out. Full build-out of the Campus in 2030, including the previously envisioned UCM 2020 Project would have resulted in traffic noise increases of 3 dBA or greater at the following roadway segments: Campus Parkway south of Bellevue, Yosemite Avenue west

of Lake Road, Cardella Avenue east of G Street, Kibby Road to the north and south of Yosemite Avenue, and Bellevue Avenue west of Lake Road. Significant noise impacts would occur along Kibby Road, south of Yosemite Avenue, and Cardella Avenue east of G Street. However, as analyzed in Volume 3 of the 2009 EIS/EIR, the contribution of the previously envisioned UCM 2020 Project, excluding the additional development, on ambient noise levels at the road segments listed above, would not be substantial.

As the revised UCM 2020 Project entails the same level of development and population as the previously envisioned UCM 2020 Project, it would not result more vehicle trips than the previously envisioned UCM 2020 Project. In fact, based on observed trip generation at the campus, the actual number of trips associated with the revised UCM 2020 Project could potentially be lower. Therefore, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts due to increased ambient traffic noise levels or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

Construction of the revised UCM 2020 Project would not result in a new significant impact related to the exposure of existing off-site and future on-site noise-sensitive receptors to elevated noise levels and groundborne vibration.

Potential impacts related to construction noise from the development of the campus, including the previously envisioned UCM 2020 Project, were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR concluded that construction of the previously envisioned UCM 2020 Project would expose existing off-site and future on-site noise-sensitive receptors to elevated noise levels. In general construction activities would include ground clearing, earthmoving, foundations, erection of structures and finishing. Mitigation Measure NOI-3 would reduce the noise impact from construction to less than significant. Mitigation Measure NOI-3 requires that a construction noise mitigation program be prepared and approved. Pile driving during construction is not anticipated but if it were required it could produce groundborne vibration levels that might be perceptive to nearby sensitive receptors. Mitigation Measures NOI-4a and NOI-4b would be implemented to reduce the vibration impact to less than significant. Mitigation Measures NOI-4a and NOI-4b require impact pile driving to be avoided where possible and that sensitive uses adjacent to construction be given advance notice of any activities that may cause vibration. The revised UCM 2020 Project would involve the construction of the same types of facilities as before but the construction would be concentrated within the building subarea. Due to increased distance from receptors on Lake Road, the revised project would have a lower potential to affect off-site receptors. However, because the new facilities would be constructed near existing on-campus facilities, it would have a greater potential to affect on-campus receptors. The same mitigation measures that are listed above would be implemented which would reduce the noise impacts to less than significant. No further environmental evaluation is required.

Implementation of the revised UCM 2020 Project would not result in a new significant impact related to exposing new on-site noise-sensitive land uses, such as residences, to noise levels exceeding noise thresholds.

Potential impacts related to exposure of noise-sensitive land uses on the campus to elevated noise levels were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR concluded that as part of the previously envisioned UCM 2020 Project noise-sensitive uses could be developed adjacent to existing noise-generating uses, including traffic along Lake Road. A portion of the previously envisioned UCM 2020 Project site would have generated traffic noise levels that would have exceeded the threshold for residential uses along the southwestern edge of the site. However, residential or other noise-sensitive uses were not proposed for that area and the effect was determined to be less than significant. The revised UCM 2020 Project site would not extend south of Bellevue Road into this area and would be unaffected by any elevated traffic noise levels. Therefore, the revised UCM 2020 Project would not expose sensitive receptors to noise levels exceeding noise thresholds. The impact would be less than significant. No further environmental evaluation is required.

6.12.3 Analysis of Cumulative Impacts

Cumulative traffic noise impacts of campus development under the 2009 LRDP, including the previously analyzed UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that campus development, in conjunction with cumulative development, would increase regional traffic noise above significance thresholds. Feasible mitigation measures are not available and the impact would remain significant and unavoidable. As the revised UCM 2020 Project is substantially the same as the previously envisioned UCM 2020 Project in terms of the growth in campus population that it would accommodate, the revised UCM 2020 Project's cumulative traffic noise impacts would be the same as those projected for the previously envisioned UCM 2020 Project and are adequately addressed in Volume 1 of the 2009 EIS/EIR. The revised UCM 2020 Project will not result in a substantial increase in the severity of this previously identified cumulative impact and therefore a subsequent or supplemental EIR is not required.

6.12.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to noise have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.12.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect related to noise. The changes to the previously envisioned UCM 2020 Project would not change the nature or increase the magnitude of potential impacts from noise or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.13 POPULATION AND HOUSING

6.13.1 Relevant Elements of the Revised UCM 2020 Project

The revised UCM 2020 Project would accommodate growth of the student enrollment up to 10,000 FTE students, as well as associated faculty and staff. Based on the 2010 Census, as of 2010, the City of Merced had a population of 78,958 people. The City of Merced is projecting that the City's residential population will increase to approximately 155,000 persons by 2030 (City of Merced 2030 General Plan, Chapter 2) The Merced County Association of Governments (MCAG) projects that the population of the City of Merced will approach 97,700 persons by 2020, and 116,800 by 2030.

6.13.2 Analysis of Project

Development under the revised UCM 2020 Project would not substantially increase the impact related to the inducement of substantial population growth in the City of Merced and Merced County.

At build-out of the revised UCM 2020 Project, campus enrollment is anticipated to increase to approximately 10,000 FTE students from a current enrollment level of about 5,600 FTE students (an increase of approximately 4,400 FTE students). The enrollment level projected for 2020 is the same as the previously envisioned UCM 2020 Project, analyzed in the 2009 EIS/EIR Volume 3. The increase in population in the City and County of Merced from build-out of the previously envisioned UCM 2020 Project was determined in the 2009 EIS/EIR to be significant and unavoidable. There are no mitigation measures feasible to address this impact and the impact would remain the same under the revised 2020 Project. No further environmental evaluation is required.

Development under the revised UCM 2020 Project would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

The analysis in the 2009 EIS/EIR concluded that the housing supply in the local area exceeded the demand and the available housing would be able to accommodate the short-term demand for housing associated with the previously envisioned UCM 2020 Project. The supply of housing in Merced still exceeds the demand by a wide margin. Furthermore, similar to the previously envisioned UCM 2020 Project, the revised UCM 2020 Project would provide on-campus housing for half the enrolled students.

As a result, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to housing or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.13.3 Analysis of Cumulative Impacts

Cumulative population and housing impacts of campus development under the 2009 LRDP, including the previously analyzed UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that campus development, in conjunction with cumulative development, would increase the regional population and the cumulative impact related to population growth would be significant. Mitigation measures are not available and the impact would remain significant and unavoidable. As the revised UCM 2020 Project is substantially the same as the previously envisioned UCM 2020 Project in terms of the growth in campus population that it would accommodate, the revised UCM 2020 Project's cumulative population and housing impacts are adequately addressed in Volume 1 of the 2009 EIS/EIR. The revised UCM 2020 Project will not result in a substantial increase in the severity of this previously identified cumulative impact and therefore a subsequent or supplemental EIR is not required.

6.13.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to population and housing have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.13.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect to population and housing. The changes in the previously envisioned UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to population and housing or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.14 PUBLIC SERVICES

6.14.1 Relevant Elements of the Revised UCM 2020 Project

The revised project would be served by the UC Merced Police Department for law enforcement. The Merced County Fire Department in conjunction with the California Department of Forestry and Fire

Protection (CDF) would provide fire protection and emergency medical services for the revised project. The nearest County Fire Station is Station 85 located at 3360 N. McKee Road in Merced. The Merced City School District would serve students in kindergarten through grade 8 and the Merced Union High School District would serve students in grades 9 through 12.

6.14.2 Analysis of Project

The revised UCM 2020 Project would not result in a new significant impact associated with an increased demand for law enforcement services and the construction of new facilities.

Potential impacts related to law enforcement were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR concluded that campus development, including the previously envisioned UCM 2020 Project, would require an expansion of UC Merced Police Department services and facilities. The 2009 EIS/EIR noted that there is adequate land for expansion of the Campus police facility as needed. Therefore, the impact to law enforcement services and facilities would be less than significant. Implementation of Mitigation Measure PUB-1 would further reduce this impact to less than significant. Mitigation Measure PUB-1 requires the Campus to maintain a minimum ratio of 0.7 police officers per 1,000 population. As with the previously envisioned UCM 2020 Project, the revised UCM 2020 Project would allow for the campus to grow to an enrollment level of 10, 000 FTE students. As the revised project would facilitate the same amount of growth as before, it would not change the nature or increase the magnitude of the potential impacts to law enforcement services or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not result in a new significant impact associated with increased enrollment in local public schools, which would require construction of new facilities, the construction of which could have significant environmental effects.

Potential impacts to local public schools were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR concluded that campus development, including the previously envisioned UCM 2020 Project, would result in demand for public schools from employees and some student families that may move into the Merced area. The demand for schools would require the construction of new schools or expanded facilities at existing schools in the City if a new school is not built. The environmental impacts of the new school or school expansion would be analyzed when the new school or the expansion of an existing school is proposed. Furthermore, any potential impacts will be mitigated by school impact fees paid by housing developers, which is considered adequate. As analyzed in the 2009 EIS/EIR, the impact on public schools from the previously envisioned UCM 2020 Project is less than significant. As the revised

2020 Project would facilitate the same amount of population growth as before and generate the same number of school-age children, it would not change the nature or increase the magnitude of the potential impacts to local public schools or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities or a public library.

Potential impacts related to fire protection facilities and public libraries from campus development were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR indicated that the campus site, including the project site, would be annexed into the City of Merced. Upon annexation of the campus fire protection services would be provided by the City of Merced Fire Department. The nearest City of Merced Fire Station to the campus site is Station 55. However, additional equipment and staff would be needed to serve the project site and Station 55 cannot accommodate the necessary expansion. The City of Merced General Plan identifies the site of a new fire station, which would provide service to the campus site and northern City of Merced growth. However, Station 55 would provide services upon annexation. Until annexation, the County of Merced Station 85 would provide fire protection services to the project site. The environmental impacts of the new City of Merced fire station will be analyzed when the new station is proposed. As analyzed in the 2009 EIS/EIR, the impact of campus development on fire protection facilities would be less than significant.

The Campus would provide and meet the need for library services for the campus population. Therefore, as analyzed in the 2009 EIS/EIR the impacts on the Merced County library system from the originally envisioned UCM 2020 Project would be less than significant.

As the revised UCM 2020 Project would facilitate the same amount of population growth and building space on the campus as before, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to fire protection facilities and public libraries, or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.14.3 Analysis of Cumulative Impacts

Cumulative public services impacts of the campus development, including the previously analyzed UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that campus development, in conjunction with other cumulative development, would increase demand for law enforcement, fire protection services, public schools, and public libraries. However, the cumulative impacts would be less than significant. As the revised UCM 2020 Project is substantially the same as the

previously envisioned project in terms of the population growth it would facilitate, the revised UCM 2020 Project's cumulative public services impacts would be the same as the impacts of the previously envisioned UCM 2020 Project and are adequately addressed in Volume 1 of the 2009 EIS/EIR. No further environmental evaluation is required.

6.14.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to public services have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.14.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect to population and housing. The differences between the previously envisioned UCM 2020 Project and the revised UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to public services or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.15 RECREATION

6.15.1 Relevant Elements of the Revised UCM 2020 Project

The Lake Yosemite Regional Park, which is owned and operated by Merced County, is located to the north of the campus site. There are additional park and recreational facilities maintained by the City of Merced Parks and Community Services Department in the broader region.

6.15.2 Analysis of Project

The revised UCM 2020 Project would not result in a new significant impact associated with an increased demand for parks and recreational facilities, and would not require the construction of new recreational facilities off-site.

Potential impacts to parks and recreational facilities were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR concluded that campus development, including the previously envisioned UCM 2020 Project, would provide adequate recreational space for the campus population in the form of athletic facilities, recreation, and open space land uses. Therefore, campus development would not result in demand for off-site recreational facilities, the construction of new parks, or expansion of existing parks in

the area near the project site. As the revised UCM 2020 Project is substantially the same as the previously envisioned project in terms of the population growth it would facilitate, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to recreational facilities or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

The revised UCM 2020 Project would not result in a new significant impact associated with an increase in the use of Lake Yosemite Regional Park, which could accelerate physical deterioration of park facilities.

