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		