

Table 6-1 presents a summary of (1) environmental impacts of the proposed project, (2) their level of significance prior to mitigation, (3) project-specific mitigation measures, and (4) the level of significance with mitigation. Table 6-2 presents a summary of impacts and mitigation measures with respect to the Phase 1 Campus. Section 7 of this Final EIR provides an explanation of additional mitigation measures that have been added and other changes that have been made to these tables.

**TABLE 6-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES IN THE EIR**

Impact	Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>	
<b>4.1 Aesthetics</b>				
<b>4.1-1</b>	Implementation of the LRDP could affect scenic vistas. This impact is considered <i>less than significant</i> .	LS	<i>4.1-1 Major vehicular and pedestrian transportation corridors on-campus should be located and designed to provide views of the Sierra Nevada. (Applicability-project level)</i>	LS
<b>4.1-2</b>	Implementation of the LRDP could affect scenic resources. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>4.1-3</b>	Implementation of the LRDP would affect existing visual character and quality of the site and its surroundings. This impact is considered <i>significant</i> .	S	<i>No mitigation available.</i>	SU
<b>4.1-4</b>	Lighting of the buildings and other facilities on the proposed campus would create a new source of substantial light or glare. This is considered to be a <i>significant</i> impact.	S	<i>4.1-4 All outdoor lighting should be focused and directed to the specific location (e.g. roads, walkways), be shielded to avoid the production of glare, minimize up-light, and light spill. All light fixtures shall be located, aimed, or shielded so as to minimize stray light trespassing across property boundaries onto Lake Yosemite Regional Park and other sensitive areas (Applicability-project level).</i>	SU
<b>4.1-5</b>	Implementation of the LRDP together with cumulative development in the vicinity will change the visual character of the area. This impact is considered <i>significant</i> .	S	<i>No mitigation available.</i>	SU
<b>4.1-6</b>	Implementation of the LRDP together with cumulative development in the vicinity will not result in a substantial adverse change to the visual quality of the	LS	<i>No mitigation required.</i>	LS

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	area. This impact is considered <i>less than significant</i> .			
4.1-7	Implementation of the LRDP together with cumulative development in the vicinity will create new sources of light and glare that could affect nighttime views in the area. This impact is considered <i>significant</i> .	S	<i>See mitigation measure 4.1-4.</i>	SU
4.1-8	Implementation of the LRDP together with cumulative development in the vicinity could adversely affect scenic vistas and scenic resources. This impact is considered <i>significant</i> .	S	<i>No mitigation available.</i>	SU
<b>4.2 Agricultural Resources</b>				
4.2-1	Implementation of the LRDP would result in the conversion of about 684 acres of grazing land into nonagricultural uses. This impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.2-2	Implementation of the LRDP would not substantially conflict with existing zoning for agricultural use. This impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.2-3	Cumulative development will result in the conversion of prime farmland, farmland of statewide importance, and unique farmland to nonagricultural use. This is a <i>significant</i> cumulative impact.	S	<i>No mitigation available.</i>	SU
<b>4.3 Air Quality</b>				
4.3-1	Construction activities as part of development allowed under the LRDP could result in short term generation of fugitive dust (PM <sub>10</sub> ). This is considered to be a <i>potentially significant</i> impact.	PS	4.3-1(a) <i>The Campus shall include in all construction contracts the measures specified in SJVUAPCD 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:</i>	LS

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4.3-1 cont'd			<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.</i></li> <li>• <i>All land clearing, grubbing, scraping, excavation, land leveling, grading, cut &amp; fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.</i></li> <li>• <i>With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.</i></li> <li>• <i>When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.</i></li> <li>• <i>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</i></li> </ul>	

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4.3-1 cont'd			<p><i>limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)</i></p> <ul style="list-style-type: none"> <li>• <i>Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions by utilizing sufficient water or chemical stabilizer/suppressant (Applicability-project level).</i></li> </ul> <p>4.3-1(b) <i>The campus will include in construction contracts for large construction projects near sensitive receptors the following control measures characterized by the SJVAUPCD as enhanced and optional control measures:</i></p> <ul style="list-style-type: none"> <li>• <i>Limit traffic speeds on unpaved roads to 15 mph;</i></li> <li>• <i>Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent; and</i></li> <li>• <i>To the extent feasible, limit area subject to excavation, grading, and other construction activity at any one time (Applicability-project level).</i></li> </ul>	
4.3-2	Construction activities and development allowed under the LRDP would generate increased levels of CO, O <sub>3</sub> precursors (ROG and NO <sub>x</sub> ), and PM <sub>10</sub> emissions. This could hinder air quality attainment and maintenance efforts even though those emissions were included in air quality planning efforts. This is considered to be a	S	<p>4.3-2(a) <i>Construction Sources</i></p> <ul style="list-style-type: none"> <li>• <i>The following mitigation measures will be implemented to reduce impacts of ozone precursor emissions from construction equipment exhaust.</i></li> <li>• <i>When feasible, use alternative fuel construction</i></li> </ul>	SU

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4.3-2 cont'd	<i>significant</i> impact at the LRDP level.		<p><i>equipment.</i></p> <ul style="list-style-type: none"> <li>• <i>Minimize idling time to a maximum of 10 minutes when construction equipment is not in use.</i></li> <li>• <i>To the extent practicable, manage operation of heavy-duty equipment to reduce emissions.</i></li> <li>• <i>Employ construction activity management techniques such as extending the construction period outside the ozone season of May through October.</i></li> <li>• <i>Use low-emission on-site station equipment.</i></li> <li>• <i>Consult with the SJVUAPCD when future projects are proposed as to the best feasible construction equipment control technology at that time.</i></li> <li>• <i>Construction equipment rated greater than 100 horsepower shall have, to the extent feasible, diesel exhaust controlled by use of catalyst-based diesel particulate filters (Applicability—project level).</i></li> </ul> <p>4.3-2(b) <i>The campus will work with the SJVUAPCD 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. (Applicability-</i></p>	

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4.3-2 cont'd			<p><i>program level)</i></p> <p>4.3-2(c) <i>Vehicular Sources</i></p> <p><i>The following measures will be implemented to reduce emissions from vehicles, as feasible.</i></p> <ul style="list-style-type: none"> <li>• <i>Provide pedestrian-enhancing infrastructure to encourage pedestrian activity and discourage vehicle use.</i></li> <li>• <i>Provide bicycle facilities to encourage bicycle use instead of driving.</i></li> <li>• <i>Provide transit-enhancing infrastructure to promote the use of public transportation.</i></li> <li>• <i>Provide facilities to accommodate alternative-fuel vehicles such as electric cars and CNG vehicles to address impacts from contributions to the regional emissions of criteria pollutants.</i></li> <li>• <i>Improve traffic flows and congestion by timing of traffic signals to facilitate uninterrupted travel (Applicability-program level).</i></li> </ul> <p>4.3-2(d) <i>Area Sources</i></p> <p><i>The following measures will be implemented to reduce emissions from area sources, as feasible.</i></p> <ul style="list-style-type: none"> <li>• <i>Use solar or low-emission water heaters.</i></li> <li>• <i>Orient buildings to take advantage of solar heating and natural cooling and use passive solar</i></li> </ul>	

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4.3-2 cont'd			<p><i>designs.</i></p> <ul style="list-style-type: none"> <li>• <i>Increase wall and attic insulation.</i></li> <li>• <i>For fireplaces or wood-buring appliances, require low-emitting EPA certified wood-buring appliances, or residential natural gas fireplaces.</i></li> <li>• <i>Provide electric equipment for landscape maintenance.</i></li> <li>• <i>Utilize guidance provided by the CARB with respect to selection of landscaping materials that do not produce smog or pollen.</i></li> <li>• <i>Allow for the use of pellet stoves to reduce emissions from area sources (Applicability-project level).</i></li> </ul> <p>4.3-2(e) <i>Turbines and Boilers</i></p> <p><i>Mitigation is already accounted for by assuming BACT will be applied to these sources.</i></p>	
4.3-3	Development allowed under the LRDP would result in an increase in localized CO concentration from vehicle traffic at intersections but the increase would not result in localized concentrations that would exceed air quality standards. This is a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.3-4	Development allowed under the LRDP would not include sources of odorous emissions, with the exception of a small recycled water facility. This is	LS	<i>No mitigation required.</i>	LS

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	considered to be a <i>less-than-significant</i> impact.			
4.3-5	Campus occupants and residents in the immediate vicinity of the Campus would not be exposed to significant quantities of toxic air contaminants emitted from uses on the campus. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.3-6	Development allowed under the LRDP, in conjunction with cumulative development in the region, could hinder air quality attainment and maintenance efforts for criteria pollutants. This is considered to be a <i>significant</i> impact.	S	<i>See Mitigation Measure 4.3-2 (a-e).</i>	SU
4.3-7	Development allowed under the LRDP, in conjunction with cumulative development in the region, would not cause an exceedance of CO standards. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.3-8	Development allowed under the LRDP, in conjunction with cumulative development in the project vicinity, would not result in significant health risks from emissions of toxic air contaminants. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.4 Biological Resources</b>				
4.4-1	Development under the LRDP would result in a substantial adverse effect on wetlands delineated using the 1987 USACE delineation manual. This is considered to be a <i>potentially significant</i> impact.	PS	4.4-1(a) <i>The University of California shall develop and implement a Resource Mitigation Program to be reviewed and approved by the USACE, USFWS and CDFG through the state and federal permit processes. The Resource Mitigation Program shall result in the acquisition and preservation of substantial acreages of vernal pool-dominated grassland habitat and other</i>	LS

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4.4-1 cont'd		<p><i>wetland resources throughout eastern Merced County and the restoration, enhancement or creation of wetland resources within these preserved areas. The Resource Mitigation Program shall be designed to address impacts on wetlands and associated upland habitat and the special status species that depend upon those habitats. With respect to wetlands in particular, the Resource Mitigation Program shall be designed to satisfy a "no net loss of wetland functions" standard in connection with campus development.</i></p> <p><i>The RMP will be carried out by the University in close coordination with the Wildlife Conservation Board (WCB) and other parties.</i></p> <p><i>Areas to be preserved under the Resource Mitigation Program will be protected in perpetuity by conservation easements held by a third party and, in some cases, may include transfer to the University of California Natural Reserve System. The Resource Mitigation Program shall include a plan for the monitoring and management of preserved wetland and upland habitats, based upon adaptive management principles, that ensures the ongoing funding of those efforts (which may be from external sources, such as the WCB or grant funds) and incorporates measures (e.g., grazing management, restrictions on rodenticides, watershed protections and other measures) necessary to maintain the biological diversity and integrity of native flora and fauna relative to existing or enhanced conditions. It is anticipated that direct monitoring and management of preserve</i></p>	