Potential impacts to Lake Yosemite Regional Park were analyzed in the 2009 EIS/EIR. The analysis in the 2009 EIS/EIR noted that although there would be adequate land for parks and recreational facilities included as part of campus development, however, due to the proximity of Lake Yosemite Regional Park to the project site and the unique water-related recreational amenities it offers, it is anticipated that campus-affiliated households would use the regional park. The analysis in the 2009 EIS/EIR concluded that park use by campus-related population could accelerate the physical deterioration of the park facilities and contribute to the need for new park facilities. Therefore, the impact would be potentially significant. Implementation of Mitigation Measures PUB-6a through PUB-6d would reduce this impact to less than significant. Mitigation Measures PUB-6a through PUB-6d requires the University to work with the County to develop a joint use program of on-campus facilities and avoid deterioration of existing Lake Yosemite Regional Park, pay its fair share of the cost to improve the regional park, and implement mitigation measures to avoid and minimize effects on biological resources. As the revised UCM 2020 Project is substantially the same as the previously envisioned project in terms of the population growth it would facilitate, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to park facilities or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.15.3 Analysis of Cumulative Impacts

Cumulative impacts to parks and recreational facilities from the development of the campus, including the previously envisioned UCM 2020 Project, are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that campus development, in conjunction with other cumulative development, would increase the use of the Lake Yosemite Regional Park facilities. However, with the mitigation measures described above, the cumulative impacts to Lake Yosemite Regional Park facilities would be less than significant. There would be no increase in demand for neighborhood and community park facilities from campus development. As the revised UCM 2020 Project is substantially the same as the previously envisioned project in terms of the population growth it would facilitate, the revised UCM 2020 Project's

cumulative impacts on parks and recreational facilities are adequately addressed in Volume 1 of the 2009 EIS/EIR. No further environmental evaluation is required.

6.15.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to recreation and parks have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.15.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect to recreation and parks. The changes to the previously envisioned UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to recreation and parks or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.16 TRANSPORTATION/TRAFFIC

6.16.1 Relevant Elements of the Revised UCM 2020 Project

Access to the project site would be from Bellevue Road, Lake Road, and Yosemite Avenue. Lake Road is a two-lane north-south road extending from Yosemite Avenue to its northern terminus at Lake Yosemite north of the campus. Bellevue Road is a two-lane east-west road extending from Fox Road to its eastern terminus at Lake Road adjacent to the campus site. Yosemite Avenue is a two-lane east-west road extending from Highway 59 to its eastern terminus at Arboleda Drive. Campus Parkway is a planned north-south, divided four-lane roadway that is planned for development between Highway 99 and Bellevue Road.

During construction of the project, equipment trucks, tractor trailers and personal vehicles would be accessing the site. During the operation of the project, maintenance and service vehicles would be used on the project site on a regular basis with maximum usage occurring during the academic year. This would include vehicles being used by campus maintenance workers and off-campus service vendors. Additionally, there would be vehicle trips to and from the project site by students, faculty, and staff.

As described in Section 6.3 Air Quality, the Campus has been monitoring vehicle traffic accessing the campus once every three years since the adoption of the 2009 LRDP and has determined based on the data gathered that the trip generation rate used in the 2009 EIS/EIR was higher than what has been

recorded. The revised UCM 2020 Project would support the same student enrollment growth as the previously envisioned UCM 2020 Project and would result in a similar or lower number of daily vehicle trips.

6.16.2 Analysis of Project

Implementation of the revised UCM 2020 Project would not result in an exceedance of the LOS threshold along local roadway segments under Existing Plus UCM 2020 Project conditions.

As analyzed in the 2009 EIS/EIR, no roadway segments were projected to be over capacity with the addition of the previously envisioned UCM 2020 Project traffic. Therefore, the impact to local roadway segments under the Existing Plus UCM 2020 Project conditions was determined to be less than significant. Background traffic volumes on roadway segments serving the campus site have not increased much compared to 2008 conditions because of the sluggish economy. Furthermore, the revised UCM 2020 Project would result in similar or less traffic than was previously estimated for the previously envisioned UCM 2020 Project because as with the previously envisioned 2020 UCM project, for the revised UCM 2020 Project it is envisioned that 50 percent students would live on the campus and all faculty and staff would live off campus with no University Community as yet developed to the south of the campus. As all of the assumptions and data for the revised project are the same as before, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to local roadway segments under Existing Plus UCM 2020 Project conditions or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

Implementation of the revised UCM 2020 Project would not substantially increase the severity of the previously identified significant impact related to the deterioration of the LOS at three of the study intersections to unacceptable levels under Existing Plus UCM 2020 Project conditions or result in a new impact at a study intersection.

Based on the analysis in the 2009 EIS/EIR, the previously envisioned UCM 2020 Project was projected to cause three signalized intersections to operate poorly under Existing Plus UCM 2020 Project conditions. The three intersections are Lake Road and Yosemite Avenue, R Street and Olive Avenue, and Martin Luther King Jr. Way and SR-99 Northbound Ramps. As analyzed in the 2009 EIS/EIR, the impact would be potentially significant. Implementation of Mitigation Measure TRANS-1 would reduce the impact but not to a less than significant level. Mitigation Measure TRANS-1 requires implementation of a Campus Traffic Mitigation Program that would consist of the following elements: travel demand management, transit enhancement, sustainability and monitoring, campus traffic impact monitoring, proportional share

determination, mitigation payments, and alternate improvements. As the impact would not be fully mitigated, the impact to signalized intersections from Existing Plus UCM 2020 Project traffic would be significant and unavoidable. Although the revised UCM 2020 Project could potentially produce less traffic, the significant level of service impacts at the three study intersections would still occur. The revised 2020 Project will not result in a substantial increase in the severity of this previously identified impact and therefore a subsequent or supplemental EIR is not required.

As discussed above, because the revised UCM 2020 Project would produce equal or less daily and peak hour traffic than evaluated for the previously envisioned UCM 2020 Project, it would not result in additional significant impacts at other study intersections. The previously envisioned UCM 2020 Project included four access points on Lake Road to access the campus, which included the two existing entrances to the campus, an easterly extension of Bellevue Road, and another roadway further south of the Bellevue-Lake Road intersection. The revised UCM 2020 Project would include three access points to the campus – the two existing entrances and the Bellevue Road extension. The reduction in the number of access points to the campus was evaluated for its potential to result in a new significant impact at the intersection of Lake and Bellevue Roads. The traffic analysis concluded that with the planned signalization of the intersection (which was an improvement included in the previous 2009 LRDP EIS/EIR analysis and was confirmed by the then Chancellor as an improvement that the Campus would implement), the intersection would operate at an acceptable level or service and no new impact would occur as a result of the revised UCM 2020 Project.

Implementation of the revised UCM 2020 Project would not substantially increase the severity of the previously identified significant impact related to an exceedance of the LOS threshold along local roadway segments under 2020 Plus UCM 2020 Project conditions.

As analyzed in the 2009 EIS/EIR, the traffic resulting from the development of the previously envisioned UCM 2020 Project would contribute to an exceedance of the LOS thresholds along some of the local roadway segments under 2020 Plus UCM 2020 Project conditions, resulting in a significant and unavoidable impact. Implementation of Mitigation Measure TRANS-1A, described above, would not reduce the impact to less than significant. Therefore, the impact to roadway segments from 2020 Plus UCM 2020 Project traffic would be significant and unavoidable. Although, the revised UCM 2020 Project could produce less traffic, the significant level of service impacts would still occur. The revised UCM 2020 Project will not result in a substantial increase in the severity of this previously identified impact and therefore a subsequent or supplemental EIR is not required.

With the addition of project traffic, the LOS of the study intersections would not deteriorate to unacceptable levels under 2020 Plus UCM 2020 Project conditions.

As analyzed in the 2009 EIS/EIR, the study intersections are projected to operate at acceptable levels of service in 2020 with the addition of traffic associated with the previously envisioned UCM 2020 Project. The revised UCM 2020 Project would result in similar or less project traffic. Therefore, the revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to study intersections under 2020 Plus UCM 2020 Project conditions or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

Development under the revised UCM 2020 Project is not near a public airport, would not affect the nearby private airport or change air traffic patterns, and would not substantially increase hazards due to a design feature or result in adequate emergency access.

The revised UCM 2020 Project site is not within the land use planning area of a public airport. Therefore, there would be no change in air traffic patterns from construction or operation of the project. Any streets constructed as part of the project would be adequately designed to accommodate the traffic demand and would be appropriated sized to support access by emergency response vehicles. No further environmental evaluation is required.

Implementation of the revised UCM 2020 Project would not conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities.

As analyzed in the 2009 EIS/EIR, the previously envisioned UCM 2020 Project would not substantially increase demand for regional and local transit services and would comply with the 2009 LRDP transit policies. Therefore, the project would result in a less than significant impact related to public transit policies. As analyzed in the 2009 EIS/EIR, the previously envisioned UCM 2020 Project would generate pedestrian and bicycle travel in higher concentrations and amounts than found in other parts of the county. However, the 2009 LRDP policies provide for coordination with nearby jurisdictions in regards to bicycle and pedestrian systems to ensure that there is no conflict with the local bicycle plans, the Merced County Regional Commuter Bicycle Plan, and the Atwater Bicycle Plan. Therefore, the previously envisioned UCM 2020 Project would result in a less than significant impact related to bicycle plans and pedestrian systems. As the revised UCM 2020 Project is substantially the same as the previously envisioned UCM 2020 Project in terms of the scale of development and the population growth it would facilitate, the revised UCM 2020 Project would not change the nature or increase the magnitude of the

potential impacts to public transit plans, bicycle plans, pedestrian systems, or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.16.3 Analysis of Cumulative Impacts

The cumulative impact of traffic that would result from regional growth through 2020, including the revised UCM 2020 Project, is analyzed above. The 2009 EIS/EIR also included an evaluation of cumulative traffic impacts through 2030. As the revised UCM 2020 Project is substantially the same as the previously envisioned UCM 2020 Project in terms of the scale of development and the population growth it would facilitate, it is adequately analyzed for its cumulative impacts in the 2009 EIS/EIR. No further environmental evaluation is required.

6.16.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

Since certification of the 2009 EIS/EIR, the CEQA Guidelines Appendix G checklist has been amended to exclude parking impacts and the checklist question related to traffic impacts now requires a consideration of not just the capacity of street systems but all modes of transportation. These changes do not affect the analysis completed in the 2009 EIS/EIR. There are no additional changes in circumstances in which the project would be undertaken and no new information has become available since the certification of the 2009 EIS/EIR that would alter the previous analysis or change its conclusions relative to the revised UCM 2020 Project.

6.16.5 Conclusion

The revised UCM 2020 Project would not adversely affect public transit plans, bicycle plans, or pedestrian systems. In addition, the revised UCM 2020 Project is not near a public airport, would not affect the nearby private airport, and would not substantially increase hazards due to a design feature or result in adequate emergency access. The revised UCM 2020 Project would have a significant and unavoidable impact on signalized intersections under Existing Plus UCM 2020 Project conditions and a significant and unavoidable impact related to exceedance of the level of service threshold along local roadway segments under 2020 Plus UCM 2020 Project conditions. The changes in the previously envisioned UCM 2020 would not change the nature or increase the magnitude of potential impacts to transportation and traffic or the conclusions in Volume 3 of the 2009 EIS/EIR.

6.17 UTILITIES AND SERVICE SYSTEMS

6.17.1 Relevant Elements of the Revised UCM 2020 Project

The potable water and irrigation needs of the revised project would be served by the City of Merced. There are no existing recycled water facilities in the vicinity of the project site. The City of Merced owns and operates the City of Merced wastewater treatment plant (WWTP) which would serve the revised UCM 2020 Project. Nonhazardous municipal waste from the revised UCM 2020 Project site would be sent to the Merced County Highway 59 Landfill. PG&E provides electricity and natural gas to the Campus, and would continue to do so for the revised UCM 2020 Project.

