

UC DAVIS

EQUESTRIAN CENTER IMPROVEMENTS

Draft Tiered Initial Study and
Proposed Negative Declaration

The following Initial Study has been prepared in compliance with CEQA.

Prepared By:

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1 PROJECT INFORMATION

Project title:

Equestrian Center Improvements

Project location:

University of California, Davis
Yolo County

Lead agency's name and address:

Office of Resource Management and Planning
University of California
One Shields Avenue
376 Mrak Hall
Davis, CA 95616-8678

Contact person:

A. Sidney England, Director of Environmental Planning, 530-752-2432

Project sponsor's name and address:

See lead agency.

Location of administrative record:

See lead agency.

Identification of previous documents relied upon for tiering purposes:

This environmental analysis is tiered from the Environmental Impact Report (EIR) for the UC Davis 2003 Long Range Development Plan (2003 LRDP) (State Clearinghouse No. 2002102092). The 2003 LRDP is a comprehensive land use plan that will guide physical development on campus to accommodate projected enrollment increases and expanded and new program initiatives through the 2015-16 academic year. Section 2.2 provides additional information about the tiering process. The 2003 LRDP and its EIR are available for review at the following locations:

- UC Davis Office of Resource Management and Planning in 376 Mrak Hall on the UC Davis campus
- Reserves at Shields Library on the UC Davis campus
- Yolo County Public Library at 315 East 14th Street in Davis
- Online at <http://www.ormp.ucdavis.edu/environreview/>

2 INTRODUCTION

2.1 INITIAL STUDY

Pursuant to Section 15063 of the California Environmental Quality Act (CEQA) Guidelines (Title 14, California Code of Regulations, Sections 15000 et seq.), an Initial Study is a preliminary environmental analysis that is used by the lead agency as a basis for determining whether an EIR, a Mitigated Negative Declaration, or a Negative Declaration is required for a project. The CEQA Guidelines require that an Initial Study contain a project description, description of environmental setting, identification of environmental effects by checklist or other similar form, explanation of environmental effects, discussion of mitigation for significant environmental effects, evaluation of the project's consistency with existing, applicable land use controls, and the name of persons who prepared study.

2.2 TIERING PROCESS

This environmental analysis is a Tiered Initial Study for the proposed Equestrian Center Improvements (referred to as the "proposed project" throughout this document). This environmental analysis is tiered from the UC Davis 2003 LRDP EIR in accordance with Sections 15152 and 15168 of the CEQA Guidelines and Public Resources Code Section 21094. The 2003 LRDP EIR is a Program EIR that was prepared pursuant to Section 15168 of the CEQA Guidelines. The 2003 LRDP is a comprehensive land use plan that will guide physical development on campus to accommodate projected enrollment increases and expanded and new program initiatives through the 2015-16 academic year. The 2003 LRDP EIR analyzes full implementation of uses and physical development proposed under the 2003 LRDP, and it identifies measures to mitigate the significant adverse program-level and cumulative impacts associated with that growth. The proposed project is an element of the growth that was anticipated in the 2003 LRDP and evaluated in the 2003 LRDP EIR.

The CEQA concept of "tiering" refers to the evaluation of general environmental matters in a broad program-level EIR, with subsequent focused environmental documents for individual projects that implement the program. This environmental document incorporates by reference the discussions in the 2003 LRDP EIR (the Program EIR) and concentrates on project-specific issues. CEQA and the CEQA Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the Program EIR and by incorporating those analyses by reference.

Section 15168(d) of the State CEQA Guidelines provides for simplifying the preparation of environmental documents on individual parts of the program by incorporating by reference analyses and discussions that apply to the program as a whole. Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not analyzed as significant in the prior EIR or that are susceptible to substantial reduction or avoidance (CEQA Guidelines Section 15152[d]).

Accordingly, the tiering of the environmental analysis for the proposed project allows this Tiered Initial Study to rely on the 2003 LRDP EIR for the following:

- a discussion of general background and setting information for environmental topic areas;
- overall growth-related issues;

- issues that were evaluated in sufficient detail in the 2003 LRDP EIR for which there is no significant new information or change in circumstances that would require further analysis; and
- assessment of cumulative impacts.