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4.4-1 cont'd			<p><i>lands by UC (and associated funding obligations) will generally be limited to lands owned or leased by the University, and that monitoring and management of non-UC-controlled preserve properties will be conducted by a third party. The RMP will also include siting, design and construction elements incorporating the various measures described in this EIR to avoid and minimize effects on wetlands and protected species that would otherwise arise from the construction and operation of the Campus (see Section 4.08(D)(2)).</i></p> <p><i>Lands to be acquired for preservation under the Resource Mitigation Program shall be selected in accordance with a number of criteria intended to ensure a broad look at the values and functions of the lands under consideration. These factors shall include, among others, the following:</i></p> <ul style="list-style-type: none"> <li><i>• Species composition</i></li> <li><i>• Species diversity</i></li> <li><i>• Density of special status species populations</i></li> <li><i>• Proportion of native vs. nonnative species</i></li> <li><i>• Utilization of both wetland and upland characteristics by special status species</i></li> <li><i>• Utilization as a migration corridor for wildlife species</i></li> <li><i>• Concentrations of rare plant populations or important geographic segments of rare plant</i></li> </ul>	

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4.4-1 cont'd			<p><i>populations</i></p> <ul style="list-style-type: none"> <li>• <i>Connectivity with regional conservation efforts</i></li> <li>• <i>Watershed size</i></li> <li>• <i>Wetland density</i></li> <li>• <i>Soil and substrate types</i></li> <li>• <i>Wetland hydrology</i></li> <li>• <i>Potential for future direct or indirect impacts</i></li> </ul> <p><i>Preserve areas shall be compatible with requirements imposed by USACE, USFWS and CDFG during the state and federal permit processes.</i></p> <p><i>To satisfy the "no net loss of wetland functions" standard articulated above, the Resource Mitigation Program will include -- in addition to its preservation component -- a variety of wetland enhancement, restoration and creation activities to be conducted within the lands preserved under the Resource Mitigation Program. The RMP will rely on existing USACE guidance and implementation of accepted functional assessment methodologies, such as hydrogeomorphic modeling (HGM) in determining the appropriate combination of compensatory strategies in achieving a no overall net loss of wetlands functions. Mitigation Measures 4.4-1(b) through (d) further describe the proposed wetland compensation strategy targeted at achieving no net loss of wetland functions and to be included in the Resource Mitigation</i></p>	

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4.4-1 cont'd			<p><i>Program. Mitigation Measure 4.4-1(b) describes the wetland preservation that would be implemented for all wetland impacts. Mitigation Measure 4.4-1(c) describes proposed enhancement measures, and Mitigation Measure 4.4-1(d) describes the proposed wetland restoration and creation measures.(Applicability - program level)</i></p> <p><i>4.4-1(b) Preservation. The preservation component of the Resource Mitigation Program shall require the preservation of a minimum of 10 acres of vernal pool dominated grasslands for every 1 acre of vernal pool dominated grasslands developed on the proposed campus (10:1). For example, assuming that 800 acres of the Main Campus are fully developed, a total of 8,000 acres of comparable habitat will be preserved under this measure. Although preserved habitat should generally include vernal pool densities within grassland areas that are roughly comparable to those existing within the Main Campus area, vernal pool densities within particular preservation areas may vary from those on the Main Campus provided the overall mitigation program (including creation, restoration and enhancement components) results in satisfaction of the no net loss standard articulated above. (Applicability-program level)</i></p> <p><i>4.4-1(c) Enhancement. The lands preserved under the Resource Mitigation Program will provide opportunities for enhancement of wetland functions and habitat. For example, managed grazing practices have been found to improve the quality of vernal pools. Other examples</i></p>	

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4.4-1 cont'd			<p><i>include implementation of measures to improve water quality, flood retention and wildlife habitat. Many of these enhancement measures have been included in the terms of the conservation easements already secured through WCB funding and thus generated enhancement benefits. No particular enhancement ratio will be specified in the Resource Mitigation Program. Rather, enhancement opportunities will be evaluated and incorporated into specific preservation efforts as required to satisfy the "no net loss of wetland functions" standard articulated in this Mitigation Measure 4.4-1 (Applicability-program level).</i></p> <p><i>4.4-1(d) Restoration and Creation. The Resource Mitigation Program shall require the creation of new wetlands at a minimum ratio of 1 acre of new wetlands created for every 1 acre of seasonal freshwater marsh wetlands filled under the LRDP (a 1:1 acreage ratio). Created wetlands are generally anticipated to be seasonal freshwater marsh or other seasonal wetland habitats to compensate for impacts to these types of wetland habitats. It is not anticipated that significant vernal pools and swales or clay playa wetlands will be created because of the limited availability of suitable sites and the uncertainties associated with creation of these wetland types. The Resource Mitigation Program will include creation of vernal pools an swales or clay playas as mitigation for impacts to such habitats only if this approach is determined to be feasible and acceptable to the USACE.</i></p>	

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4.4-1 cont'd		<p><i>The Resource Mitigation Program will require the establishment of new wetlands within preserved areas, through restoration or creation as described more fully below, as necessary to facilitate achievement (together with preservation and enhancement efforts) of the no net loss of wetland function goal articulated in this Mitigation Measure 4.4-1. To the extent practicable, these restoration/creation efforts will result in 1 acre of newly established wetland for every acre filled (i.e., a minimum of 89 acres of wetland area). Both restoration and creation involve manipulation of existing physical, chemical and/or biological characteristics to establish wetlands. Restoration re-establishes a previously existing wetland that has been destroyed or degraded to the extent that it no longer functions as a wetland. Creation activities seek to establish functioning wetlands where they previously did not exist.</i></p> <p><i>The goal of both restoration and creation efforts is to establish wetlands that are similar to the impacted wetlands in terms of physical and biological characteristics. To the extent that the characteristics of identified mitigation sites allow, the composition of the restored and created wetlands will be roughly proportional to the impacted wetlands in terms of their hydrogeomorphic characteristics and plant communities. Thus, the resulting restored and created wetlands will be “in-kind.” It may not be practicable or possibly desirable to establish certain types of impacted aquatic habitats such as ephemeral channels</i></p>	

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4.4-1 cont'd			<p><i>or seasonally saturated wetlands. In those cases, out-of-kind wetland restoration and/or creation would be the preferred approach under the Resource Mitigation Program. Out-of-kind wetland restoration and/or creation may also be preferred under the Resource Mitigation Program if there is insufficient or inadequate land available to satisfy the requirements to successfully restore or create certain types of wetlands.</i></p> <p><i>The wetlands establishment component of the Resource Mitigation Program will focus first on restoration activities. Compensation habitat to be restored must demonstrate acceptable restoration potential. The level of restoration achievable, and feasibility of success, will depend on a number of factors including: the need for grading or fill removal, restorability of the hydrology, soil suitability and presence of intact hardpans or claypans, and availability of suitable seed sources. An ideal site will show evidence of the historic occurrence of vernal pools. In the event restoration sites are unavailable, creation activities would be undertaken to the extent suitable lands are available. To compensate for loss of vernal pool functions, creation efforts will focus first on establishment of vernal pools. If mitigation lands that meet requisite soils, hydrology, and vegetative criteria for vernal pool establishment are unavailable, the University will create, to the extent practicable, seasonal wetlands or emergent marsh habitats as replacement acreage for vernal pools. To the extent restoration/creation at a 1:1 ratio proves impracticable, then the University may</i></p>	

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4.4-1 cont'd			<p><i>rely on preservation and enhancement efforts to achieve the "no net loss of wetland function" standard articulated in this Mitigation Measure 4.4-1 as demonstrated through appropriate functional assessment methodologies such as HGM.</i></p> <p><i>Any proposal for wetland restoration or creation (pursuant to Mitigation Measure 4.4-1(c) above), including the final configuration of proposed wetlands (size, shape, depth, etc.), will be based upon the completion of soils, hydrologic and other studies confirming the feasibility of the restoration or creation proposal and shall include USACE-approved measures intended to facilitate occupancy by special status and other wetland-dependent species (e.g., plantings, collection of topsoil and inoculation of target area). Created or restored wetlands will be located in areas that have been preserved under the Resource Mitigation Program, and will be evaluated for a period of at least 5 years to ensure conformance with success criteria (e.g., target habitat characteristics, success of plantings, etc.) to be developed in conjunction with USACE and other agencies. (Applicability-program level)</i></p>	
4.4-2	Development under the LRDP would result in substantial adverse affects on special status species dependent on vernal pool and clay playa habitat due to the loss of 64 acres of this habitat type. This is considered to be a <i>potentially significant</i> impact.	PS	4.4-2. <i>Conservation easements secured under the RMP will assure the preservation of two special-status plant populations for each single population of the same species affected. In addition, preserved plant populations would be selected based on the following criteria:</i>	LS

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4.4-2 cont'd		<ul style="list-style-type: none"> <li>• Proximity to the UC Merced Campus site – known populations of an affected plant species within a 10-mile radius, including the VST lands, would be preserved by acquisition of fee title or a conservation easement on a “willing seller” basis pursuant to the RMP. Populations greater than 10 miles from the Main Campus site would be preserved only if populations within 10 miles are not available.</li> <li>• Population size (e.g., number of individuals per population) – preserved populations will be approximately the same size (number of individuals) as the affected populations (e.g., if an affected population consists of 100 plants the University will preserve a minimum of two populations with each population comprising a minimum of 100 plants).</li> <li>• Land acquired to preserve special-status plants will be preserved in perpetuity and will include sufficient buffers to protect the plants from reasonable perturbations. Whenever possible, the limits of preserved lands will be based on defensible barriers such as watershed boundaries, roads, canals, or fencelines.</li> <li>• As described in Mitigation Measure 4.4-1, the University will ensure availability of funding for development and management of the preserved plant populations. The RMP includes preparation of the Campus Land Reserve and Campus Natural Reserve Management Plan will specify monitoring</li> </ul>	