6.17.2 Analysis of Project

The revised UCM 2020 Project would not require construction of new water supply or conveyance facilities, new wastewater or storm water treatment facilities or expansion of existing facilities, or improvements to electrical transmission lines and natural gas pipelines; and would be served by a landfill with sufficient permitted capacity.

As analyzed in the 2009 EIR/EIS, the previously envisioned UCM 2020 Project would not require expanded water supply or conveyance facilities, wastewater treatment plant capacity, power line extensions, natural gas line extensions, the expansion of the regional landfill, or substantially affect the capacity of the Highway 59 Landfill. The impact on potable water, wastewater, storm water, energy services, and the local landfill was determined to be less than significant. The revised UCM 2020 Project would accommodate the same growth in building space and population of students, faculty, and staff as the previously envisioned UCM 2020 Project. Therefore, the revised UCM 2020 Project would produce the same amount of waste and have the same potable water and power needs as analyzed in the 2009 EIS/EIR. The revised UCM 2020 Project allows for the development of some buildings up to 10 stories high, which is taller than four story high buildings that were planned under the previously envisioned UCM 2020 Project. The high rise buildings would not require any unique infrastructure upgrades outside of the individual building site to provide higher water pressure to the top floors. The revised UCM 2020 Project would not change the nature or increase the magnitude of the potential impacts to potable water facilities, wastewater facilities, storm water facilities, energy services, the local landfill, or the conclusions in Volume 3 of the 2009 EIS/EIR as analyzed for the previously envisioned UCM 2020 Project. No further environmental evaluation is required.

6.17.3 Analysis of Cumulative Impacts

Cumulative impacts of campus development, including the previously analyzed UCM 2020 Project, on utilities and service systems are addressed in Volume 1 of the 2009 EIS/EIR. The 2009 EIS/EIR concluded that campus development, in conjunction with other cumulative development, would result in demand for water, electrical, and natural gas; and expansion or construction of new wastewater facilities and regional landfill. The cumulative impacts from demand for water, and the demand placed on the City of Merced WWTP and Highway 59 Landfill would be significant, although the cumulative impact from demand for electricity and natural gas would be less than significant. Implementation of Cumulative Mitigation Measures UTILS-1a, UTILS-2a, and UTILS 2b by the Campus would not reduce the cumulative significant impacts, which would remain significant and unavoidable. Cumulative Mitigation Measure UTILS-1a requires the University to implement Cumulative Mitigation Measure HYD-3a, to support Merced Area Groundwater Pool Interests (MAGPI). Cumulative Mitigation Measures UTILS-2a and UTILS 2b require the University to continue to monitor and minimize the total amount of wastewater discharged and evaluate the feasibility of developing a recycled water plant on the campus. University of California policies that promote recycling would reduce the amount of waste disposed by the Campus and would be accommodated by the Highway 59 Landfill until its closure in 2035. However, the revised UCM 2020 Project would nonetheless result in significant and unavoidable cumulative impacts related to water, wastewater and landfill capacity.

As the revised UCM 2020 Project is substantially the same as the previously envisioned UCM 2020 Project in terms of the scale of development and the population growth it would facilitate, the revised UCM 2020 Project's cumulative impacts on utilities and service systems are adequately addressed in Volume 1 of the 2009 EIS/EIR. The revised UCM 2020 Project will not result in a substantial increase in the severity of the previously identified significant cumulative impacts and therefore a subsequent or supplemental EIR is not required.

6.17.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the revised UCM 2020 Project would be undertaken. No new information has become available and no new regulations related to utilities and service systems have come into effect since the certification of the 2009 EIS/EIR that would alter the previous analysis and change its conclusions relative to the revised UCM 2020 Project.

6.17.5 Conclusion

The revised UCM 2020 Project would not have a substantial adverse effect to utilities and service systems. The changes to the previously envisioned UCM 2020 Project would not change the nature or increase the magnitude of potential impacts to utilities and service systems or the conclusions in Volume 3 of the 2009 EIS/EIR.

7.0 ALTERNATIVES

Volume 3 of the 2009 EIS/EIR analyzed a reasonable range of potentially feasible alternatives to the previously envisioned UCM 2020 Project as required by the California Environmental Quality Act (CEQA), including the No Project Alternative and the Reduced Density Alternative (*State CEQA Guidelines* Section 15126.6). The No Project Alternative would avoid all significant environmental impacts of the previously envisioned UCM 2020 Project. However, the No Project Alternative would not meet any of the project objectives. The Reduced Density Alternative would reduce the significant and unavoidable population and cumulative impacts of the previously envisioned UCM 2020 Project, but not to a less than significant level. Some of the less than significant impacts would be further reduced under this alternative. Therefore, the Reduced Density Alternative was determined to be the environmentally superior alternative.

The analysis presented in this addendum demonstrates that the revised UCM 2020 Project will not result in new or more severe environmental impacts than the previously envisioned UCM 2020 Project and that the 2009 EIS/EIR adequately addresses environmental impacts of the revised UCM 2020 Project. Therefore, the alternative analysis for the previously envisioned UCM 2020 Project, as described in Volume 3 of the 2009 EIS/EIR, is adequate for the revised UCM 2020 Project. No further evaluation of additional alternatives is required.

8.0 SUPPORTING INFORMATION SOURCES

UC Merced. 2009. *Long Range Development Plan*, Environmental Impact Statement/Environmental Impact Report. Prepared by Impact Sciences, Inc., ICF Jones & Stokes, and Fehr & Peers.

UC Merced. 2009. *Long Range Development Plan*. Prepared by the University of California, Merced.

9.0 ADDENDUM PREPARERS

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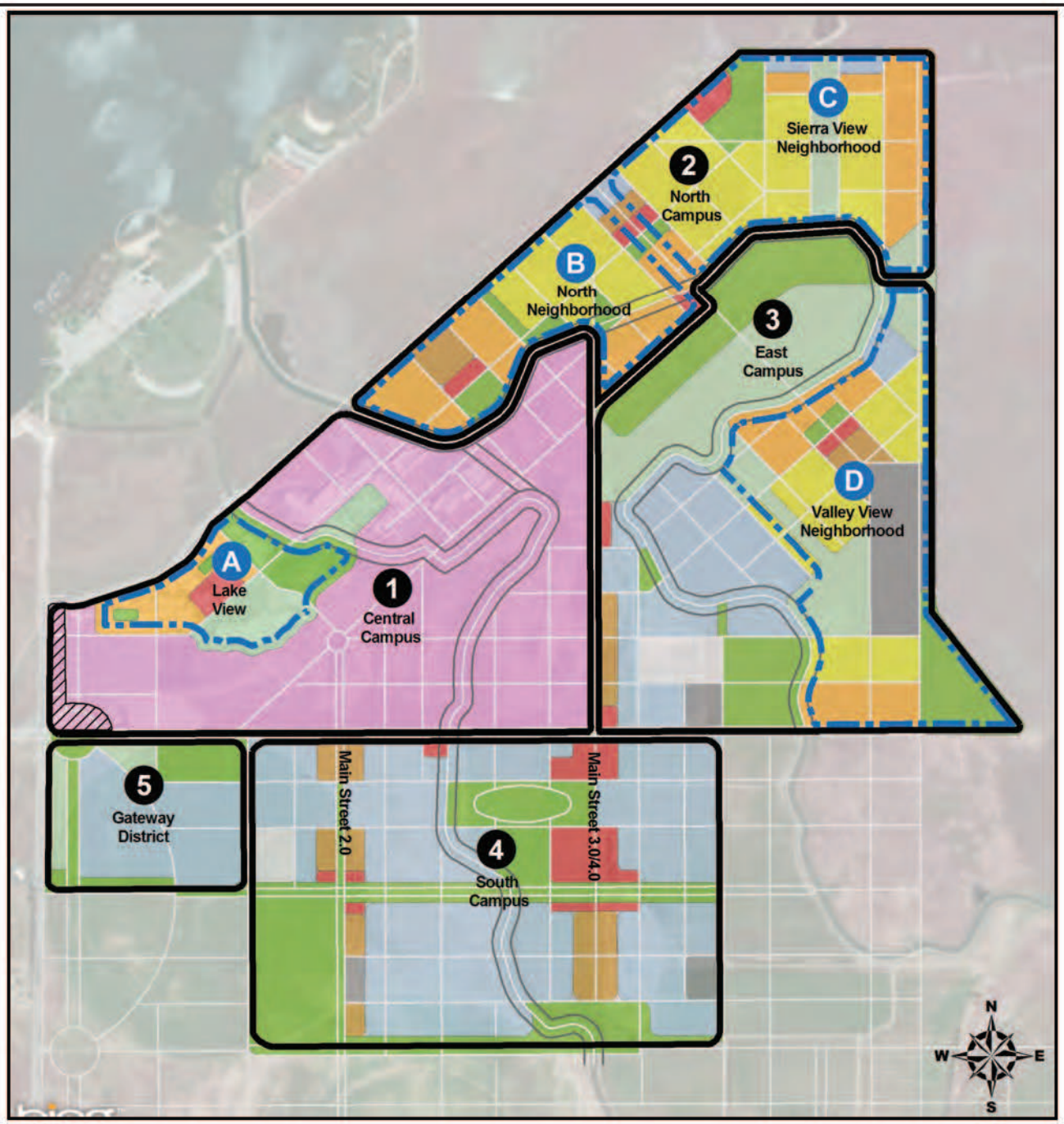


LEGEND

1 Campus Districts

1. Central Campus
2. North Campus
3. East Campus
4. South Campus
5. Gateway District

A Neighborhoods

A. Lake View
B. North Neighborhood
C. Sierra View Neighborhood
D. Valley View Neighborhood

Transportation Buffer

SOURCE: UC Merced, March 2013

FIGURE 1

Campus Districts and Neighborhoods

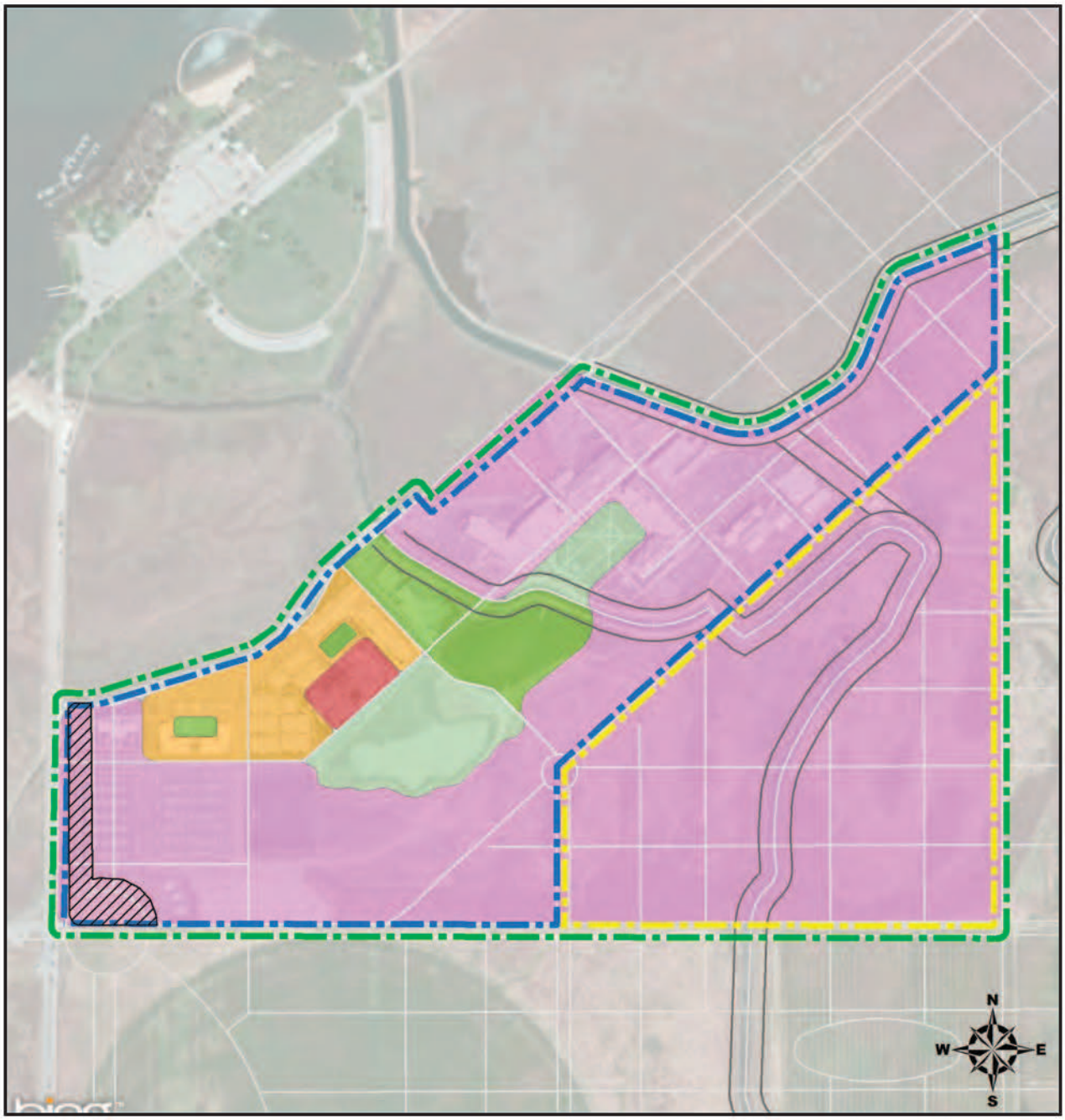
LEGEND

- Campus Mixed Use
- Academic/Laboratory
- Student Services
- Campus Services
- Parking
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Athletics/Recreation
- Passive Open Space
- Transportation Buffer