The purpose of this Tiered Initial Study is to evaluate the potential environmental impacts of the proposed project with respect to the 2003 LRDP EIR to determine what level of additional environmental review, if any, is appropriate. As shown in the Determination form in Section 6 of this document and based on the analysis contained in this Tiered Initial Study, it has been determined that the proposed project would not result in any potentially significant impacts that cannot be mitigated to less-than-significant levels or are not sufficiently addressed by the 2003 LRDP EIR. The analysis contained in this Tiered Initial Study concludes that the proposed project would result in the following categories of impacts, depending on the environmental issue involved: no impact; less-than-significant impact; less-than-significant impact with the implementation of 2003 LRDP EIR or project-specific mitigation measures; or contribution to a significant and unavoidable impact that was adequately analyzed in the 2003 LRDP EIR for which no new mitigation measures are available and no new analysis is proposed. The project would not result in new potentially significant impacts that were not previously identified in the 2003 LRDP EIR. Therefore, preparation of a Negative Declaration is appropriate (the Proposed Negative Declaration is presented in Appendix A).

This Initial Study concludes that the project impacts are addressed by the measures that have been adopted as part of the approval of the 2003 LRDP. Therefore, those 2003 LRDP EIR mitigation measures that are related to, and may reduce the impacts of, this project will be identified in this Initial Study. The appropriate reference to the LRDP Mitigation Monitoring Program will also be made. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted. The benefits of these mitigation measures will be achieved independently of considering them specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement the LRDP mitigation measures.

Since none of the conditions described in CEQA or the CEQA Guidelines calling for preparation of a subsequent or supplemental EIR have occurred, this Tiered Initial Study includes only minor technical changes or additions to the analysis set forth in the 2003 LRDP EIR, and it does not raise important new issues about the significant effects on the environment analyzed in the 2003 LRDP EIR.

2.3 PUBLIC AND AGENCY REVIEW

This Draft Tiered Initial Study will be circulated for public and agency review from February 24, 2006 to March 27, 2006. Copies of this document, the 2003 LRDP, and the 2003 LRDP EIR are available for review at the following locations:

- UC Davis Office of Resource Management and Planning in 376 Mrak Hall on the UC Davis campus
- Reserves at Shields Library on the UC Davis campus
- Yolo County Public Library at 315 East 14th Street in Davis
- Online at <http://www.ormp.ucdavis.edu/environreview/>

Comments on this Draft Tiered Initial Study must be received by 5 PM on March 27, 2006 and can be e-mailed to environreview@ucdavis.edu or sent to:

John A. Meyer
Vice Chancellor - Resource Management and Planning
University of California
One Shields Avenue
376 Mrak Hall
Davis, CA 95616

2.4 PROJECT APPROVALS

As a public agency principally responsible for approving or carrying out the proposed project, the University of California is the Lead Agency under CEQA and is responsible for reviewing and certifying the adequacy of the environmental document and approving the proposed project. Approval of the proposed project has been delegated to the campus by The Board of Regents of the University of California (The Regents) and is expected to be considered by the campus' Facilities and Enterprise Policy Committee in March, 2006.

2.5 ORGANIZATION OF THE TIERED INITIAL STUDY

This Tiered Initial Study is organized into the following sections:

Section 1 – Project Information: provides summary background information about the proposed project, including project location, lead agency, and contact information.

Section 2 – Introduction: summarizes the Tiered Initial Study's relationship to the 2003 LRDP EIR, the scope of the document, the project's review and approval processes, and the document's organization.

Section 3 – Project Description: includes a description of the proposed project, including the need for the project, the project's objectives, and the elements included in the project.

Section 4 – Consistency with the 2003 LRDP: describes the consistency of the proposed project with the 2003 LRDP and 2003 LRDP EIR.

Section 5 – Environmental Factors Potentially Affected: identifies which environmental factors, if any, involve at least one significant or potentially significant impact that has not been previously addressed in the 2003 LRDP EIR and cannot be reduced to a less-than-significant level.

Section 6 – Determination: indicates whether impacts associated with the proposed project are significant, and what, if any, additional environmental documentation is required.

Section 7 – Evaluation of Environmental Impacts: contains the Tiered Environmental Checklist form for each resource area. The checklist is used to assist in evaluating the potential environmental impacts of the proposed project with respect to the 2003 LRDP EIR. This section also presents a background summary for each resource area, the standards of significance and relevant impacts and mitigation measures from the 2003 LRDP EIR, and an explanation of all checklist answers.

Section 8 – References: lists references used in the preparation of this document.

Section 9 – Agencies and Persons Consulted: provides the names of individuals contacted in preparation of this document.

Section 10 – Report Preparers: lists the names of individuals involved in the preparation of this document.

Appendix A – Proposed Negative Declaration: presents the Proposed Negative Declaration for the project.