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4.4-2 cont'd			<i>requirements, adaptive management strategies, grazing strategies, fencing, and invasive species control on the Campus Land Reserve and Campus Natural Reserve. The University, NRS, VST or other third party also will implement management and monitoring activities on the remaining VST lands under conservation easements (Applicability-program level).</i>	
4.4-3	Development under the LRDP would result in the loss of approximately 14 acres of seasonal freshwater marsh habitat used by special status species, including California tiger salamander (CTS). In addition, the loss of grassland habitat adjacent to seasonal freshwater marsh areas could potentially impact upland refugia/habitat for CTS. With implementation of mitigation measures identified elsewhere, this is considered to be a <i>less-than-significant</i> impact.	PS	<p>4.4-3(a) <i>To minimize the potential for loss of individual CTS during project construction, the following measures will be required for construction of specific projects occurring within 0.25 miles of breeding ponds located within the Campus Land Reserve and Campus Natural Reserve:</i></p> <ul style="list-style-type: none"> <li>• <i>Pre-construction surveys for CTS will be conducted by an independent, qualified biologist at the beginning of the rainy season prior to construction of any specific development project within the Main Campus that would affect potential CTS habitat. Surveys will be conducted in accordance with CDFG standard procedures for pre-construction surveys. If CTS are found in the construction areas, the University will consult with CDFG and USFWS to determine if salvage of salamanders is warranted, and if so, what method should be used. The construction area will be calculated and identified on construction drawings, and the area of impact will be monitored by the contractor during construction.</i></li> <li>• <i>Construction vehicles will be limited to a speed of 10 miles per hour in the vicinity of identified breeding</i></li> </ul>	LS

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4.4-3 cont'd		<p><i>ponds. This speed limit will be stipulated in all construction contracts, included in environmental, health, and safety training for construction personnel, and enforced through regular monitoring of construction sites subject to this restriction. Any fuel on these sites will be double contained and excess asphalt will be removed from the site upon completion of construction.</i></p> <ul style="list-style-type: none"> <li>• <i>Construction activities within 0.25 mile of breeding ponds: drift fences (e.g., silt fences or other effective salamander barriers) will be erected around the construction area at the beginning of the CTS breeding season (before November 15) prior to the start of construction to exclude breeding CTS from the construction site. Fencing will be maintained for the duration of construction.</i></li> <li>• <i>Construction activities that are more than 0.25 mile from breeding ponds: drift fences (e.g., silt fences or other effective salamander barriers) will be erected around the construction area at the beginning of the CTS breeding season (before November 15) prior to the start of construction to exclude breeding CTS from the construction site. Fencing will be maintained for the duration of construction.</i></li> <li>• <i>If approved by the USFWS and CDFG, drift fences would be installed to redirect CTS toward preserved habitat areas within the Campus Natural Reserve and surrounding VST property that do not already support existing healthy CTS populations under</i></li> </ul>	

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Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
4.4-3 cont'd			<p><i>existing conditions or where habitat has been created pursuant to the RMP (see Mitigation Measure 4.4-1) may be specifically designed to provide proper conditions for CTS (Applicability-project level).</i></p> <p>4.4-3(b) <i>Although construction of the Main Campus would result in minimal impacts to breeding pond habitat, the following additional measures would be implemented:</i></p> <ul style="list-style-type: none"> <li>• <i>Existing stock ponds on the Campus Natural Reserve and VST property would be enhanced to provide breeding habitat for CTS by eliminating nonnative fish and amphibian populations and modifying pond size (where needed) to improve hydrologic characteristics favorable to CTS.</i></li> <li>• <i>Pond hydrology would be modified to discourage the establishment of predators such as bullfrogs and fish.</i></li> <li>• <i>Ponds will be monitored annually to document breeding CTS and identify the presence of nonnative fish or amphibians. Nonnative species will be removed if they are observed (Applicability-program level).</i></li> </ul> <p>4.4-3(c) <i>The University shall improve upland habitat for CTS by managing ground squirrel activity on the Campus Natural Reserve and the remaining VST lands under conservation easement. (Applicability-program level)</i></p>	
4.4-4	Development under the LRDP would result in the loss of approximately 684 acres of grazed annual grassland habitat used by special status species. With the implementation of mitigation measures identified	PS	4.4-4(a) <i>Grassland Management Strategies. The University shall develop site specific management plans for the Campus Natural Reserve and other properties secured under conservation easements and preserved,</i>	LS

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4.4-4 cont'd	elsewhere, this is considered to be a <i>less-than-significant</i> impact.		<p><i>enhanced, or restored as mitigation for the LRDP. These management plans shall include strategies to promote the following goals:</i></p> <ul style="list-style-type: none"> <li>• <i>manage grazing to enhance special status species populations</i></li> <li>• <i>manage the use of rodenticides and herbicides to enhance upland habitats for special status species</i></li> <li>• <i>develop supplemental watering areas outside of natural wetlands (e.g. watering troughs for cattle)</i></li> </ul> <p><i>The Campus Land Reserve and Campus Natural Reserve Management Plan and management measures pursuant to the conservation easement on the remaining VST lands will be implemented. Site-specific grassland management plans will include grazing management strategies designed to enhance federally listed species populations and habitat. Grazing management strategies will include:</i></p> <ul style="list-style-type: none"> <li>• <i>Appropriate grazing regimes to optimize habitat conditions for federally listed species</i></li> <li>• <i>Grazing regimes to reduce livestock impact on habitat</i></li> <li>• <i>Measures to prevent fuel build-up</i></li> </ul> <p><i>The Campus Land Reserve and Campus Natural Reserve Management Plan and VST conservation easements will include measures to control invasive plants and animals. In addition to the grazing management strategies, additional measures to control</i></p>	

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			<p><i>invasive plants and animals would be implemented, including monitoring of nonnative plant populations in the monitoring area in accordance with Mitigation Measure 4.4-7, leash laws, signage programs, and other measures required by Mitigation Measure 4.4-7 (Applicability – program level)</i></p> <p>4.4-4(b) <i>Pesticide Management. The University shall implement a pesticide management plan regulating the use of pesticides (including rodenticides) for the Campus Land Reserve, Campus Natural Reserve and other properties preserved, enhanced, or restored as mitigation for the LRDP. This plan shall integrate agricultural practices, including grazing and pesticide use, with management and protection of vernal pool, clay playa, and grassland habitats and special status species dependent upon these habitats. (Applicability - program level)</i></p>	
4.4-5	Development under the LRDP would result in the direct loss of nesting habitat for resident and migratory avian species of special concern and raptors known to breed in the project vicinity. This is considered to be a <i>potentially significant</i> impact.	PS	<p>4.4-5(a) <i>Prior to the implementation of the LRDP, a site reconnaissance survey will be conducted of the Main Campus to provide baseline data for nesting raptor and avian species of concern. (Applicability—program level)</i></p> <p>4.4-5(b) <i>Prior to the onset of construction activities, surveys for special status avian species and raptors would be conducted on the affected portion of the Campus site following USFWS and/or CDFG guidelines. If no active avian nests are identified on or within 250 feet of the construction site, no further mitigation would be necessary. (Applicability—project level)</i></p>	LS

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4.4-5 cont'd			<p>4.4-5(c) <i>If active nests for avian species of concern or raptor nests are found on the Campus site within the construction footprint or a 250-foot buffer zone, construction would be delayed within the buffer zone until the young have fledged, or appropriate mitigation measures responding to the specific situation will be developed in consultation with CDFG. (Applicability-project level)</i></p> <p>4.4-5(d) <i>In the case of burrowing owls, burrows would be avoided or passive exclusion and relocation techniques following CDFG guidance would be implemented.</i></p> <p><i>Due to the presence of suitable nesting habitat in the vicinity of the Campus site, the University of California shall also implement Mitigation Measure 4.4-5(e) (below) to avoid disturbance to nesting Swainson's hawks in accordance with CDFG mitigation guidelines (Applicability-project level).</i></p> <p>4.4-5(e) <i>The Campus shall conduct a preconstruction breeding season survey of the proposed project site, and within a 1,000-foot radius of the site, to determine the presence or absence of any nesting Swainson's hawks.</i></p> <p><i>If any Swainson's hawks are found nesting within a 1,000-foot radius of the project site, the Campus shall, in consultation with the CDFG, determine the appropriate actions necessary to protect the nest site and prevent disturbance until the young birds have fledged and are foraging independently. Measures may include monitoring the nest site during construction or</i></p>	

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4.4-5 cont'd			<i>avoiding construction within ¼ mile during the nesting season. (Applicability-project level)</i>	
4.4-6	Development under the LRDP would result in the loss of approximately 762 acres of habitat that may be used for movement of special status mammal species. This is considered to be a <i>less-than-significant</i> impact.	LS	<p>4.4-6(a) <i>Pre-construction surveys should be conducted in accordance with the kit fox protocol contained in the USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. These surveys should be conducted prior to any development within the Main Campus Area to eliminate or minimize any possibility of a direct take of this species. Pre-construction surveys for kit fox dens shall be conducted no more than 30 days prior to any construction-related activities:</i></p> <ul style="list-style-type: none"> <li>• <i>These surveys shall be conducted by a qualified biologist whose primary objective would be to identify kit fox habitat features on the Campus site and evaluate site use by kit fox.</i></li> <li>• <i>If an active kit fox den is detected within (or immediately adjacent to) the area of work, standard den clearance shall be conducted in accordance with the USFWS kit fox ground disturbance protocol.</i></li> <li>• <i>If no kit fox activity is detected, then a written report shall be submitted to the USFWS within five working days after completion of the surveys. (Applicability—project level)</i></li> </ul> <p>4.4-6(b) <i>All construction-related activities shall be preceded by a tail-gate session, the primary purpose of which will be to describe the importance of implementing construction-related activities that will minimize</i></p>	LS