SOURCE: UC Merced, March 2013

FIGURE 2

Land Use Plan



LEGEND

- Campus Mixed Use
- Student Services
- Medium Density Residential
- Athletics/Recreation
- Passive Open Space
- 2020 Project Boundary (219 ac.)
- Building Subarea (138 ac.)
- Support Subarea (81 ac.)
- Transportation Buffer

SOURCE: UC Merced, March 2013

FIGURE 3

Central Campus District Subareas

0974.003•03/13

APPENDIX 1

Mitigation Monitoring and Reporting Program UCM LRDP 2009

MITIGATION MONITORING AND REPORTING PROGRAM

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor and report on mitigation measures adopted as part of the environmental review process to avoid or reduce the severity and magnitude of potentially significant environmental impacts associated with project implementation. CEQA (Public Resources Code Section 21081.6 (a) (1)) requires that a Mitigation Monitoring and Reporting Program (MMRP) be adopted at the time that the agency determines to carry out a project for which an EIR has been prepared, to ensure that mitigation measures identified in the EIR are fully implemented.

As discussed in the Draft EIS/EIR, the UC Merced and University Community Project encompasses the development of the UC Merced Campus and the University Community and the impacts of this project are evaluated in Volumes 1 and 2 of the Draft EIS/EIR. The MMRP for the UC Merced 2009 Long Range Development Plan is presented in **Table 1, Mitigation Monitoring and Reporting Program, UC Merced 2009 Long Range Development Plan**, which includes the full text of mitigation measures identified in the Final EIS/EIR. In addition, Volume 3 of the Draft EIS/EIR evaluates the potential environmental impacts from the development of the next phase of campus development (UCM 2020 Project). The MMRP for the UCM 2020 Project is presented in **Table 2**, **Mitigation Monitoring and Reporting Program, UCM 2020 Project,** which include the full text of project-specific mitigation measures identified in the Final EIS/EIR for that project. Each MMRP describes implementation and monitoring procedures, responsibilities, and timing for each mitigation measure identified in the Draft EIS/EIR, including:

Significant Impact: Identifies the Impact Number and statement from the Final EIS/EIR.

Mitigation Measure: Provides full text of the mitigation measure as provided in the Final EIS/EIR.

Monitoring/Reporting Action(s): Designates responsibility for implementation of the mitigation measure and when appropriate, summarizes the steps to be taken to implement the measure.

Mitigation Timing: Identifies the stage of the project during which the mitigation action will be taken.

Monitoring Schedule: Specifies procedures for documenting and reporting the implementation of the mitigation measure.

UC Merced may modify the means by which a mitigation measure will be implemented, as long as the alternative means ensure compliance during project implementation. The responsibilities of mitigation implementation, monitoring and reporting extend to several UC Merced departments and offices. The manager or department lead of the identified unit or department will be directly responsible for ensuring

the responsible party complies with the mitigation. The Physical Planning, Design and Construction Department (PPD&C) is responsible for the overall administration of the program and for assisting relevant departments and project managers in their oversight and reporting responsibilities. The PPD&C is also responsible for ensuring the relevant parties understand their charge and complete the required procedures accurately and on schedule.

Table 1
Mitigation Monitoring and Reporting Program
UC Merced Long Range Development Plan

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
AESTHETICS				
Alt 1 – Impact AES-1: The Proposed Action would result in a substantial adverse effect on scenic vistas.	**MM AES-1a:** The University will plant tall trees along the campus' western boundary to screen views of the campus facilities from Lake Yosemite Regional Park.	PPD&C Review final landscape plans of projects along the western boundary of the Campus. Revise design, if necessary, to screen views to the extent feasible.	Project design and construction.	Prior to construction.
	MM AES-1b: Where possible, major vehicular and pedestrian transportation corridors on the Campus shall be located and designed to provide views of the Sierra Nevada.	PPD&C Review final circulation plans in the 2009 LRDP. Revise design, if necessary, to provide the scenic view to the extent feasible.	Project design and construction.	Prior to construction.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
AESTHETICS (continued)				
Alt 1 – Impact AES-3: The Proposed Action would substantially adversely alter the visual quality and character of the site and its surroundings.	**MM AES-3a:** The University shall design all new aboveground infrastructure on the Campus to the following standards: (a) Screen aboveground infrastructure from view from public rights-of-way or scenic vistas, via landscaping, fencing, or other architectural screening; (b) Require creative design measures to camouflage structures by integrating them with existing buildings and among other existing uses; (c) Locate aboveground infrastructure on sites that are not visible from visually sensitive areas, such as residential communities and open space areas; (d) Require providers to co-locate their structure on a single site, where technically feasible and visually desirable; and (e) Locate antennae and equipment on other existing community facility sites, such as water tanks or utility poles.	PPD&C Review of engineering plan for aboveground utility lines. Review project design for compatibility. Revise design, if necessary, to ensure compatibility.	Project design and construction.	Prior to construction.
AIR QUALITY				
Alt 1 – Impact AQ-1: The Proposed Action would result in construction emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation.	**MM AQ-1a:** The Campus and the developers within the University Community shall include in all construction contracts the measures specified in SJVAPCD Regulation VIII (as it may be amended for application to all construction projects generally) to reduce fugitive dust impacts, including but not limited to the following: • All disturbed areas, including storage piles, which are not being actively utilized for construction purpose, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover. • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions using application of water or by presoaking.	PPD&C Continue to require standard dust control measures as part of every construction project contract.	Prior to construction.	Confirm and document prior to construction of project.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
AIR QUALITY (continued)				
Alt 1 – Impact AQ-1 (continued)	• When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least 6 inches of freeboard space from the top of the container shall be maintained. • All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit visible dust emissions. Use of blower devices is expressly forbidden.) Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, storage piles shall be effectively stabilized of fugitive dust emissions by using sufficient water or chemical stabilizer/suppressant.	PPD&C Inspect construction site at regular intervals during construction to verify compliance with specified dust control measures.	During construction.	Confirm and document at regular intervals throughout construction period.
	MM AQ-1b: The Campus and the developers within the University Community shall include in construction contracts for large construction projects near sensitive receptors the following control measures characterized by the SJVAPCD as enhanced and optional control measures: • Limit traffic speeds on unpaved roads to 15 mph. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent. • To the extent feasible, limit area subject to excavation, grading, and other construction activity at any one time.	PPD&C Continue to require contract specifications for dust and erosion control measures as part of every construction project contract.	Prior to construction.	Confirm and document prior to construction of project.
		PPD&C Inspect construction site at regular intervals during construction to verify compliance with specified dust and erosion control measures.	During construction.	Confirm and document at regular intervals throughout construction period.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
AIR QUALITY (continued)				
Alt 1 – Impact AQ-1 (continued)	**MM AQ-1c:** The Campus and the developers within the University Community shall implement the following mitigation measures to reduce impacts of ROG and NO_x emissions from construction equipment exhaust: • When feasible, use construction equipment operated by alternative fuel. • Minimize idling time to a maximum of 10 minutes when construction equipment is not in use. • To the extent practicable, manage operation of heavy-duty equipment to reduce emissions. • Employ construction-activity management techniques such as extending the construction period outside the ozone season of May through October. • Use low-emission on-site stationary equipment.	PPD&C Adopt standard specifications that include the specified measures to reduce emissions of ROG and NO_x from construction equipment exhaust as part of every construction project contract.	Prior to construction.	Confirm and document prior to construction of project.
	MM AQ-1d: Prior to use in construction, the Campus and the developers within the University Community will evaluate the feasibility of repowering or retrofitting the large off-road construction equipment that will be operating for substantial periods. Engine replacements will be required to meet the stricter of US EPA or CARB off-road diesel engines standards. Retrofit technologies such as particulate traps, selective catalytic reduction, oxidation catalysts, air enhancement technologies, etc., will be evaluated. Retrofitting will be required if they are certified by CARB and/or the US EPA, and are commercially available and can feasibly be retrofitted onto construction equipment. Retrofit technologies certified to the highest level (e.g., CARB Level 3) shall be evaluated first before lower level technologies are evaluated.	PPD&C Evaluate feasibility of repowering or retrofitting construction equipment to meet the stricter of US EPA or CARB off-road diesel engines standards, as described.	Prior to construction.	Confirm and document prior to construction of project.
		PPD&C Ensure retrofitting technologies are implemented in equipment, prior to agreement of construction contract.	Prior to construction.	Confirm and document prior to construction of project.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
AIR QUALITY (continued)				
Alt 1 – Impact AQ-2: The Proposed Action would result in operational emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation.	**MM AQ-2a:** The Campus will work with the SJVAPCD to ensure that emissions directly and indirectly associated with the Campus, University Community, and induced growth are adequately accounted for and mitigated in applicable air quality planning efforts. The SJVUAPCD can and should adopt adequate measures consistent with applicable law to ensure that air quality standard violations are avoided.	PPD&C Monitor changes in air quality regulations. Attend SJVAPCD meetings on changing regulations. Meet with SJVAPCD to discuss air quality planning efforts. Document meeting results.	During operation.	As changes in standards and procedures occur.
	MM AQ-2b: The Campus and the developers within the University Community shall implement the following measures to reduce emissions from vehicles: • Provide pedestrian-enhancing infrastructure to encourage pedestrian activity and discourage vehicle use. • Provide bicycle facilities to encourage bicycle use instead of driving. • Provide transit-enhancing infrastructure to promote the use of public transportation. • Provide facilities to accommodate alternative-fuel vehicles such as electric cars and CNG vehicles.	PPD&C Ensure that facilities listed are included in project design as applicable: verify construction of pedestrian-enhancing infrastructure, bicycle facilities, transit-enhancing infrastructure, facilities to accommodate alternative-fuel vehicles.	During detailed project planning or project design prior to project.	Prior to approval of final design of applicable projects.
	• Improve traffic flows and congestion by timing of traffic signals to facilitate uninterrupted travel.	Facilities Department Monitor traffic at affected intersections and adjust timing of traffic signals as appropriate to facilitate uninterrupted travel.	During operation.	At least yearly.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
AIR QUALITY (continued)				
Alt 1 – Impact AQ-2 (continued)	**MM AQ-2c:** The Campus and the developers within the University Community shall implement the following measures to reduce emissions from area sources, as feasible: • Use solar or low-emission water heaters. • Orient buildings to take advantage of solar heating and natural cooling and use passive solar designs. • Increase wall and attic insulation. • EPA certified wood-burning appliances, or residential natural-gas fireplaces. • Provide electric equipment for landscape maintenance.	PPD&C Adopt standard specifications or design guidelines that include area source reduction measures to be required for construction projects. Ensure that where feasible applicable measures are included in each project.	During operation.	At least yearly.
		Purchasing Department Develop policy that requires that where feasible new landscape equipment purchased is electric.	During operation.	At least yearly.
Alt 1 – Impact AQ-4: The Proposed Action would 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors).	**Mitigation Measures AQ-1** and **AQ-2** would apply to this impact. No further mitigation is available.	See monitoring and reporting for Mitigation Measures AQ-1 and AQ-2 above.		