3 PROJECT DESCRIPTION

3.1 REGIONAL LOCATION

The approximately 5,300 acre UC Davis campus is located in Yolo and Solano Counties approximately 72 miles northeast of San Francisco, 15 miles west of the City of Sacramento, and adjacent to the City of Davis (see Figure 1). The campus is comprised of four campus units: the central campus, the south campus, the west campus, and Russell Ranch. Most academic and extracurricular activities occur within the central campus. The central campus is bounded generally by Russell Boulevard to the north, State Route 113 (SR 113) to the west, Interstate 80 (I-80) and the Union Pacific Railroad tracks to the south, and A Street to the east. The south campus is located south of I-80 and north of the South Fork of Putah Creek. The west campus is bounded by SR 113 to the east, Putah Creek to the south, Russell Boulevard to the north, and extends approximately one-half mile west of County Road 98. The south and west campus units are contiguous with the central campus, and are used primarily for field teaching and research. The approximately 1,600 acre Russell Ranch portion of the campus lies to the west, separated from the west campus by approximately one and one-half miles of privately owned agricultural land. Russell Ranch was purchased in 1990 for campus uses including large-scale agricultural and environmental research, study of sustainable agricultural practices, and habitat mitigation. Russell Ranch is bordered roughly by County Road 96 on the east, Putah Creek on the south, Covell Boulevard on the north, and Russell Boulevard and privately owned agricultural land on the west and northwest.

3.2 PROJECT OVERVIEW

The proposed Equestrian Center Improvement project would upgrade the existing UC Davis Equestrian Center by providing:

- A covered arena of approximately 45,000 gross square feet (gsf);
- Stormwater drains, concrete curbing to divert water, a stormwater detention basin, and associated land grading to capture stormwater runoff from the existing equestrian confined animal facilities and transport the runoff to the campus wastewater treatment system; and
- Replacement of existing pens, fences, and small ancillary structures that are in a deteriorated condition.

The project would take place on approximately 25 acres currently used by the UC Davis Equestrian Center in the southwest portion of the UC Davis Central Campus adjacent to the junction of Interstate 80 and State Route 113. The proposed arena would provide an all-weather practice and teaching facility. The drainage improvements would improve the water quality of stormwater runoff. The replacement of existing ancillary facilities is needed to overcome deteriorated conditions caused by normal wear and tear and by deferred maintenance. Project location information and site improvement details are shown on Figures 2, 3, 4, and 5.

3.3 PROJECT SITE

The Equestrian Center is on the edge of the UC Davis central campus adjacent to the junction of Interstate 80 and State Route 113. The Equestrian Center includes approximately 25 acres with existing facilities for boarding, training, and jumping horses. Buildings at the site include the central barn, a hay barn, a stable, and a caretaker trailer. Additional improvements include covered pipe pens, stables, paddocks, a small jumping arena, a western arena, the main arena, and a large grassy area of approximately five acres used for horse training. The arenas are used for specialized equestrian classes and training. Site access is provided on a gravel road from Garrod Drive.

Land surrounding the Equestrian Center includes Interstate 80 to the south, State Route 113 to the west, and the UC Davis Arboretum to the north and east. The UC Davis Arboretum is a living plant museum, teaching resource, and a recreational area occupying approximately 100 acres at UC Davis. Near the Equestrian Center, the UC Davis Arboretum has walking paths and extensive tree plantings.

The 2003 LRDP designated the Equestrian Center an Academic and Administrative land use to enable the future conversion of the Equestrian Center from a recreational resource to a land area used for new academic or administrative buildings. At this time, the Equestrian Center is not needed to accommodate planned academic or administrative buildings but is needed as a reserve area for future academic and administrative buildings and to provide a suitable location for any unexpected academic or administrative initiatives that occur during the implementation period of the 2003 LRDP. The proposed improvements are not expected to hinder the future conversion of the land to an Academic or Administrative use.

3.4 PROJECT NEED AND OBJECTIVES

The objectives of the proposed project are to provide a covered indoor arena for Equestrian Center activities, to improve stormwater collection systems at the Equestrian Center, and to replace existing facilities that are in a deteriorated condition. The Equestrian Center was established in 1962 and offers a variety of horse-related activities and student employment opportunities. Under the direction of professionally trained staff beginning through advanced riders develop their skills in eventing, hunter/jumper, dressage, advanced western, trail classes, and specialized individual classes. Over 1,500 riders participate in summer camps, lessons, team practices, and trail riding each year. The student staff at the Equestrian Center help in teaching riding lessons, act as barn supervisors, feed the horses, clean the stalls, care for the fields and riding arenas, administer horse care treatments, lead trail rides, and assist in scheduling events. The Equestrian Center offers campus boarding of horses including barn stalls, covered horse pens (pipe pens), and pastures.