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Impact	Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
4.4-6 cont'd		<p><i>potential construction-related impacts to kit foxes, including:</i></p> <ul style="list-style-type: none"> <li>• <i>All food-related items shall be properly disposed of, and signs indicating that the feeding of wildlife is prohibited shall be placed at the construction site.</i></li> <li>• <i>Vehicle traffic shall occur primarily between dawn and dusk, and shall be limited to 20 mph to reduce the potential of road mortality of kit fox.</i></li> <li>• <i>Any trench or pit shall be constructed in such a way as to provide ramps of either fill or planks to prevent kit foxes (or other species) from becoming entrapped in such a trench or pit.</i></li> <li>• <i>Pipes, culverts, etc. greater than four inches in diameter shall be stored in such a way as to prohibit foxes or other species from using these areas as temporary refuge. In addition, these structures shall be thoroughly inspected each morning for kit fox or other species.</i></li> <li>• <i>No firearms shall be allowed on the Campus site. No pets shall be permitted on construction sites. The use of rodenticides and herbicides on the Campus site shall be restricted. (Applicability—project level)</i></li> </ul> <p>4.4-6(c) <i>The University will construct artificial dens for kit fox on the Campus Natural Reserve and lands under conservation easements at distances of approximately 0.5 miles from the edge of the Main Campus (Applicability-program level).</i></p>	

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4.4-6 cont'd				
4.4-7	Development under the LRDP could result in indirect impacts to wetlands and uplands adjacent to the 910-acre Main Campus site. This is considered to be a <i>potentially significant</i> impact.	PS	<p>4.4-7(a) <i>Potential adverse indirect impacts to areas outside of the Campus site would be mitigated by monitoring the adjacent Campus Land Reserve and the Campus Natural Reserve. These areas would be periodically monitored and maintained by Campus maintenance crews to verify that the monitoring area is meeting the following performance criteria:</i></p> <ul style="list-style-type: none"> <li>• <i>Prevents the flow of surface runoff from the Campus site to wetlands in the monitoring area</i></li> <li>• <i>No increase in nonnative species abundance or distribution within the monitoring area</i></li> <li>• <i>No substantial degradation of wetland biota or water quality in the monitoring area relative to reference wetlands in the Campus Land Reserve or Campus Natural Reserve is observed</i></li> <li>• <i>The University shall develop a monitoring and management plan for this monitoring area that will be coordinated with the Resource Mitigation Program outlined in Mitigation Measures 4.4-1(a-d). (Applicability—program level)</i></li> </ul> <p>4.4-7(b) <i>Signs will be posted along the northern and eastern perimeter of all Main Campus development informing the public of the sensitivity of habitats in the Campus Land Reserve and Campus Natural Reserve areas and prohibiting unauthorized entry into the monitoring</i></p>	LS

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4.4-7 cont'd			<p>areas. (Applicability—program level)</p> <p>4.4-7(c) A public education/orientation program will be implemented at the campus to inform new students, staff and faculty of the sensitive resources outside of the perimeter of the Main Campus and the need to protect those resources (Applicability—program level).</p> <p><b>Altered Hydrology and Water Quality Degradation</b></p> <p>4.4-7(d) To reduce the potential for indirect impacts related to altered hydrologic regime in areas outside of the Main Campus, as well as the potential for sediment and nutrient loading of adjacent areas, storm water drainage on the Main Campus will be designed to drain toward the core of the Campus site and directed to appropriate storm water management facilities. No storm water runoff will be discharged into adjacent Campus Land Reserve or Campus Natural Reserve lands, except as may be approved as a component of an aquatic habitat enhancement program under Mitigation Measure 4.4-1. (Applicability—program level)</p> <p><b>Control of Nonnative and Invasive Species</b></p> <p>4.4-7(e) The University of California shall implement a program to monitor and control nonnative species on the Campus site. This program will include measures to control the establishment and dispersal of nonnative species during grading, construction, and operation of the proposed Main Campus. All species included on the State of California's and the U.S. Department of</p>	
4.4-7				

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	Impact	Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
cont'd			<p><i>Agriculture's list of regulated noxious weeds shall be monitored and adequately controlled to limit dispersal and establishment of these species on undeveloped lands on the Campus site. The University shall monitor populations of native wildlife species to assess potential impacts of urban wildlife species and other indirect effects. The University shall implement control strategies if native wildlife populations are adversely and significantly affected compared to reference populations outside the Campus site. (Applicability—program level)</i></p> <p>4.4-7(f) <i>To ensure that seeds from invasive species are not transported into the Campus site by construction equipment, all equipment will be washed down prior to being transported to the Campus site. All construction equipment will be clean and generally free of seeds or other plant material before being brought on site.</i></p> <p><i>The contractor will notify the Campus project manager of the source location of all off-site fill material a minimum of ten days prior to importing material to the project site and appropriate steps will be taken to minimize the potential for invasive species to colonize areas disturbed during construction due to use of such fill.</i></p> <p><i>To the extent feasible, any organic material used during project construction for erosion control, or any material used for hydroseeding or revegetating disturbed areas should be free of invasive species. (Applicability—project level)</i></p>	

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4.4-7 cont'd			<p><b><i>Air-Related Transport</i></b></p> <p>4.4-7(g) <i>To reduce the potential for air-related transport of pollutants such as herbicides or pesticides, herbicide and pesticide use for campus maintenance activities will be restricted to organic and/or biodegradable products wherever possible. (Applicability—program level)</i></p> <p><b><i>Wildfires</i></b></p> <p>4.4-7(h) <i>To reduce the potential for increased wildfires in areas adjacent to the Campus, the Campus Land Reserve would be grazed in a manner that would reduce excessive vegetation adjacent to the Campus while providing protection for sensitive biological resources (e.g., wetlands and special status species). In addition, the vegetation within the 250-foot monitoring area at the interface of the Main Campus and Campus Land Reserve would be maintained to reduce fuel loading. Landscaping between the perimeter road and the Main Campus fence line should consist of fire-resistant plant species and shall be maintained to provide a firebreak between the Main Campus and the adjacent Campus Land Reserve. (Applicability—program/project level)</i></p> <p><b><i>Outdoor Lighting</i></b></p> <p>4.4-7(i) <i>To reduce light spill effects, the following measures will be implemented.</i></p> <ul style="list-style-type: none"> <li>• <i>All outdoor lighting on the Main Campus site will be directed downward to minimize potential spill-over of night-time lighting into adjacent</i></li> </ul>	

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4.4-7 cont'd			<p><i>undeveloped lands.</i></p> <ul style="list-style-type: none"> <li>• <i>Where appropriate, outdoor light sources within 1,000 feet of the Main Campus-Campus Land Reserve boundary would be limited to low-pressure sodium lighting with luminous outputs of 1,800 lumens or less.</i></li> <li>• <i>Where appropriate, outdoor light sources greater than 4,050 lumens will be fitted with the best commercially available shielding.</i></li> <li>• <i>Where appropriate, outdoor light sources less than 4,050 lumens will be partially shielded (i.e., shielded or constructed so that no more than 10 percent of the light rays emitted by the fixture, either directly from the lamp or indirectly from the fixture, project above the horizontal plane running through the lowest point on the fixture) to prevent light from being directed upward.</i></li> <li>• <i>All outdoor light sources greater than 4,050 lumens will be turned off between 11:00 p.m. and 6:00 a.m., except where this is precluded by public safety considerations (Applicability-program level).</i></li> </ul> <p><b><i>Predation by Pet Species</i></b></p> <p>4.4-7(j) <i>The University will install a woven hog wire fence (i.e., 2" mesh) on a 24-30" lower panel to reduce entry of dogs to the adjacent lands surrounding the Main Campus (Applicability-program level).</i></p>	

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4.4-7 cont'd			<p>4.4-7(k) <i>The University would adopt and enforce leash laws for dogs on Campus (Applicability-program level).</i></p> <p><b>Conservancy Fairy Shrimp</b></p> <p>4.4-7(l) <i>The University will strictly limit access to the Conservancy fairy shrimp pool by fencing or other means.</i></p> <ul style="list-style-type: none"> <li>• <i>The Campus security force will patrol the Campus Land Reserve and Campus Natural Reserve lands, specifically in the vicinity of the Conservancy fairy shrimp pool, to assure human disturbance of the area is minimized.</i></li> <li>• <i>The University will implement an enforcement program and will limit trespassing into the Conservancy fairy shrimp area.</i></li> <li>• <i>The University will implement a training program for its security personnel and Campus maintenance crews assigned to the Campus Natural Reserve area to educate such personnel on the protection of the natural resources within the Campus Natural Reserve.</i></li> <li>• <i>Educational and research uses of the Campus Land Reserve and Campus Natural Reserve will be carefully managed to prevent harm to listed species and their habitats.</i></li> <li>• <i>Appropriate restrictions will be incorporated into future grazing leases to prohibit incompatible uses</i></li> </ul>	

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			<i>(Applicable-program level).</i>	
<b>4.4-8</b>	Development under the LRDP will not conflict with local applicable policies protecting biological resources or provisions of an adopted habitat conservation plan. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.4-9</b>	Off-site improvements related to the construction of utilities infrastructure (e.g., gas/electric transmission lines) could potentially affect sensitive biological resources. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No additional mitigation required.</i>	LS
<b>4.4-10</b>	Construction resulting from implementation of the LRDP could result in temporary construction impacts to sensitive biological resources, including wetlands or special status plants and wildlife, adjacent to the project site. This is considered to be a <i>potentially significant</i> impact.	PS	<p><i>4.4-10(a) Prior to the onset of construction, temporary construction fencing would be installed along the boundaries of the project area to prevent construction vehicles from straying beyond the project site. Construction best management practices such as dust-control measures, sedimentation devices, and restricted refueling/maintenance practices would be implemented. A spill-response plan would be prepared for the site to ensure prompt capture of any accidental releases. (Applicability—project level)</i></p> <p><i>4.4-10(b) Prior to the onset of construction activities, a training session for all construction personnel would be conducted to educate construction personnel of the sensitive nature of the areas adjacent to the Phase 1 Campus. At a minimum, the training shall include a description of the species at risk and their habitat, the importance of the species and their habitat, the general</i></p>	LS