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
BIOLOGICAL RESOURCES				
Alt 1 – Impact BIO-2: The Proposed Action would result in adverse impacts on special-status plant species.	**MM BIO-2:** Mitigate for loss of special-status plants and habitat through additional off-site compensation. Prior to any ground disturbance on lands to the north and east of Le Grand Canal (i.e., land adjacent to CNR) a restoration ecologist, retained by the University, shall prepare a feasibility analysis regarding the potential to transplant seeds from succulent owl's-clover, shining navarretia, and dwarf downingia plants. This feasibility analysis will address potential sites suitable and available for transplantation as well as availability of suitable plant material, and costs associated with this method of mitigation. If it is determined to be feasible, to further minimize impacts to these special status plants, the University shall transplant seeds from succulent owl's-clover, shining navarretia, and dwarf downingia plants, seeds from all three species will be collected and translocated to suitable habitat within the CNR. Translocating the stands to the CNR would minimize any potential genetic contamination, because the affected stands are part of the occurrences present within the CNR and, presumably, part of the same populations. The University will retain a qualified restoration ecologist to work closely with resource agency specialists (USFWS and CDFG staff) and knowledgeable individuals to locate and determine the suitability of translocation sites within the CNR. Translocation of the stands that would be affected by the Proposed Action would involve (1) identifying suitable transplant sites, (2) moving the plant material to the transplant sites, and (3) monitoring the transplant sites to document recruitment and survival rates. The restoration ecologist will develop a detailed transplantation and monitoring plan that provides detailed information on: • coordination efforts with agencies and knowledgeable individuals, • methods for collecting seeds from the affected populations, • seed storage methods, • planting plan and specifications (including planting locations and densities),	PPD&C Retain the services of a qualified restoration ecologist to work with resource agency specialists, determine suitability of translocation sites, and develop transplantation monitoring plan as described.	Prior to project construction that would result in impacts on succulent owl's-clover, shining navarretia, and dwarf downingia plants.	Document upon completion.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
BIOLOGICAL RESOURCES (continued)				
.	• measurable success criteria that can be achieved within a 10-year period, monitoring and reporting methods and schedule, • funding source and responsible party, and • adaptive management measures to ensure that the desired success criteria are achieved.			
	The University will submit draft copies of the transplantation and monitoring plan to the appropriate resource agencies (e.g., USFWS and CDFG) for review and comment. The plan will be approved by the appropriate agencies before it is implemented. As part of the plan, the following general steps would be involved in the translocation and monitoring efforts, as appropriate: • A site analysis will be conducted to document the biotic and physical requirements of succulent owl's-clover, shining navarretia, and dwarf downingia within the project site. This task will include an evaluation of the populations. Information on soil type, plant species associations, aspect, vegetation cover, and level of disturbance will be gathered during this evaluation. • Sites that may be suitable for transplanting the seeds will be identified and evaluated. Suitable sites may not contain existing stands of species being translocated. The same information as identified above will be gathered for the translocation sites. Seeds will be collected for propagation or storage purposes. Seed collection, storage, and propagation will be done by a qualified restoration ecologist. The seeds will be planted at the transplant sites at the appropriate time to ensure higher survival rates.	PPD&C/Restoration Ecologist Submit transplantation monitoring plan to appropriate resource agencies. Verify that the plan is approved prior to implementation.	Prior to construction	Secure approval of plan by appropriate agencies prior to construction. Prepare a memo to document that plan is approved.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
BIOLOGICAL RESOURCES (continued)				
Alt 1 – Impact BIO-2 (continued)	• Topsoil containing seeds will not be used for transplantation into existing vernal pool habitat because of the potential for coincidentally translocating the seeds or cysts of other plant and animal species. However, soil may be translocated to newly created habitat or may be harvested for establishing a population under culture. Dried plants and topsoil will be excavated only from the areas containing the affected plants and not from pools within conservation areas. The seed material will be excavated after the plants have set seed and dried (generally by late summer). The excavation will be done using hand tools. A post-translocation report that documents the measures used to relocate the populations and where they were relocated will be prepared. • Translocated populations will be monitored to document survival and recruitment rates over a period of time established in consultation with the resource agencies but for a minimum of five years. The populations would be monitored annually during the flowering period to document success rates and to identify remedial actions. The detailed transplant and monitoring plan will provide specific monitoring protocol and documentation procedures. A copy of the annual monitoring reports and the final monitoring report will be provided to the appropriate resource agencies for review.	PPD&C Verify implementation of monitoring efforts as identified in the approved plan.	Prior to start of construction.	Monitor translocated populations and prepare monitoring reports annually.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
BIOLOGICAL RESOURCES (continued)				
Alt 1 – Impact BIO-9: The Proposed Action would result in potentially significant adverse impacts on nesting special-status bird species and non-special-status migratory birds and raptors.	**MM BIO-9:** Avoid and minimize impacts on special-status and non-special-status migratory birds, and raptors. (a) Limit construction to the non-breeding season or, if breeding season work is required, conduct pre-construction (tree, shrub, and ground) nest surveys to identify and avoid active nests or as an option, remove potential breeding habitat during the non-breeding season. • If feasible, the applicant shall conduct all construction-related activities including (but not limited to) tree and shrub removal, other vegetation clearing, grading, or other ground disturbing activities during the non-breeding season (between August 16 and February 14) for special-status and non-special-status migratory birds and raptors. If construction activities are scheduled to occur during the breeding season, a qualified avian biologist, with knowledge of the species to be surveyed, shall be retained to conduct focused nesting surveys within 15 days of the start of ground-disturbing or construction activities and within the appropriate habitat.	PPD&C Retain a qualified biologist to conduct surveys and to develop a plan to avoid active nest sites during construction, or as an option, remove potential breeding habitat during non-breeding season. Verify survey was conducted and document results. Include mitigation specifications in construction contract as necessary.	During the breeding season prior to start of construction or of each construction phase.	Prior to construction.
	• Specifically, tree, shrub, and ground nesting surveys for special-status birds (including but not limited to white-tailed kite, Swainson's hawk, northern harrier, burrowing owl, loggerhead shrike, and tricolored blackbird), and other migratory birds and raptors shall be conducted before any construction disturbances occur in or near suitable nesting habitat within 500 feet (0.25 mile for Swainson's hawk) of the construction work area between February 15 and August 15. • If an active nest is located on or within 500 feet (0.25 mile for Swainson's hawk) of the project area, CDFG shall be consulted to determine an appropriate no-disturbance buffer around the nest until the nest is no longer active and the young have fledged. No construction shall be allowed within this exclusion area without consulting with CDFG. A wildlife biologist shall monitor the nest site during construction at least once a week, or at a frequency determined by CDFG, to ensure that the nest site is not disturbed and the buffer is maintained.	PPD&C Develop and implement a plan to avoid active nest sites during construction, establish buffer zone, and monitor active nests. Verify that plan is implemented.	Develop plan prior to construction Monitor prior and during construction activities.	Prior to and during construction activities.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
BIOLOGICAL RESOURCES (continued)				
Alt 1 – Impact BIO-9 (continued)	• If the project proponent elects to remove a nest tree, nest trees may only be removed between August 16 and February 28, after the qualified avian biologist has determined that the nests are unoccupied. (b) Minimize impacts to burrowing owl and compensate for habitat loss. The CDFG (1995) recommends that preconstruction surveys be conducted to locate active burrowing owl burrows in the construction work area and within a 500-foot-wide buffer zone around the construction area. The project proponent or its contractor shall retain a qualified biologist to conduct preconstruction surveys for active burrows according to the CDFG's Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 1995). The preconstruction surveys shall include a breeding season survey and a wintering season survey. If no burrowing owls are detected, no further mitigation is required. If active burrowing owls are detected, the following additional measures are required: • Occupied burrows shall not be disturbed during the breeding season (February 1 to August 31), which requires a 250 foot no disturbance buffer. • If owls must be moved away from the project site during the nonbreeding season, passive relocation techniques (e.g., installing one-way doors at burrow entrances) shall be used instead of trapping, as described in CDFG guidelines. At least 1 week will be necessary to complete passive relocation and allow owls to acclimate to alternate burrows. • When destruction of occupied burrows is unavoidable during the nonbreeding season (September 1 to January 31), unsuitable burrows shall be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 on protected lands approved by the CDFG. Newly created burrows shall follow guidelines established by the CDFG (1995). These guidelines also require compensation for loss of foraging habitat described in detail under Impact BIO-8 above.	PPD&C Retain a qualified biologist to conduct preconstruction surveys for active burrows according to the CDFG's Staff Report on Burrowing Owl Mitigation. If burrowing owls detected, verify that mitigation measures are followed. Document in a memo.	Develop plan prior to construction Monitor prior and during construction activities.	Confirm and document in project file during project final design and construction.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
CULTURAL RESOURCES				
Alt 1 – Impact CUL-1: Implementation of the Proposed Action could damage or destroy significant historic resources located within the project footprint.	**MM CUL-1b:** Prior to the development of the Campus and Community North, the University shall ensure that the two previously evaluated historic irrigation canals, Fairfield Canal and the Le Grand Canal, the farm complex, the fence line and prehistoric site MCN-1 which were recommended to be found ineligible for listing under the NRHP and CRHR, are be formally evaluated. Formal NRHP and CRHR evaluations of these resources will be reviewed by the SHPO for concurrence. If SHPO does not concur with the findings of these previous evaluations, the development of any necessary treatment measures will be stipulated in a Historic Properties Treatment Plan as requirements of the PA executed for this project. Identified treatment measures will be implemented prior to any direct effects to the canals as required by the PA.	PPD&C Retain a qualified historian to conduct a formal evaluation of the irrigation canals, Fairfield Canal and the Le Grand Canal, the farm complex, the fence line and prehistoric site MCN-1. SHPO to determine if the sites are eligible for the NRHP and CRHR. If eligible, prepare Historic Properties Treatment Plan. Document preparation and implementation of the plan in memo.	Prior to development of Campus and Community North; during site selection or project design.	Prior to development on the two previously evaluated historic irrigation canals, Fairfield Canal and the Le Grand Canal, the farm complex, the fence line and prehistoric site MCN-1.
Alt 1 – Impact CUL-2: Implementation of the Proposed Action could cause damage to unidentified or buried cultural resources.	**MM CUL-2:** If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or non-human bone are inadvertently discovered during ground-disturbing activities on the campus, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include development of avoidance strategies or mitigation of impacts through data recovery programs such as excavation or detailed documentation. If cultural resources are discovered during construction activities, the construction contractor and lead contractor compliance inspector will verify that work is halted until appropriate treatment measures are implemented in coordination with the USACE and UC Merced.	PPD&C Inform contractor about need to watch for buried cultural resources resources.	During preparation of construction contract.	Document in project file at the start of construction.
		If resources are discovered, halt work and implement appropriate treatment measures.	During construction, in the event of a discovery.	Document in project file upon implementation of required measures.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
CULTURAL RESOURCES (continued)				
Alt 1 – Impact CUL-3: Implementation of the Proposed Action could cause damage to previously unidentified human remains.	**MM CUL-3:** If human remains of Native American origin are discovered during ground-disturbing activities, the Campus and/or developer will comply with state laws relating to the disposition of Native American burials, which falls within the jurisdiction of the California Native American Heritage Commission (Public Resources Code Section 5097). If human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until • the coroner of Merced County has been informed and has determined that no investigation of the cause of death is required; and • if the remains are of Native American origin; • the descendants from the deceased Native Americans have made a recommendation to the land owner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; or • the California Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission.	PPD&C Document measures taken to preserve human remains discovered on campus in place.	During construction.	Confirm and document in project file during planning and construction.
		PPD&C Retain Native American representative to monitor archaeological excavation.	During planning, and upon discovery of human remains in an archaeological context.	Confirm and document in project file.
		PPD&C Contact archaeologist and County Coroner in the event of discovery of suspected human bone.	Upon discovery of suspected human bone.	Confirm and document in project file.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
CULTURAL RESOURCES (continued)				
Alt 1 – Impact CUL-4: Development of the Proposed Action would have the potential to disturb or destroy paleontological resources.	**MM CUL-4a:** Prior to project construction, construction personnel will be informed of the potential for encountering significant paleontological resources. All construction personnel will be informed of the need to stop work in the vicinity of a potential discovery until a qualified paleontologist has been provided the opportunity to assess the significance of the find and implement appropriate measures to protect or scientifically remove the find. Construction personnel will also be informed of the requirements that unauthorized collection resources are prohibited.	PPD&C For projects in previously undisturbed lands, inform contractor about need to watch for paleontological resources.	During preparation of construction contract.	Document in project file at the start of construction.
		PPD&C Retain qualified paleontologist to perform work as specified.	During construction, in the event of a discovery.	Document in project file upon completion of recordation and recovery.
	MM CUL-4b: A qualified paleontologist will be intermittently present to inspect exposures of Merhten Formation, North Merced Gravels, and Riverbank Formation during construction operations to ensure that paleontological resources are not destroyed by project construction.	PPD&C Retain qualified paleontologist to perform work as specified.	Prior to start of excavation and during construction.	Complete upon documentation of compliance with appropriate measures.
GEOLOGY AND SOILS				
Alt 1 – Impact GEO-2: The Proposed Action could expose people or structures to increased risk of structural damage and injury from ground shaking and related hazards.	**MM GEO-2:** During project-specific building design, a site-specific geotechnical investigation shall be performed by a Certified Engineering Geologist or Licensed Geotechnical Engineer to assess detailed seismic, geologic, and soil conditions at each construction site. The study shall include an evaluation of liquefaction potential, slope stability, landslide potential, expansive and compressible soils, and other structural characteristics and shall identify specific geotechnical recommendations designed to mitigate for the site hazards. The geotechnical recommendations will be followed.	PPD&C Retain Certified Engineering Geologist or Licensed Geotechnical Engineer to conduct site-specific geotechnical investigation. Document implementation of geotechnical recommendations in a memo.	During project design, prior to start of excavation, and during construction.	Complete upon construction in compliance with geotechnical report.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
HAZARDOUS MATERIALS AND PUBLIC SAFETY				
Alt 1 – Impact HAZ-4: The Proposed Action could be located on a site that contains hazardous materials and, could create a significant hazard to the public or the environment.	**MM HAZ-4:** In the event that non-permitted disposal sites, trash burn pits, wells, underground storage devices, or unknown hazardous materials are encountered during construction on the campus site, construction activities would cease until all contaminated areas are identified, and remediated or removed. This process of identification and remediation or removal would be coordinated with the Merced County Division of Environmental Health.	PPD&C Inform contractor about need to watch for hazardous materials.	During preparation of construction contract.	Document in project file at the start of construction.
		PPD&C Coordinate with Merced County Division of Environmental Health as required.	During construction, in the event of an encounter.	Document in project file upon. completion of remediation or removal.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
NOISE				
Alt 1– Impact NOI-1: Implementation of the Proposed Action would result in increased vehicular traffic on the regional road network, which would increase ambient traffic noise levels at existing off-site noise-sensitive uses.	**MM NOI-1:** For existing sensitive receptors that are predicted to be exposed to traffic noise increases that exceed the noise significance thresholds, project proponents shall commission a study, conducted by a qualified acoustical professional, to define reasonable and feasible noise mitigation, and shall implement the recommendations. Mitigation measures would include the following: • Re-pave the streets with 'quiet' pavement types such as a porous Open-Grade Asphalt Concrete with fine aggregate size to reduce exterior noise levels to meet the noise thresholds (60 dBA Ldn for residences, schools, and libraries, and 70 dBA Ldn for parks). The effectiveness of this measure would depend on the existing pavement conditions along the roadway segment. Noise reductions of 3 to 4 dBA below the noise levels associated with 'average' pavements have been achieved using quiet pavement. • In areas where 'quiet' pavement is not an option or would not reduce exterior noise levels to meet the noise thresholds, forced-air mechanical ventilation or building sound insulation such as sound-rated windows and doors would be provided to reduce interior noise levels in existing residences that are anticipated to exceed 45 dBA Ldn inside homes. This mitigation would be provided on a case-by-case basis and would typically be applicable in rural areas where the construction of sound barriers or the use of 'quiet' pavement is not found to be feasible and interior noise levels inside residences are anticipated to exceed 45 dBA Ldn.	PPD&C Retain qualified acoustical professional to conduct a study as described. Document completion of study and implementation of recommendations.	During detailed project planning or project design prior to project approval.	Develop construction noise mitigation measures. Document compliance with measures when materials for construction are approved.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
NOISE (continued)				
Alt 1 – Impact NOI-2: Daily operations within the Campus and University Community and special events at the Campus could expose existing off site and future on-site noise-sensitive receptors to elevated noise levels.	**MM NOI-2a:** In areas where new noise-generating Campus or Community uses are proposed adjacent to or integrated with noise-sensitive uses within the Campus or Community North, the project proponents shall retain a qualified acoustical consultant to prepare a design-level study to define reasonable and feasible noise mitigation to reduce noise levels to comply with noise standards. The identified mitigation shall be included in the design of the project. Measures that can be implemented to achieve this include but are not limited to: • Using site planning to minimize noise in noise-sensitive areas by locating noise-generating operations in areas that are set back or acoustically shielded from noise-sensitive uses. • Incorporating appropriate noise controls so that mechanical equipment from proposed uses does not generate noise levels in excess of 60 dBA Ldn at residential façades. • Limiting the hours of noise-generating activities, such as maintenance, loading and unloading, and drive-through operations, to 7:00 AM to 10:00 PM, where potential noise conflicts exist.	PPD&C Retain acoustical consultant to prepare design-level study.	During detailed project planning or project design prior to project approval.	During project design phase.
	MM NOI-2b: Noise considerations shall be taken into account during the design of the multi-purpose stadium and any other noise-generating event facilities. The project proponents shall perform a design-level study, conducted by a qualified acoustical professional, during the project level analysis to define reasonable and feasible noise mitigation for noise-sensitive receptors that are predicted to be exposed to noise levels that exceed the noise significance thresholds (60 dBA Ldn for residences, schools, and libraries, and 70 dBA Ldn for parks).	PPD&C Review project design for compliance with recommendations in study. Revise as needed to incorporate noise control features.	During detailed project planning or project design prior to project approval.	Prior to final project approval.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
NOISE (continued)				
Alt 1 – Impact NOI-3: Construction of the Proposed Action could expose existing off-site and future on-site noise-sensitive receptors to elevated noise levels.	**MM NOI-3:** Prior to initiation of campus or community construction, the project proponents shall approve a construction noise mitigation program including but not limited to the following. • Construction activities within 500 feet of any residences shall be restricted to between the hours of 7:00 AM and 6:00 PM on weekdays and Saturdays with no construction on Sundays and holidays. • All noise-producing project equipment and vehicles using internal combustion engines shall be equipped where appropriate with exhaust mufflers and air-inlet silencers in good operating condition that meet or exceed original factory specifications. • Mobile or fixed "package" equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment. • All mobile or fixed noise-producing equipment used on the project that is regulated for noise output by local, state or federal agency shall comply with such regulation while engaged in project-related activities. • Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where practicable. • Material stockpiles, mobile equipment staging, construction vehicle parking, and maintenance areas shall be located as far as practicable from noise-sensitive land uses. • Stationary noise sources such as generators or pumps shall be located away from noise-sensitive land uses as feasible. • The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. No project-related public address loudspeaker, two-way radio, or music systems shall be audible at any adjacent noise-sensitive receptor except for emergency use. • The erection of temporary noise barriers shall be considered where project activity is unavoidably close to noise-sensitive receptors.	PPD&C Develop construction noise mitigation program and adopt as part of standard construction contract specifications. Inspect construction sites to verify that measures are being implemented.	Prior to and during construction.	Confirm and document during construction.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
NOISE (continued)				
Alt 1 – Impact NOI-3 (continued)	• The noisiest construction operations shall be scheduled to occur together to avoid continuing periods of the greatest annoyance, wherever possible. • Construction vehicle trips shall be routed as far as practical from existing residential uses. • The loudest campus construction activities, such as demolition, blasting, and pile driving, shall be scheduled during summer, Thanksgiving, winter, and spring breaks when fewer people would be disturbed by construction noise. • Whenever possible, academic, administrative, and residential areas that will be subject to construction noise shall be informed a week before the start of each construction project.			
Alt 1 – Impact NOI-4: Pile driving activities during construction could expose nearby receptors to perceptible levels of groundborne vibration.	**MM NOI-4a:** The project proponents shall avoid impact pile driving where possible in vibration-sensitive areas. Drilled piles or the use of vibratory pile driving will be used where geological conditions permit their use. For impact pile driving activities occurring within 50 feet of typical structures, limit groundborne vibration due to construction activities to 0.50 inch/second, ppv (limit of potential for damage to typical structures) in the vertical direction at sensitive receptors. Since in many cases the information available during the preliminary engineering phase would not be sufficient to define specific vibration mitigation measures, the project proponents shall describe and commit to a mitigation plan to minimize construction vibration damage using all feasible means available. Thresholds for individual structures could be established based on the assessment of each structure's ability to withstand vibration, and vibration monitoring could be conducted to ensure compliance with the vibration thresholds.	PPD&C Develop construction vibration mitigation program and adopt as part of standard construction contract specifications. Inspect construction sites to verify that measures are being implemented.	Prior to and during construction.	Document compliance in project file upon completion of construction.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
NOISE (continued)				
Alt 1 – Impact NOI-4 (continued)	**MM NOI-4b:** For construction adjacent to highly sensitive uses such as laboratories, apply additional measures as feasible, including advance notice to occupants of sensitive facilities to ensure that precautions are taken in those facilities to protect ongoing activities from vibration effects.	PPD&C Ensure that construction vibration mitigation program include precautions for highly sensitive uses as described. Inspect construction sites to verify that precautions are being implemented.	Prior to and during construction.	Document compliance in project file upon completion of construction.
Alt 1 – Impact NOI-5: New on-site noise-sensitive land uses, such as Campus and University Community residences, could be exposed to noise levels exceeding noise thresholds.	**MM NOI-5a:** For new noise-sensitive Campus and University Community development, noise considerations shall be taken into account during initial site planning, in order to maximize shielding by the planned structures or other on-site features. In areas where new residential development or noise-sensitive park uses would be developed adjacent to noise-generating project development or along Campus Parkway, the project proponent shall retain a qualified acoustical professional to prepare a design level study to define reasonable and feasible noise mitigation to reduce exterior and interior noise levels in noise-sensitive areas to comply with the land use compatibility guidelines (60 dBA Ldn exterior and 45 dBA Ldn interior for residences). The identified mitigation shall be included in the design of the project. Measures that can be implemented to achieve reductions in noise levels include but are not limited to: • Using site planning to minimize noise in parks and residential outdoor activity areas by locating these areas as far as possible from noise sources or at locations behind buildings.	PPD&C Retain acoustical consultant to prepare design-level study and noise mitigation plan.	During detailed project planning or project design prior to project approval.	During project design phase.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
NOISE (continued)				
Alt 1 – Impact NOI-5 (continued)	• Paving Campus Parkway section within the project site with a 'quiet' pavement type such as a porous Open-Grade Asphalt Concrete with fine aggregate size. Noise reductions of 3 to 4 dBA below noise levels associated with 'Average' pavements have been achieved using a 'quiet' pavement. • Using noise barriers or berms to acoustically shield these uses where site planning methods are not sufficient to reduce noise in noise-sensitive exterior use areas to below 60 dBA Ldn. • Providing mechanical ventilation so that windows can remain closed to maintain interior noise levels below 45 dBA Ldn where exterior noise levels at residential façades are predicted to exceed 60 dBA Ldn. • Providing sound-rated windows and applying other noise-reducing construction methods where exterior noise levels at residential facades are predicted to exceed 65 dBA Ldn.	PPD&C Review project design for compliance with recommendations in study. Revise as needed to incorporate noise control features.	During detailed project planning or project design prior to project approval.	Prior to final project approval.
PUBLIC SERVICES AND RECREATION				
Alt 1 – Impact PUB-1: The Proposed Action would increase demand for law enforcement services and would require the construction of new facilities.	**MM PUB-1:** The Campus shall maintain a minimum ratio of 0.7 officer per 1,000 population.	PPD&C Document compliance with mitigation measure.	During operation.	Annually.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
PUBLIC SERVICES AND RECREATION (continued)				
Alt 1 – Impact PUB-6: The Proposed Action would increase the use of Lake Yosemite Regional Park which could accelerate physical deterioration of park facilities.	**MM PUB-6a:** The University shall work with the County to develop a program for joint use of on campus sports, recreational, and parking facilities.	PPD&C Work with County to implement mitigation measures.	During detailed project planning or project design prior to project approval.	Following completion of the environmental review process for new park facilities, if mitigation costs are identified in connection with those facilities proposed because of the implementation of the 2009 LRDP.
	MM PUB-6b: The University shall work with the County to avoid physical deterioration of existing facilities at Lake Yosemite Regional Park, and/or improve park facilities within the existing park site as necessitated by the increased uses associated with development of the Campus.	PPD&C Work with County to implement mitigation measures.	During detailed project planning or project design prior to project approval.	
	MM PUB-6c: The University will pay its fair share of the cost of necessary improvements to the regional park The University's share of funding will be based on the percentage that on campus residential population represents of the total population in eastern Merced County at the time that an improvement is implemented.	PPD&C Negotiate with County to determine fair share contribution toward feasible and required environmental mitigation measures for improvements to Lake Yosemite Regional Park.	During detailed project planning or project design prior to project approval.	
	MM PUB-6d: In recognition of the sensitive resources present on lands immediately adjacent to the regional park, all regional park improvement projects that are implemented by the County within 250 feet of the park's eastern boundary pursuant to Mitigation Measures PUB-6b and PUB-6c above, will implement mitigation measures to avoid and minimize indirect effects on biological resources. These measures shall be based on and as effective as the measures in the Conservation Strategy to control indirect impacts to biological resources.	PPD&C Document compliance with mitigation measure in conjunction with Mitigation Measures PUB-6b and PUB-6c above.	During detailed project planning or project design prior to project approval.	Document compliance with mitigation measures prior to approval of improvements of the regional park.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
TRANSPORTATION AND TRAFFIC				
Alt 1 – Impact TRANS-1: The Proposed Action would contribute 1 percent or more to the traffic growth projected for 18 roadway segments planned to be widened in the future, cause the LOS of two study intersections to deteriorate to unacceptable levels, and result in a significant increase in delay at one intersection.	**MM TRANS-1A: <u>Campus Traffic Mitigation Program (CTMP).</u>** The Campus Traffic Mitigation Program (CTMP) is designed to mitigate off-site impacts associated with the roadway segments and intersections affected by the development of the Campus through full build-out, as described in the 2009 LRDP. It includes a combined approach of (1) transportation measures to reduce peak-hour trips, and (2) monetary contributions to roadway improvements identified as necessary to mitigate the impacts of the Proposed Action. CEQA provides that an agency can mitigate its contribution to local and regional environmental impacts by contributing its proportional share of funding to mitigation measures designed to alleviate the identified impact (State CEQA Guidelines Section 15130(a)(3)). The portion of the CTMP that provides for monetary contributions consists of specific mitigation measures for certain roadway segments and intersections adjacent to the Campus (including Lake Road between Yosemite Avenue and Bellevue Road and Bellevue Road between G Street and Lake Road) that are anticipated to reach capacity soon after the Campus reaches 10,000 full-time equivalent (FTE) students. The University anticipates that the County of Merced (or the City of Merced if annexed) may plan and implement improvements to these segments and intersections before the Campus reaches 10,000 students. The University also anticipates that the County (or the City) may choose to construct new regional facilities (such as the Campus Parkway) or oversize new facilities in lieu of addressing capacity issues by more limited improvements on the affected segments (e.g., widening Lake Road). To address these issues, the CMTP contains detailed provisions for the University's share of funding these anticipated improvements upon the notice to proceed for construction. To the extent that the County (or the City) chooses not to proceed with the specific improvements identified in MM TRANS-1A-4, the University will address campus impacts under MM TRANS-1A-5. The CTMP will consist of the following elements/measures:			

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
TRANSPORTATION AND TRAFFIC (continued)				
Alt 1 – Impact TRANS-1 (continued)	**MM TRANS-1A-1: Trip Reduction Measures** **Travel Demand Management.** To reduce on- and off-campus vehicle trips and resulting impacts, the University will implement a range of Transportation Demand Management (TDM) strategies. TDM strategies will include measures to increase transit and shuttle use, encourage alternative transportation modes including bicycle transportation, implement parking polices that reduce demand, and implement other mechanisms that reduce vehicle trips to and from the campus and community. **Transit Enhancement.** To enhance transit systems serving the Campus and University Community, the University will work cooperatively with the City of Merced, County of Merced, Cat Tracks, The Bus, StaRT, YARTS, and other local agencies to coordinate service routes with existing and proposed shuttle and transit programs.	PPD&C Report on provision of TDM programs, transit services, and usage of these programs and services.	Throughout LRDP development.	At intervals of 1,500 FTE student growth, relative to 2009 LRDP baseline.
	Sustainability Measures. The University shall review individual projects proposed under the 2009 LRDP for consistency with UC sustainable transportation policy and UC Merced TDM strategies set forth in the 2009 LRDP to ensure that bicycle and pedestrian improvements, alternative fuel infrastructure, transit stops, and other project features that promote alternative transportation are incorporated to the extent feasible. The University shall monitor the performance of campus TDM strategies through annual surveys.	PPD&C Report on sustainable elements of each building project.	Throughout LRDP development.	Prior to design approval of each building project.
	Campus Housing. The University will continue to pursue the implementation of affordable on-campus student housing to reduce peak-hour commuter trips to the campus. The University's goal is for 50 percent of student population to live on campus.	PPD&C Plan for provision of new housing projects to keep pace with projected student body growth. Report on existing and projected housing provision on a yearly basis.	Throughout LRDP development.	Report on a yearly basis.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
TRANSPORTATION AND TRAFFIC (continued)				
Alt 1 – Impact TRANS-1 (continued)	**MM TRANS-1A-2: Campus Traffic Monitoring** The University will monitor trip generation resulting from the campus development under the 2009 LRDP to track the actual trip generation relative to the projections in this EIS/EIR. The University will conduct traffic cordon counts of the campus traffic with each 1,500 person increase in student population measured by three-term average FTE students enrollment increases with 2007-08 as the base year. The University will report the findings to the City and the County, and these findings will be used to calculate the University's proportional share of responsibility to fund local transportation improvements as described below.	PPD&C Conduct AM and PM peak period traffic counts at Campus gateway(s) and report trip generation rate per FTE student, relative to Draft EIS/EIR rate.	Throughout LRDP development.	At intervals of 1,500 FTE student growth, relative to 2009 LRDP baseline.
	MM TRANS-1A-3: Determination of Proportional Share Attributable to Campus The University will monitor its traffic based on MM TRANS-1A-2 above and use the data to calculate its proportional share of the cost of each improvement at each location noted in Table 4.13-10. The Campus's proportional share of each improvement will be determined by applying the actual trip generation rate at the time that the improvement is needed. The formula to calculate the proportional share will be: (Actual trip generation rate on a per student basis)/(the projected trip generation rate) x the projected percentages in Table 4.13-10 The use of the actual trip generation rate may increase or decrease the Campus's proportional share compared to the projected percentages in Table 4.13-10.	PPD&C Report proportional share based on monitored trip generation, using improvement cost data as described.	Throughout LRDP development.	At intervals of 1,500 FTE student growth, relative to 2009 LRDP baseline.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
TRANSPORTATION AND TRAFFIC (continued)				
Alt 1 – Impact TRANS-1 (continued)	**MM TRANS-1A-4: Monetary Contributions to Roadway Improvements Adjacent to the Campus** **Scope of Mitigation.** The University will commit to pay its proportional share of the cost of improvements to three intersections and two roadway segments that are adjacent to the Campus at the time that improvements to these facilities are triggered, as indicated below: **Construct Campus Parkway between Yosemite Avenue and the Campus -** when the County of Merced (or the City of Merced if annexed) demonstrates to the University that Lake Road from Yosemite Avenue to Bellevue Road is at 90% of its capacity (as described in Table 4.13-6) and that the need for improvement is imminent. **Widen Bellevue from 2 to 4 lanes from G Street to Lake Road -** when the County of Merced (or the City of Merced if annexed) demonstrates to the University that Bellevue Road between G Street and Lake Road is at 90% of its capacity (as described in Table 4.13-6) and that the need for improvement is imminent. (Future widening of Bellevue Road from 4 to 6 lanes will be mitigated pursuant to MM TRANS-1-5). **Intersections of Bellevue Road/Lake Road, Myers Gate/Lake Road, and Yosemite Avenue/Lake Road -** when the County of Merced (or the City of Merced if annexed) demonstrates that the intersections listed above are approaching an unacceptable Level of Service (LOS) and the need for an improvement is imminent. **Contribution of Campus' Proportional Share.** At each of these locations, the University's proportional share will be estimated based on the percentages reported in Table 4.13-10 which represent the projected proportional share adjusted per the discussion under **Determination of Proportional Share Attributable to Campus**, above.	PPD&C (1) Internally commit proportional share funding; (2) Pay affected jurisdiction.	(1) When affected jurisdiction programs each project, provides a construction cost estimate, and completes a full project funding plan; (2) Prior to project construction.	As each improvement project is programmed, cost estimates are prepared, and full funding plans are prepared.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
TRANSPORTATION AND TRAFFIC (continued)				
Alt 1 – Impact TRANS-1 (continued)	**Contribution of University Community's Proportional Share.** The University will advance the proportional share of the cost of the specific improvements included in this section associated with the University Community (as identified on Table 4.-13.10) if, prior to the issuance of any entitlements for development in the University Community (including but not limited to any specific plan, tentative map or permit), the County (or the City) enacts an enforceable fee program to collect sufficient funds from all developers in the University Community to fully reimburse the University for any amount overpaid beyond its proportional share. The fee program must be updated annually to ensure that sufficient fees are collected to fully reimburse the University for the amount advanced, including interest associated with any financing of the cost of the University Community's share of the improvements. The fee program shall provide that the fees collected from development within University Community for purpose of paying for the improvements in this section shall be paid directly to the University. If a fee mechanism has not been adopted prior to the issuance of a notice to proceed for an improvement, the University's commitment to advance the funding under this section will not arise until such program has been adopted. **Commitment of Funds.** Funding will be internally committed by the University when an improvement project is included in the County (or the City) capital improvement program, and the County (or the City) provides a construction cost estimate and a project funding plan to the University. **Timing of Mitigation Payments.** The funds will be disbursed to the County (or the City) upon issuance of the notice to proceed with construction of the project.			