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<b>4.4-10 cont'd</b>			<i>measures that are being implemented to conserve sensitive areas/species as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. (Applicability—project level)</i>	
<b>4.4-11</b>	Development under the LRDP, in conjunction with other cumulative development would result in the loss or adverse modification of important native plant and wildlife habitat, including wetlands, vernal pool habitat, clay playa habitat, and annual grassland habitat, and adverse effects to listed and non-listed special-status species associated with these habitats.	S	<i>See mitigation measures 4.4-1 (a-d), 4.4-3, 4.4-4 (a and b), 4.4-5 (a-e), 4.4-6 (a and b), 4.4-7 (a-h), and 4.4-10 (a and b).</i>	LS (with respect to listed special-status species)  SU (with respect to non-listed special status pspecies)
<b>4.5 Cultural Resources</b>				
<b>4.5-1</b>	Development of the Main Campus under the LRDP has the potential to disturb or destroy archaeological resources. This is considered a <i>potentially significant</i> impact.	PS	<p><i>4.5-1(a) Prior to any construction on the Campus, the Campus will work with a qualified archaeologist to develop and conduct an appropriate construction monitoring plan and inadvertent discovery plan to ensure that any resource uncovered during construction is identified and appropriately treated. (Applicability—program level)</i></p> <p><i>4.5-1(b) If a potentially significant archaeological resource is identified during preliminary phases of campus construction, the campus will incorporate into the proposed project design measures that will minimize or</i></p>	LS

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4.5-1 cont'd			<p><i>eliminate direct impacts to the deposit. These could include avoidance of the site by inclusion in landscaping or open space, placement of fill over the site, and/or project redesign. If this is not feasible, or if such measures will not ensure the avoidance of impacts, the University will ensure that an archaeological testing program is developed and carried out to assess the significance of the resource. (Applicability—project level)</i></p> <p>4.5-1(c) <i>If a resource is determined to be significant, and if it cannot be preserved intact through project design measures, then the University will retain an archaeologist to design and carry out a treatment plan to document the data and/or preserve such scientific samples of the data for which the site is significant as may be appropriate, given the significance of the find. (Applicability—project level)</i></p> <p>4.5-1(d) <i>All projects on campus shall be conditioned with an inadvertent-discovery clause. Under this clause, construction crews and maintenance teams working on campus shall be informed by the University of pertinent cultural resources regulations and of the potential for buried resources. If an archaeological resource is uncovered during construction, work in the vicinity will halt until the potential resources has been evaluated by a qualified archaeologist and, if significant, has been treated appropriately. (Applicability—project level)</i></p> <p>4.5-1(e) <i>With respect to the refuse dump (described above), which may contain material of historic interest, if construction activity is planned in this area, or if the</i></p>	

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4.5-1 cont'd			<i>University elects to clear away the dump material as part of site preparation, the University will ensure that a qualified archaeologist is present during clearing of surface materials. If materials 50 years or older are revealed, the archaeologist will record the material and make a recommendation regarding the data potential of the find. If the material appears likely to contribute information regarding the lives of early 20th century ranch residents in the area, the archaeologist will, in consultation with the Campus, design and carry out a data recovery program to the extent one may be appropriate. (Applicability—project level)</i>	
4.5-2	Development of the Main Campus under the LRDP has the potential to result in disturbance or destruction of Native American human remains. This is considered a <i>potentially significant</i> impact.	PS	<p>4.5-2(a) <i>Implement Mitigation Measures 4.5-1(a) through (d) to minimize the potential for disturbance or destruction of human remains in an archaeological context. (Applicability—program level)</i></p> <p>4.5-2(b) <i>A representative of the local Native American community will be offered the opportunity to monitor any excavation, including archaeological excavation, within the boundaries of any identified Native American archaeological site. (Applicability—project level)</i></p> <p>4.5-2(c) <i>In the event of the discovery on campus of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find will halt immediately and the area of the find will be protected. If a qualified archaeologist is present, he/she will determine whether the bone is human. If the archaeologist determines that the bone is human, or in the absence of an archaeologist, the University</i></p>	LS

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			<i>immediately will notify the Merced County Coroner of the find and comply with the provisions of P.R.C. § 5097 with respect to Native American involvement, burial treatment, and reinterment (Applicability—project level)</i>	
<b>4.5-3</b>	Development under the LRDP has the potential to result in disturbance or destruction of potential cultural resources through incidental activity and increased accessibility, which could result in vandalism or illicit collection. This is considered a <i>less-than-significant</i> impact.	LS	4.5-3 <i>The University shall ensure that all campus planning and maintenance personnel are informed of the potential for cultural resources impacts, and University requirements for their protection. This shall include provision of written materials to familiarize personnel with the range of resources that might be expected, the kinds of activities that may result in impacts, and the legal framework of cultural resources protection. (Applicability—program level)</i>	LS
<b>4.5-4</b>	Development of the Main Campus under the LRDP has the potential to disturb or destroy paleontological resources. This is considered a <i>potentially significant</i> impact.	PS	4.5-4(a) <i>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 requirement that unauthorized collection of fossil resources is prohibited. (Applicability—project level)</i>  4.5-4(b) <i>A qualified paleontologist will be intermittently present to inspect exposures of the Merhten Formation, North Merced Gravels, and Riverbank Formation during</i>	LS

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			<i>construction operations to ensure that paleontological resources are not destroyed by project construction. (Applicability—project level)</i>	
<b>4.5-5</b>	Cumulative development could damage or destroy unidentified prehistoric, historic, or paleontological resources. This is a <i>less-than-significant</i> cumulative impact.	LS	<i>No mitigation required.</i>	LS
<b>4.6 Geology, Soils and Seismicity</b>				
<b>4.6-1</b>	Implementation of the LRDP could expose people or structures to potential adverse effects involving seismic ground shaking. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.6-2</b>	Implementation of the LRDP could result in soil erosion or the loss of topsoil. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.6-3</b>	Implementation of the LRDP could result in construction of facilities on expansive soil, creating potential risks to life or property. This is considered to be a <i>potentially significant</i> impact.	PS	<i>4.6-3 (a) Prior to project-specific building design, a site-specific geotechnical study 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 inspection of the levees of the Fairfield Canal and Le Grand Canal for any construction site near or spanning over the canals. The study shall include an evaluation of liquefaction potential, slope stability, landslide potential, expansive and compressible soils, and other structural characteristics. Specific geotechnical recommendations designed to mitigate for seismic hazards shall be identified. In addition, recommendations for adequate</i>	LS

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Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
<b>4.6-3 cont'd</b>			<p><i>building design, including excavation and fill requirements for any identified soil constraints, shall be included in the analysis. These recommendations shall be included and implemented in project design (Applicability—project level)</i></p> <p>4.6-3(b) <i>The UC Merced’s Policy and Procedures Manual will include a “Pest Management” section on management practices to control rodent activities on the Main Campus. The Campus and MID will cooperatively monitor levees for rodent burrows (Applicability—program level).</i></p>	
<b>4.6-4</b>	Cumulative development could expose people or structures to potential adverse effects involving seismic ground shaking. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.6-5</b>	Cumulative development could result in soil erosion or the loss of topsoil. This is a <i>less-than-significant</i> cumulative impact.	LS	<i>No mitigation required.</i>	LS
<b>4.6-6</b>	Cumulative development could result in result in construction of facilities on expansive soil, creating risks to life or property. This is considered to be a <i>less-than-significant</i> cumulative impact.	LS	<i>No mitigation required.</i>	LS
<b>4.7 Hazards and Hazardous Materials</b>				
<b>4.7-1</b>	Use of hazardous chemicals and the generation of hazardous chemical waste at UC Merced would not significantly expose campus occupants and nearby public to potential health or safety risks. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS

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4.7-2	Use of radioactive material and the generation of radioactive waste at UC Merced would not significantly expose campus occupants to potential health or safety risks. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-3	Use of biohazardous materials and the generation of biohazardous wastes at UC Merced would not significantly expose campus occupants to potential health or safety risks. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-4	Use of laboratory animals at UC Merced would not significantly increase the risk of animal bites, escapes, and disease transmission. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-5	Hazardous materials transported to and from the campus would not significantly expose people to potential health risks in the event of an accidental release. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-6	The campus would be located within 2 miles of a private airstrip but would not create a significant safety hazard for people residing or working on campus. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-7	Campus operations using hazardous materials would not be anticipated to exceed emergency response capabilities of the local providers. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS

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4.7-8	Construction activities would not create a significant exposure of Campus occupants and construction workers to contaminated soil or groundwater. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-9	Construction of the Campus adjacent to the canals would not expose the Campus population to physical safety hazards. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.7-10	The construction of the proposed campus could expose people or structures to a significant risk of loss, injury, or death involving wildland fires. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
4.7-11	The Campus, the University Community, and other regional development would involve the use, storage, transport, and disposal of hazardous materials and wastes. The cumulative impact from these activities would be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>4.8 Hydrology and Water Quality</b>				
4.8-1	Implementation of the LRDP could affect the quality of surface runoff water but would not result in a violation of water quality standards. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-2	Implementation of the LRDP would not substantially affect groundwater supplies. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-3	Implementation of the LRDP would increase impervious surfaces at the site, but would not substantially affect groundwater recharge. This is	LS	<i>No mitigation required.</i>	LS

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	<b>Impact</b>	<b>Level of Significance Prior to Mitigation<sup>1</sup></b>	<b>Mitigation Measures</b>	<b>Level of Significance Following Mitigation<sup>1</sup></b>
	considered a <i>less-than-significant</i> impact.			
4.8-4	Implementation of the LRDP would require installation of groundwater wells on the campus site, which would not result in impacts on adjacent well yields or subsidence. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-5	Implementation of the LRDP would alter site drainage patterns resulting in minimal erosion or siltation on or off-site. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-6	Implementation of the LRDP would alter site drainage patterns but would not result in significant flooding on and off-site. This is considered a <i>less-than-significant</i> impact.	LS	4.8-6 <i>The University will install high water level shutoff sensors at Campus storm drainage pumping stations to regulate discharges into Fairfield Canal as necessary (Applicability-program level).</i>	LS
4.8-7	Implementation of the LRDP would create runoff from the site that would not exceed the capacity of storm drainage systems. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-8	Implementation of the LRDP would not adversely affect water quality from the discharge of wastewater or use of reclaimed water. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-9	Implementation of the LRDP will increase silt and sedimentation during construction but will not adversely affect water quality. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
4.8-10	Increased impervious surfaces associated with	LS	<i>See Mitigation Measure 4.8-6.</i>	LS