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
TRANSPORTATION AND TRAFFIC (continued)				
Alt 1 – Impact TRANS-1 (continued)	**MM TRANS-1A-5: Monetary Contributions to Other Roadway Improvements** **Scope of Mitigation.** The University will commit to fund its proportional share of the cost of all roadway improvements at the locations shown in Table 4.13-10 and will commit to fund its proportional share of only those planned improvements for roadway segments that are listed in Table 4.13-9 and mitigation for intersections listed in Table 4.13-11. (Improvements to the intersection of Yosemite Avenue and Lake Road, construction of Campus Parkway between Yosemite Avenue and the Campus, and Bellevue Road widening from 2 to 4 lanes are addressed under MM TRANS-1A-4). **Contribution of Campus' Proportional Share.** At each of these locations, the University's proportional share will be estimated based on the percentages reported in Table 4.13-10 which represent the University's proportional share adjusted per the discussion under Determination of Proportional Share Attributable to Campus, above. **Commitment of Funds.** Funding will be internally committed by the University at the point at which an improvement project is included in the County (or the City)'s capital improvement program, and the County (or the City) provides a construction cost estimate and a project funding plan to the University. **Timing of Mitigation Payments.** The funds will be disbursed to the County (or the City) upon issuance of the notice to proceed with construction of the project.	PPD&C (1) Internally commit proportional share funding; (2) Pay affected jurisdiction.	(1) When affected jurisdiction programs each project, provides a construction cost estimate, and completes a full project funding plan; (2) Prior to project construction.	As each improvement project is programmed, cost estimates are prepared, and full funding plans are prepared.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
TRANSPORTATION AND TRAFFIC (continued)				
Alt 1 – Impact TRANS-1 (continued)	**MM TRANS-1A-6: Alternate Improvements** Specific feasible traffic improvements are identified in **Tables 4.13-11** and **4.13-9** to mitigate each of the Proposed Action's significant traffic impacts to a less than significant level. The identified improvements would be planned, designed, and implemented by the City of Merced, Merced County, or other affected jurisdictions. Detailed planning, environmental analysis and engineering studies for some of these improvements have not been completed and the implementing agencies have not committed to all identified improvements. As a result, the final configuration of future transportation improvements may vary from those identified in **Tables 4.13-11** and **4-13-9**. The University will monitor its traffic based on MM TRANS-1A-2 above and use the data to calculate its incremental responsibility towards the Campus's projected share of each improvement location noted in **Table 4.13-10**. If any improvement described herein is found to be ineffective or infeasible, and alternative improvements are determined to be required to achieve an acceptable LOS, the University will work in collaboration with the County or the City to implement alternative improvements.	PPD&C Consult with County and City staff at each 1,500-student monitoring stage, to determine whether alternate improvements are under consideration, and discuss efficacy of the alternate improvements.	Throughout LRDP development.	At each 1,500-student monitoring stage.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
HYDROLOGY AND WATER QUALITY				
Cumulative Impact HYD-3: Development of the Campus and University Community, in conjunction with other past, present, and reasonably foreseeable future development in the project area, would not substantially interfere with groundwater recharge but would deplete groundwater supplies resulting in an overdraft of the regional groundwater aquifer.	**Cumulative MM HYD-3a:** The University shall support MAGPI in pursuing and securing cooperative arrangements with state and local agencies for purposes of expanding the basin's conjunctive use capabilities.	PPD&C Coordinate with MAGPI.	Prior to and during development of Campus.	Confirm that cooperative agreements have been secured.
	Cumulative MM HYD-3c: To reduce its demand for water, the Campus shall implement an aggressive water conservation program which will consist of the following elements: • Incorporate water-efficient landscaping practices in all new landscape installations. Water-conservation landscaping practices shall include, but not be limited to, use of water-efficient plants, temporary irrigation systems for plant establishment areas where mature plants will be able to survive without regular irrigation, grouping of plants according to water requirements, design of planting areas to maximize irrigation pattern efficiency, and mulch covering in planting areas.	PPD&C Incorporate water efficient landscaping practices in all new landscape installation.	Prior to project design approval.	Confirm that all landscaping meets new standard.
	• Continue to install low flow plumbing fixtures in all new buildings.	PPD&C to continue installing low flow plumbing fixtures.	When plumbing fixtures are installed.	Document all new fixtures are low-flow.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
HYDROLOGY AND WATER QUALITY (continued)				
	• As new technologies become available, the Camus shall conduct pilot programs for high-efficiency plumbing fixtures including, but not limited to, dual-flush toilets. If a piloted technology proves to be successful (i.e., high-efficiency fixtures that are effective in water savings and do not require more maintenance than the existing standard), the Campus shall revise its standards to require use of the fixtures in all new buildings and in existing buildings as existing fixtures need to be replaced.	PPD&C Implement pilot programs. Revise campus standards as warranted.	Pilot programs ongoing. Depends on results of pilot programs.	Document results of program. Confirm standards have been revised.
	• Require that new contracts for washing machines in student residences be certified by the Consortium on Energy Efficiency to have a water factor of 5.5 or less or meet an equivalent standard. New washing machines purchased for use in athletic facilities shall meet applicable standards for water efficiency for institutional machines.	PPD&C Specifications for washing machines to require that standard is met.	When new machines are purchased.	Confirm new machines meet standards and document.
	• Within one year following approval of the 2009 LRDP, the Campus shall implement a water conservation education program for campus residents. This will include but not be limited to: – Distribution to residents of employee housing of education materials covering topics such as basic home water conservation practices, plumbing retrofits and replacements, and strategies to conserve landscape irrigation.	PPD&C Provide residents with information.	Implement water conservation programs with residents.	Confirm and document that information has been provided.
	– Designation of a staff member who will be responsible for developing and implementing a water conservation education and awareness program to reduce water consumption in student residences, dining halls, and student affairs facilities.	Designate a staff member as a water conservation educator.	Within one year of LRDP approval.	Confirm staff member has been designated.
	• Within two years following approval of the 2009 LRDP, the Campus shall initiate a study on feasible measures for utilization of reclaimed water (including rainwater, grey water, cooling tower blow down water and/or recycled water) in new development. Potential uses of reclaimed water include cooling, irrigation, toilet flushing, and industrial water. The study shall contain a plan to utilize reclaimed water in new development as feasible and effective.	Initiate study of reclaimed water as specified.	Within two years of LRDP approval.	Document initiation of reclaimed water study.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
	• The Campus shall, at intervals of no more than five years during the term of the 2009 LRDP, conduct roundtable discussions with representatives of relevant campus departments, and conduct additional studies of new technologies as needed to identify feasible and effective water conservation measures for implementation on the Campus during the subsequent five year period. The following are among the measures that shall be considered: – Retrofitting existing water meters such that building use and irrigation are separately metered. – Replacing natural turf on athletic fields with artificial turf. • Installing timers on showers in student residences.	Discuss potential effective water conservation measures with the Campus departments that could be studied for implementation.	Every five years after approval of LRDP.	Document results of discussions.