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	development within the drainage basin could cumulatively increase surface runoff, but would not substantially increase local and regional flooding. This cumulative impact is considered to be <i>less than significant</i> .			
<b>4.8-11</b>	Increased impervious surfaces associated with development of the campus and other development overlying the groundwater basin would not substantially reduce groundwater recharge potential. This cumulative impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>4.8-12</b>	Increased demand for groundwater from the development of the campus, University Community, and other development would not substantially affect the groundwater basin. This cumulative impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>4.8-13</b>	Increase impervious surfaces associated with the campus and other development could cumulatively increase urban contaminants in surface runoff, but would not adversely affect the quality of receiving water. This cumulative impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>4.8-14</b>	Development of the campus and other development cumulatively would not substantially affect water quality because of the discharge of wastewater or use of reclaimed water. This cumulative impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS

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<b>4.9 Land Use and Planning</b>				
<b>4.9-1</b>	Implementation of the LRDP would not conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.9-2</b>	Implementation of the LRDP would not result in development of land uses that are substantially incompatible with existing adjacent land uses, or with planned uses. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.9-3</b>	The Campus, in conjunction with the University Community, would result in incompatibilities with adjacent land uses. This impact is considered <i>significant</i> .	S	<i>No mitigation available.</i>	SU
<b>4.10 Noise</b>				
<b>4.10-1</b>	Implementation of the LRDP would result in increased vehicular traffic on the regional road network, which would increase ambient noise levels. This is considered to be a <i>significant</i> impact.	S	<i>4.10-1 For new developments, the County and the City of Merced can and should take noise considerations into account during initial site planning, in order to maximize shielding by the planned structures or other on-site features. (Applicability—program level)</i>	SU
<b>4.10-2</b>	Daily activities and special events at the campus could expose nearby receptors, especially the users of the County Park to elevated noise levels. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>4.10-2 The Campus will work with the Merced County Parks and Recreation Division to coordinate the schedule of special events on both the Campus and in the park to avoid nuisance effects (Applicability—program level).</i>	LS
<b>4.10-3</b>	Construction of the campus facilities could expose nearby receptors, especially users of the County Park to elevated noise levels. This is considered to be a <i>potentially significant</i> impact.	PS	<i>4.10-3 Prior to initiation of campus construction, the University shall approve a construction noise mitigation program including but not limited to the following:</i>	SU

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4.10-3 cont'd			<ul style="list-style-type: none"> <li>• Construction equipment shall be properly outfitted and maintained with feasible noise reduction devices to minimize construction-generated noise.</li> <li>• Stationary noise sources such as generators or pumps shall be located away from noise sensitive land uses as feasible.</li> <li>• Prior to construction activities, the University (or the University's contractor) will coordinate with the County Parks and Recreation Division to reduce the likelihood that planned events (e.g., weddings) at the park are adversely affected by project construction.</li> <li>• 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. (Applicability - project level)</li> </ul>	
4.10-4	Construction of off-site utility connections and infrastructure improvements would not expose sensitive land uses to high noise levels. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
4.10-5	Construction activities could expose persons to excessive groundborne vibration or groundborne noise. This is considered to be a <i>potentially significant</i> impact	PS	4.10-5 <i>Limit groundborne vibration due to construction activities to 0.2 in/sec velocity (limit of potential for damage to structures) in the vertical direction at sensitive receptors. 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</i>	LS

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			<i>precautions are taken in those facilities to protect ongoing activities from vibration effects. (Applicability—project level)</i>	
<b>4.10-6</b>	Implementation of the LRDP would not expose campus residents to high noise levels from adjacent land uses. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>4.10-6 Student housing or other noise-sensitive land uses should consider incorporating building design (including building layouts that shield outdoor land uses from the potentially annoying noise) and window upgrades for interior noise-sensitive uses within 1,000 feet of the boat use areas. (Applicability-project level)</i>	LS
<b>4.10-7</b>	Construction of the campus and the University Community would not cumulatively result in excessive noise levels at Lake Yosemite Regional Park. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>4.10-8</b>	Implementation of the LRDP in conjunction with the University Community and the Campus Parkway projects and the regional growth would increase the traffic on the regional road network, which would increase ambient noise levels. This is considered to be a <i>significant</i> impact.	S	<i>See Mitigation Measure 4.10-1.</i>	SU
<b>4.11 Population, Employment, and Housing</b>				
<b>4.11-1</b>	Implementation of the LRDP would create a demand for housing but that demand would be accommodated by local jurisdictions. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
<b>4.11-2</b>	The proposed project, in conjunction with the University Community and other projects, could result in a demand for housing but that demand would be accommodated by local jurisdictions. This	LS	<i>No mitigation required.</i>	LS

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cumulative impact is considered <i>less than significant</i> .				
<b>4.12 Public Services</b>				
<b>4.12-1</b>	On-campus law enforcement services would be provided by the University and the anticipated on-campus demand for law enforcement services would be adequately met. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>4.12-1 The proposed campus shall maintain a minimum ratio of 0.72 officers per 1,000 population. (Applicability-program level)</i>	LS
<b>4.12-2</b>	The campus would obtain fire protection services through agreement with a local agency. This is considered to be a <i>less-than-significant</i> impact.	LS	<p><i>4.12-2 The Campus shall implement one or more of the following measures in order to provide an adequate level of fire protection services:</i></p> <p><i>4.12-2(a) Contract for firefighters and support staff as necessary to maintain a ratio of 3.5 firefighters per 1,000,000 square feet of building area, 24 hours per day;</i></p> <p><i>4.12-2(b) Provide additional equipment or improve techniques as needed to meet fire protection demand; and/or</i></p> <p><i>4.12-2(c) Establish mutual aid agreements with adjacent jurisdictions. (Applicability—program level)</i></p>	LS
<b>4.12-3</b>	Development of the campus would result in increased demand for hospital services. The existing and currently planned medical facility system in Merced County would be adequate to accommodate projected future need. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
<b>4.12-4</b>	The development of the campus would generate demand for elementary and secondary educational services, which could result in physical effects on the	PS	<i>4.12-4 The Merced City School District and the Merced Union High School District can and should provide adequate school facilities to all portions of the service area to</i>	SU

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	environment. This is considered a <i>potentially significant</i> impact.		<i>accommodate growth in the number of school-aged children.</i>	
4.12-5	Development of the campus would result in increased demand for library services. The proposed campus would itself provide extensive academic library facilities, which would serve the general public, as well as students, staff and faculty of the University. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.12-6	Implementation of the LRDP together with cumulative development in the vicinity will result in increased need for law enforcement services. This cumulative impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.12-7	Implementation of the LRDP and cumulative development would generate an increased demand for fire protection services. This is considered a <i>less than significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.12-8	Implementation of the LRDP and cumulative development would generate an increased demand for elementary and secondary educational services, which would be met in the University Community. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.12-9	Implementation of the LRDP and other cumulative development would result in increased demand for library services. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.12-10	Implementation of the LRDP and other cumulative development would result in increased demand for hospital services. This is considered a <i>less-than-</i>	LS	<i>No mitigation required.</i>	LS

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	<i>significant</i> impact.			
<b>4.13 Recreation</b>				
<b>4.13-1</b>	Implementation of the LRDP would increase the area population and result in an increased demand for recreational facilities, which could cause a deterioration of the facilities. This impact is considered <i>potentially significant</i> .	PS	<p>4.13-1(a) Work with the County to develop a program for joint use of on-campus recreational, parking and sports facilities.</p> <p>4.13-1(b) Prior to transfer of title of any land that is currently or planned to be part of the Lake Yosemite Regional Park, work with the County to develop appropriate mechanisms for acquiring additional property to replace that potential parkland lost to conversion to non-open space campus uses.</p> <p>4.13-1(c) Work with the County to expand Lake Yosemite Regional Park in response to impacts associated with the development of the University Community, UC Merced and other growth in the north Merced region.</p> <p>4.13-1(d) Work with the County to monitor use of Lake Yosemite Regional Park. If park use increases due to development of the campus and University Community such that substantial physical deterioration of park facilities occurs, then the University will negotiate with the County to offset increased costs to the County for maintenance of park facilities (Applicability–program level).</p>	LS
<b>4.13-2</b>	Implementation of the LRDP would not require the construction of replacement golf course facilities. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>4.13-3</b>	Cumulative growth in area population will result in an increased demand for recreational facilities, which	S	<i>See Mitigation Measure 4.13 (a-d).</i>	SU

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	could cause a deterioration of the facilities. This impact is considered <i>significant</i> .			
<b>4.13-4</b>	Cumulative development would not require the construction of replacement golf course facilities. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>4.14 Traffic, Circulation, and Parking</b>				
<b>4.14-1</b>	Implementation of Phase 1 of the LRDP would result in exceedance of the intersection at the Lake/Bellevue intersection. This is considered a <i>significant</i> impact.	S	<i>4.14-1 Install a traffic signal at the intersection of Lake Road and Bellevue Road and widen the intersection to provide a left-turn lane on the northbound and eastbound approaches. (Applicability-project level)</i>	LS
<b>4.14-2</b>	Implementation of Phase 1 of the LRDP may result in operational deficiencies at the Lake/Yosemite intersection. This is considered a <i>potentially significant</i> impact.	PS	<i>4.14-2 The County can and should analyze the expected future operations of the Lake/Yosemite intersection at the following milestone points: (1) on determination of the conceptual alignment for Campus Parkway, (2) on preparation of the Geometric Approval Drawings for Campus Parkway, and (3) each October, beginning in the opening year of the UC Merced campus. If any of these analyses determine that the Lake/Yosemite intersection will operate at unacceptable LOS, the University will contribute its fair share (as described in Section 4.14.3.2) toward the cost of any of the following improvements deemed necessary at the intersection: installation of a traffic signal, or construction of a left-turn pocket on the Yosemite Avenue approach to Lake Road. Monitoring of the Lake/Yosemite intersection will end upon completion of the Campus Parkway extension from Yosemite Avenue to Bellevue Road; monitoring of other approach routes to the Campus will continue as described in Mitigation</i>	LS