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
UTILITIES AND SERVICE SYSTEMS				
Cumulative Impact UTILS-1: Development of the Campus and University Community, in conjunction with other past, present, and reasonably foreseeable future development in the project area, would not require the construction of new water supply facilities that would result in significant environmental impacts. The cumulative development would result in a substantial increase in demand for water which potentially could result in significant environmental impacts.	**Cumulative MM UTILS-1a:** The University shall implement Cumulative Mitigation Measure HYD-3a.	See actions for **Cumulative MM HYD-3a**.		

Significant Impact	Mitigation Measure	Monitoring/Reporting Responsibility and Action(s)	Mitigation Timing	Monitoring Schedule
UTILITIES AND SERVICE SYSTEMS (continued)				
Cumulative Impact UTILS-2: Development of the Campus and University Community, in conjunction with other past, present, and reasonably foreseeable future development in the project area, would result in a significant cumulative impact on wastewater collection and treatment facilities.	**Cumulative MM UTILS-2a:** The University shall continue to monitor and minimize the total amount of wastewater discharged from the site.	PPD&C Monitor amount of wastewater discharged. If unexpected increases in wastewater volume occur over time, minimize discharge.	Ongoing	Document discharge amount of wastewater annually.
	Cumulative MM UTILS-2b: The University shall evaluate the feasibility of developing a recycled water plant on the Campus or in Community North to further reduce wastewater flows discharged to the City's sewer system.	See actions for **Cumulative MM HYD-3c**.		

Table 2
Mitigation Monitoring and Reporting Program
UCM 2020 Project

Significant Impact	Mitigation Measure	Monitoring/Reporting Action(s)	Mitigation Timing	Monitoring Schedule
AESTHETICS				
UCM 2020 Impact AES-1: Development under the UCM 2020 Project would affect scenic vistas.	**UCM 2020 MM AES-1**: Implement **Program Level Mitigation Measures AES-1a** and **-1b.**	See actions for **Program Level Mitigation Measures AES-1a** and **-1b** above.		
UCM 2020 Impact AES-2: Development under the UCM 2020 Project would substantially alter the visual quality and character of the site and its surroundings.	**UCM 2020 MM AES-2:** Implement **Program Level Mitigation Measure AES-3.**	See actions for **Program Level Mitigation Measure AES-3.**		
AIR QUALITY				
UCM 2020 Impact AQ-2: The UCM 2020 Project would result in operational emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation.	**UCM 2020 MM AQ-2:** Implement **Program Level Mitigation Measures AQ-2a** through **AQ-2c.**	See actions for **Program Level Mitigation Measures AQ-2a** through **AQ-2c.**		

Significant Impact	Mitigation Measure	Monitoring/Reporting Action(s)	Mitigation Timing	Monitoring Schedule
AIR QUALITY (continued)				
UCM 2020 Impact AQ-3: The UCM 2020 Project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).	**UCM 2020 MM AQ-3:** Program Level Mitigation Measures AQ-2 would apply to this impact. No further mitigation is available.	See actions for **Program Level Mitigation Measures AQ-2.**		
GEOLOGY AND SOILS				
UCM 2020 Impact GEO-1: Development under the UCM 2020 Project could expose people or structures to increased risk related to ground shaking and seismically induced ground failure, including liquefaction.	**UCM 2020 MM GEO-1:** Implement **Program Level Mitigation Measure GEO-2.**	See actions for **Program Level Mitigation Measure GEO-2.**		

Significant Impact	Mitigation Measure	Monitoring/Reporting Action(s)	Mitigation Timing	Monitoring Schedule
HAZARDS AND HAZARDOUS MATERIALS				
UCM 2020 Impact HAZ-1: Development under the UCM 2020 Project could be located on a site that potentially contains hazardous materials and could create a significant hazard to the public or the environment.	**UCM 2020 MM HAZ-1**: Implement **Program Level Mitigation Measure HAZ-4.**	See actions for **Program Level Mitigation Measure HAZ-4.**		
NOISE				
UCM 2020 Impact NOI-2: Construction of the UCM 2020 Project could expose existing off-site and future on-site noise-sensitive receptors to elevated noise levels and groundborne vibration.	**UCM 2020 MM NOI-2a**: Implement **Program Level Mitigation Measures NOI-3, NOI-4a**, and **NOI-4b**.	See actions for **Program Level Mitigation Measures NOI-3, NOI-4a**, and **NOI-4b**.		
PUBLIC SERVICES AND RECREATION				
UCM 2020 Impact PUB-1: The UCM 2020 Project would increase demand for law enforcement services and would require the construction of new facilities.	**UCM 2020 MM PUB-1:** Implement **Program Level Mitigation Measure PUB-1**	See actions for **Program Level Mitigation Measure PUB-1**		

Significant Impact	Mitigation Measure	Monitoring/Reporting Action(s)	Mitigation Timing	Monitoring Schedule
PUBLIC SERVICES AND RECREATION (continued)				
UCM 2020 Impact PUB-2: The UCM 2020 Project would increase the use of Lake Yosemite Regional Park, which could accelerate physical deterioration of park facilities**.**	**UCM 2020 MM PUB-2:** Implement **Program Level Mitigation Measures PUB-6a** through **PUB-6d.**	See actions for **Program Level Mitigation Measures PUB-6a** through **PUB-6d.**		
TRANSPORTATION AND TRAFFIC				
UCM 2020 Impact TRANS-2: With the addition of project traffic, the LOS of three of the study intersections would deteriorate to unacceptable levels under Existing Plus UCM 2020 Project conditions.	**UCM 2020 MM TRANS-2:** The Campus shall implement Program Level Mitigation Measure TRANS-1, pursuant to which it will monitor traffic growth related to the campus and pay its proportional share of the cost of the required improvement.	See actions for Program Level Mitigation Measure TRANS-1		
UCM 2020 Impact TRANS-3: Implementation of the UCM 2020 Project would result in an exceedance of the LOS threshold along local roadway segments under 2020 Plus UCM 2020 Project conditions.	**UCM 2020 MM TRANS-3:** The Campus shall implement Program Level Mitigation Measure TRANS-1, pursuant to which it will monitor traffic growth related to the campus and pay its proportional share of the cost of the above listed improvement.	See actions for Program Level Mitigation Measure TRANS-1		