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			<i>Measure 4.14-5 (Applicability—project level).</i>	
<b>4.14-3</b>	Construction of Phase 1 of the LRDP may result in excessive deterioration of County roads leading to campus and the need for physical expansion at the Lake/Yosemite intersection. This is considered a <i>potentially significant</i> impact.	PS	<p><i>4.14-3(a) The University will create a visual record of pavement surface condition along Bellevue Road (from Lake to Highway 59), and Lake Road (from the University entrance to Yosemite Avenue), and any other routes on which final haul plans indicate large truck traffic generated by campus construction would exceed 5% of existing traffic levels. The University will re-inventory pavement condition along these routes within two months following completion of Phase 1 construction, and either restore pavement to pre-construction condition or reimburse the responsible jurisdiction to perform restoration (less a reasonable allowance for deterioration caused by other traffic). (Applicability—project level)</i></p> <p><i>4.14-3 (b) The University will either: (1) restrict truck routing to/from the site to prohibit large trucks (with turn radius greater than 40-feet) from travel via Lake Road, or (2) pay the County to design and construct improvements to the intersection of Lake Road and Yosemite Avenue to accommodate the turn-radius of the largest expected construction vehicle. (Applicability—project level)</i></p>	LS
<b>4.14-4</b>	Implementation of the LRDP, in conjunction with regional growth in Merced County, would result in increased traffic levels in the vicinity of the campus site, and exceedances of the roadway LOS thresholds. This is considered a <i>significant</i> impact.	S	<p><i>4.14-4(a) The University will contribute its fair share (as described in Section 4.14.3.2) toward the following RTP Tier 2 roadway improvements:</i></p> <ul style="list-style-type: none"> <li>• <i>Campus Parkway, extend from Yosemite Avenue to Bellevue Road</i></li> </ul>	LS

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4.14-4 cont'd		<ul style="list-style-type: none"> <li>• <i>Highway 59, widen to 4 lanes, Olive Avenue to Bellevue Road</i></li> <li>• <i>Highway 59, new segment between Highways 99 and 140</i></li> <li>• <i>Yosemite Avenue, extend from R Street to Highway 59</i></li> <li>• <i>Yosemite Avenue, widen to 4 lanes, Campus Parkway to G Street</i></li> <li>• <i>Bellevue Road, widen to 6 lanes, Highway 59 to Campus Parkway</i></li> <li>• <i>R Street, extend from Yosemite Avenue to Bellevue Road</i></li> <li>• <i>Parsons Avenue/Gardner Avenue, extend and widen to 4 lanes, Childs Avenue to Bellevue Road</i></li> <li>• <i>Santa Fe Drive, widen to 6 lanes, Buhach Road to Highway 59</i></li> <li>• <i>Intersection improvements along G Street between Highway 99 and Childs Avenue (Applicability—program level)</i></li> </ul> <p><i>4.14-4(b) Merced County, City of Merced, Caltrans, and MCAG can and should move expeditiously through project development processes to establish right-of-way and access management requirements along key routes affected by campus traffic. (Applicability- program level)</i></p>	

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4.14-5	In the case where full LRDP development occurs without the University Community, access routes to the campus through the University Community may not be constructed, resulting in significant level of service and emergency access impacts. This is considered a <i>potentially significant</i> impact.	PS	4.14-5 Merced County can and should and the University will establish rights-of-way and build campus access routes comparable to the extension of Campus Parkway from Yosemite Avenue to Bellevue Road, University Drive, and Commerce Drive, and McKee Road even if the University Community is not developed. (Applicability-program level)	LS
4.14-6	Improper phasing or programming of roadway mitigation projects during the development of the University could result in hazardous traffic conditions along approach routes. This is considered a <i>potentially significant</i> impact.	PS	4.14-6 The University will contribute its fair share (as described in Section 4.14.3.2) toward the annual monitoring of traffic conditions along major approach routes to the campus, and the implementation of interim improvements, if warranted. Improvements to be considered at the intersection of Bellevue Road and G Street will include installation of a traffic signal and construction of a left-turn pocket on the westbound Bellevue Road approach. (Applicability-program level)	LS
4.14-7	Implementation of the LRDP would place additional demand on regional and local transit services and would depend on high levels of transit service being deployed to connect the campus with major destinations within Merced County. This is considered a <i>less-than-significant</i> impact.	LS	No mitigation required	LS
4.14-8	Implementation of the LRDP would generate pedestrian and bicycle travel in higher concentrations and amounts than found in many other parts of the county. This is considered a <i>less-than-significant</i> impact.	LS	4.14-8 Merced County and the City of Merced can and should ensure adequate maintenance of the existing path along Lake Road and other regional bicycle and pedestrian facilities that provide access to the proposed campus. (Applicability-program level)	LS
4.14-9	It is possible that the campus may generate spillover parking that affects nearby parking areas of Lake Yosemite Regional Park and/or existing county roads	PS	4.14-9 The County can and should implement parking restrictions in sensitive areas around campus, such as recreational and residential parking permits and parking	LS

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Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
	in the area (such as Lake Road and Bellevue Road). This is considered a <i>potentially significant</i> impact.		<i>time restrictions, and should provide aggressive enforcement of these restrictions. (Applicability-program level)</i>	
<b>4.14-10</b>	Implementation of the LRDP, in combination with the proposed University Community and regional growth in Merced County, would result in increased traffic levels in the vicinity of the campus site, and exceedances of the roadway LOS thresholds. This is considered to be a <i>significant</i> impact.	S	<p>4.14-10(a) <i>The University will contribute its fair share (as described in Section 4.14.3.2) toward the following RTP Tier 2 Roadway improvements:</i></p> <ul style="list-style-type: none"> <li>• <i>Highway 59, widen to 4 lanes, Olive Avenue to Bellevue Road</i></li> <li>• <i>Highway 59, new segment between Highways 99 and 140</i></li> <li>• <i>Yosemite Avenue, extend from R Street to Highway 59</i></li> <li>• <i>Yosemite Avenue, widen to 4 lanes, Campus Parkway to G Street</i></li> <li>• <i>Bellevue Road, widen to 6 lanes, Highway 59 to Campus Parkway</i></li> <li>• <i>R Street, extend from Yosemite Avenue to Bellevue Road</i></li> <li>• <i>Parsons Avenue/Gardner Avenue, extend and widen to 4 lanes, Childs Avenue to Bellevue Road</i></li> <li>• <i>Highway 59, new alignment along Mission Avenue</i></li> <li>• <i>Mission Avenue, widen to 4 lanes, Highway 99 to Highway 59</i></li> <li>• <i>Childs Avenue, widen to 4 lanes, Campus Parkway to Highway 59 (Applicability – program level)</i></li> </ul>	SU
<b>4.14-10</b>				

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Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
cont'd			<i>4.14-10(b) Merced County, City of Merced, Caltrans, and MCAG can and should move expeditiously through project development processes to establish rights-of-way and access management requirements along key routes affected by campus traffic (Applicability – program level).</i>	
<b>4.15 Utilities</b>				
<b>4.15-1</b>	Implementation of the LRDP would generate demand for potable water and require the construction of new water extraction and conveyance facilities. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.15-2</b>	Implementation of the LRDP would generate wastewater flows that would require the construction of new conveyance and treatment facilities. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
<b>4.15-3</b>	Implementation of the LRDP would generate solid waste that would not require the expansion of the regional landfill. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.15-4</b>	Implementation of the LRDP would require the extension of communication facilities. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>4.15-5</b>	Implementation of the LRDP would generate a demand for electricity for the proposed campus, which would require an extension of electric transmission lines. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS

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Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
4.15-6	Implementation of the LRDP would generate a demand for natural gas which would require an extension of the natural gas pipelines. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.15-7	Implementation of the LRDP together with other cumulative development will generate demand for wastewater treatment. This is considered a <i>less-than-significant</i> cumulative impact.	LS	<i>No mitigation required.</i>	LS
4.15-8	Implementation of the LRDP together with other cumulative development would increase in solid waste generation. This is a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.15-9	Implementation of the LRDP together with other cumulative developments would generate demand for electricity and natural gas. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
6.1	Implementation of the LRDP would induce substantial economic and population growth in the region, and would result in the construction of additional housing. This growth is expected to result in <i>significant</i> environmental effects.	S	<i>No mitigation feasible beyond the measures identified in Section 4.</i>	SU

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**Table 6-2**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR PHASE 1 CAMPUS**

Impact	Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>	
<b>3.2 Aesthetics</b>				
<b>3.2-1</b>	Implementation of the Phase 1 Campus would not substantially degrade the visual qualities and character of the site and its surroundings. This impact is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>3.2-2</b>	Lighting for Phase 1 Campus buildings and other facilities would create a new source of light or glare that could spill onto Lake Yosemite Regional Park and other sensitive areas. This is considered a <i>significant</i> impact.	S	<i>See mitigation measure 4.1-4 in Table 6-1.</i>	SU
<b>3.3 Air Quality</b>				
<b>3.3-1</b>	Construction activities as part of development allowed under the Phase 1 Campus could result in short-term generation of fugitive dust (PM <sub>10</sub> ). This is considered to be a <i>significant</i> impact.	S	<i>See mitigation measures 4.3-1(a)-(b) in Table 6-1.</i>	LS
<b>3.3-2</b>	Development of the Phase 1 Campus would generate increased levels of CO, O <sub>3</sub> precursors (ROG and NO <sub>x</sub> ), and PM <sub>10</sub> emissions. This is considered to be a <i>significant</i> impact.	S	<i>See mitigation measures 4.3-2(a), 4.3-2(c)-(e) in Table 6-1.</i>	SU
<b>3.3-3</b>	Development of the Phase 1 Campus would result in localized increases in CO concentrations from vehicular traffic at intersections, but CO concentrations would not exceed the significance criteria. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
<b>3.3-4</b>	Development of the Phase 1 Campus would not generate significant emissions of toxic air contaminants from combustion sources and research laboratories.	LS	<i>No mitigation required.</i>	LS

Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
	This is considered to be a <i>less-than-significant</i> impact.			
<b>3.4 Biological Resources</b>				
<b>3.4-1</b>	Development of the Phase 1 Campus would not result in the direct loss or adverse modification of wetlands or other waters of the U.S. that fall under the jurisdiction of the U.S. Army Corps of Engineers and the Regional Water Quality Control Board. Therefore, there would be <i>no impact</i> to these resources.	NI	<i>See mitigation measures 4.4-10(a)-(b) in Table 6-1.</i>	NI
<b>3.4-2</b>	Development of the Phase 1 Campus would not directly impact special status plant and wildlife species. Therefore, there would be <i>no impact</i> to special status plant and wildlife species.	NI	<i>No mitigation required.</i>	NI
<b>3.4-3</b>	Development of the Phase 1 Campus would not result in the direct loss of nesting habitat for resident and migratory avian species of special concern and raptors. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>See mitigation measures 4.4-5(a)-(e) in Table 6-1.</i>	LS
<b>3.4-4</b>	Development of the Phase 1 Campus would not adversely affect habitat potentially used for movement of special status mammal species. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>See mitigation measures 4.4-6(a)-(b) in Table 6-1.</i>	LS
<b>3.4-5</b>	Development of the Phase 1 Campus would not result in indirect impacts to wetlands and other undisturbed habitat adjacent to the 96-acre site. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>See mitigation measures 4.4-7(a)-(h) in Table 6-1.</i>  <i>Plus project specific mitigation measure:</i>  <b>3.4-5</b> <i>The Phase 1 Campus shall avoid adverse changes to existing hydrological conditions that could result in increases, decreases or elimination of flows sustaining vernal pools and swales to the south and east of the Phase 1 Campus boundary. The Phase 1 Campus includes a buffer separating campus development from</i>	LS

Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
			<i>vernal pools and swales to the south and east. The University shall adjust the buffer width, or take such other appropriate steps, as may be necessary to assure no significant adverse changes occur in the biological functioning of the vernal pools and swales outside the Phase 1 Campus boundary due to increases, reductions or elimination of flows into those vernal pools.</i>	
<b>3.4-6</b>	Development of the Phase 1 Campus would not conflict with local applicable policies protecting biological resources or provisions of an adopted habitat conservation plan. Therefore, there would be <i>no impact</i> to local or regional policies for biological resources from the Phase 1 Campus.	NI	<i>No mitigation required.</i>	NI
<b>3.4-7</b>	Off-site improvements related to constructing utility lines for the Phase 1 Campus would have <i>no impact</i> to sensitive biological resources.	NI	<i>See mitigation measures 4.4-10(a)-(b) in Table 6-1.</i>	NI
<b>3.4-8</b>	Construction activities for the Phase 1 Campus would not result in temporary construction impacts to sensitive biological resources, including wetlands or special status plants and wildlife, adjacent to the project site. This is considered to be a <i>less-than-significant</i> impact.	LS	<p>3.4-8 <i>See Mitigation Measures 4.4-10(a)-(b) in Table 6-1, as well as the following project-specific mitigation measure. The Phase I Construction Mitigation Plan will include the following:</i></p> <ul style="list-style-type: none"> <li>• <i>Preconstruction Surveys. The University will implement preconstruction surveys in habitats suitable for listed species within and adjacent to construction areas. These surveys are intended to augment previous surveys and will follow established protocols. Results of preconstruction surveys will be incorporated into the Phase I Construction Mitigation Plan.</i></li> <li>• <i>Monitoring and Reporting. The University will designate environmental monitors who will be responsible for implementing construction</i></li> </ul>	LS

Impact	Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
		<p><i>mitigation measures and reporting the status of contractors' compliance with mitigation requirements. The monitors will report directly to the University Environmental Manager. Monitoring reports will be filed with the Environmental Manager according to schedules determined based on potential for threats to listed species and other environmental resources as established in the Phase I Construction Mitigation Plan.</i></p> <ul style="list-style-type: none"> <li>• <i>Incorporation of Species Protection Obligations into Contracts. All contracts between the University and contractors, between construction management firms, and subcontractors will include restrictions on disturbance of listed species and habitats. Specific penalties for violations will be specified, including warnings, removal of individual violators from the project, termination of contracts and payment of damages.</i></li> <li>• <i>Training Program. Prior to initiating Phase I construction, all construction personnel will receive training described in the Phase I Construction Mitigation Plan. The purpose of the training program is to educate construction personnel of the sensitive nature of the areas adjacent to the Campus and their obligations to protect sensitive resources.</i></li> <li>• <i>Incorporation of BMPs. Standard construction BMPs will be identified in the Phase I Construction Mitigation Plan, incorporated into construction designs and plans and specifications, and required of contractors during construction.</i></li> <li>• <i>Construction Fencing. Prior to construction, temporary fencing will be installed along the</i></li> </ul>	

Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
			<p><i>boundaries of the portion within the Phase I area under construction to prevent construction vehicles from straying beyond the Phase I boundary.</i></p> <ul style="list-style-type: none"> <li><i>Kit Fox Preconstruction Surveys. Kit fox preconstruction surveys will be included in the Phase I Construction Mitigation Plan and implemented in accordance with Mitigation Measure 4.4-6 and in the context of overall kit fox preconstruction survey guidelines that also require spotlighting and photo stations. If the species is not found during these surveys and examination of dens does not show evidence of use, dens will be eliminated.</i></li> <li><i>Invasive Species Control. To ensure that seeds from invasive species are not transported into the Phase I area by construction equipment, the Phase I Construction Mitigation Plan will require that all equipment be washed at designated wash stations to ensure that they are clean and generally free of seeds before entering the Campus.</i></li> </ul>	
<b>3.5 Cultural Resources</b>				
<b>3.5-1</b>	Development of the Phase 1 Campus has the potential to disturb or destroy archaeological resources. This impact would be <i>potentially significant</i> .	PS	<i>See mitigation measures 4.5-1(a)-(d) in Table 6-1.</i>	LS
<b>3.5-2</b>	Development of the Phase 1 Campus has the potential to result in disturbance or destruction of Native American human remains. This is considered a <i>potentially significant</i> impact.	PS	<i>See mitigation measures 4.5-1(a)-(d) and 4.5-2(a)-(c) in Table 6-1.</i>	LS
<b>3.5-3</b>	Development of the Phase 1 Campus has the potential to disturb or destroy paleontological resources. This is considered a <i>potentially significant</i> impact.	PS	<i>See mitigation measures 4.5-4(a)-(b) in Table 6-1.</i>	LS
<b>3.6 Geology, Soils and Seismicity</b>				

Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
<b>3.6-1</b>	3.6-1 Implementation of the Phase 1 Campus would result in construction of facilities on expansive soils, creating risks to life or property. This is considered to be a <i>potentially significant</i> impact.	PS	<p>3.6-1(a) <i>If construction activities are performed during or subsequent to wet weather, implement measures to reduce excessive soil moisture and facilitate earthwork operations, such as disking to aerate, stabilization with a geotextile fabric or grid, or other similar, equally effective method.</i></p> <p>3.6-1(b) <i>Implement the site-specific measures regarding soil scarification and compaction, as identified in the Phase 1 Campus Geotechnical Investigation Report (Kleinfelder, Inc. 2001), for individual building sites.</i></p> <p>3.6-1(c) <i>Soils used for engineered fill shall meet the minimum requirements for moisture content as recommended in the Phase 1 Campus Geotechnical Investigation Report (Kleinfelder, Inc. 2001).</i></p>	LS
<b>3.8 Hydrology and Water Quality</b>				
<b>3.8-1</b>	Development of the Phase 1 Campus would not affect the quality of surface runoff water quality and would not result in a violation of water quality standards. Therefore, there would be <i>no impact</i> to these resources.	NI	<i>No mitigation required.</i>	NI
<b>3.9 Noise</b>				
<b>3.9-1</b>	Implementation of the Phase 1 Campus would result in traffic increases on the regional road network, which could significantly increase ambient noise levels. This is considered to be a <i>significant</i> impact.	S	<i>See mitigation measure 4.10-1 in Table 6-1.</i>	SU
<b>3.9-2</b>	Construction of Phase 1 Campus facilities could expose nearby receptors, especially users of the Lake Yosemite Regional Park, to elevated noise levels. This is considered to be a <i>potentially significant</i> impact.	PS	<i>See mitigation measures 4.10-3 and 4.10-5 in Table 6-1.</i>	LS
<b>3.10 Recreation</b>				

Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
3.10-1	Development of the Phase 1 Campus would increase the area population and result in an increased demand for recreational facilities, which could cause a deterioration of facilities. This impact is considered a <i>less-than-significant</i> impact.	LS	<i>See mitigation measures 4.13-1(a)-(d) in Table 6-1.</i>	LS
3.10-2	Development of the Phase 1 Campus would include construction of recreational facilities. The construction of these facilities would not have adverse physical effects on the environment beyond those discussed within the impact analysis for the LRDP. Therefore, this impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
<b>3.11 Traffic, Circulation, and Parking</b>				
3.11-1	Implementation of the Phase 1 Campus would result in exceedance of the level of service threshold at the Lake Road/Bellevue Road intersection. This is considered a <i>significant</i> impact.	S	3.11-1 <i>Install a traffic signal at the intersection of Lake Road and Bellevue Road, and widen the intersection to provide a left-turn lane on the northbound and eastbound approaches.</i>	LS
3.11-2	Implementation of the Phase 1 Campus may result in operational deficiencies at the Lake/Yosemite intersection. This is considered a <i>potentially significant</i> impact.	PS	3.11-2 <i>The County can and should analyze the expected future operations of the Lake/Yosemite intersection at the following milestone points: 1) on determination of the conceptual alignment for Campus Parkway, 2) on preparation of the Geometric Approval Drawings for Campus Parkway, and 3) each October, beginning in the opening year of the UC Merced campus. If any of these analyses determine that the Lake/Yosemite intersection will operate at unacceptable LOS, the University will contribute its fair share (as described in Section 4.14.3.2 of Table 6-1) toward the cost of any improvements deemed necessary at the intersection.</i>	LS
3.11-3	Construction of the Phase 1 Campus may result in excessive deterioration of County roads leading to campus and the need for physical expansion at the	PS	<i>See mitigation measure 4.14-3(a)-(b) in Table 6-1.</i>	LS

Impact		Level of Significance Prior to Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance Following Mitigation <sup>1</sup>
	Lake/Yosemite intersection. This is considered a <i>potentially significant</i> impact.			
<b>3.11-4</b>	Increased traffic volumes during the development of the Phase 1 Campus could result in hazardous traffic conditions along approach routes. This is considered to be a <i>potentially significant</i> impact.	PS	<i>See mitigation measures 4.14-3(a) and 4.14-6 in Table 6-1.</i>	LS

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