The Facility and Campus Enhancement (FACE) initiative approved by the students in February 1999 called for enhancements to the Equestrian Center, including health and safety improvements and a new covered arena. A covered arena was identified as a recreational priority for the campus in order to allow all-weather class use and horse training during inclement weather. The existing facilities at the Equestrian Center are heavily impacted by rainy conditions due to the hazards to horses caused by slippery surfaces and the poor site drainage which can result in prolonged periods of muddy conditions.

The scope of the proposed drainage improvement work for the Equestrian Center has been developed in response to Consent Decree, Case No. CIV-S-00-1 140 GEB, that was issued by the United States District Court for the Eastern District of California. This Consent Decree serves as the legal basis for settlement of a dispute between the Chancellor of the University of California, Davis, in his official capacity, and WaterKeepers Northern California. A portion of the Consent Decree deals with six

animal facility sites on the campus, including the Equestrian Center. As part of the Consent Decree, the University agreed to make structural improvements to the Equestrian Center to mitigate off-site transport of pollutants in storm water. The proposed improvements would capture contact water from confined animal spaces and transport that water to the campus wastewater treatment plant rather than discharging to Putah Creek without treatment. Physical improvements would include concrete curbing to separate contact water from non-contact water, above and below ground drainage systems to transport the contact water, a stormwater detention pond to regulate the flow of the contact water, and a new sewer pump station and underground force main to transport the contact water from the detention basin to the point of connection with the campus wastewater treatment system. The underground force main would be approximately 2,200 feet in length. The proposed location of the underground force main is shown in Figure 3. The new pipe pens will replace four existing pipe pen structures that are in a deteriorated condition. These pipe pens are needed to house horses.

3.5 PROJECT ELEMENTS

3.5.1 Buildings and Structures

The proposed covered riding arena is 45,000 gsf (150 feet in width by 300 feet in length) and is expected to be a pre-engineered metal structure. The structure is expected to have a metal siding on two sides, a metal roof, and to have two sides that are open. The structure is expected to be utilitarian in form and have few architectural embellishments. The arena will include lighting, ventilation, and a public address system. The new facilities will be in compliance with the Animal Use and Care Administration Advising Committee (AUCAAC) laws, regulations, codes, and standards. The arena will provide indoor space for equestrian events and equestrian classes. Events are currently held outside on the grounds at the Equestrian Center with no protection from inclement weather. By providing an indoor arena, the equestrian events can be completed without regard to weather and during the evenings.

The proposed pipe pens will replace four existing pipe pen structures totaling approximately 15,000 square feet (sf). The pipe pens are covered stalls with the perimeter made up of pipe fencing to contain the horses. Additional facilities that could be repaired or replaced include site fencing, concrete pads, and replacement of other small structures such as shade shelters for horses. The project will include utility connections for electricity, storm drain, and sanitary sewer.

3.5.2 Landscaping

The proposed project would include no changes to landscaping.

3.5.3 Parking and Roadways

The proposed project would include no changes to parking and roadways. The existing Equestrian Center access road from Garrod Drive would continue to serve the Equestrian Center and would not need modification.

3.5.4 Utilities and Infrastructure

As discussed below and analyzed in Section 4.15, the proposed project would require connections to campus utilities and infrastructure including sanitary sewer, storm drainage, and electricity.

- Sanitary Sewer: Changes to the sanitary sewer system are all related to the storm drainage system and are described below.
- Storm Drainage: The stormwater drainage improvements would encompass the 25-acre site and would accommodate stormwater from the existing and the proposed facilities. The area of specific concern is approximately 8 acres that house horses in confined spaces primarily on the northwest portion of the site. These areas include pipe pens, stables, barn, turnouts, and pastures. Runoff from these areas is considered contact water because it comes into contact with horse manure and can include a high volume of associated pollutants. Contact water from confined animal spaces will be separated from other site runoff and drained exclusively to a separate stormwater pipe. The underground pipe will extend to the southeast corner of the Equestrian Center site and will discharge the contact water into a stormwater detention pond. The stormwater detention pond will temporarily hold the contact water and will provide sufficient capacity to hold runoff from small storm events. For larger storms, and to empty the pond after small storms, an electric powered pump will drain water from the bottom of the stormwater detention pond and force the water into an underground sewer line. The pressurized sewer line will pump the contact water easterly approximately 2,200 feet to the main campus sewer line located near Old Davis Road and then to the campus wastewater treatment plant.
- Electricity: Electricity for the new storm drainage pumps will be provided at the existing transformer located approximately 200 feet north of the project site.

3.5.5 Sustainable Design Elements

The proposed project would comply with the Regental Policy on Green Building Design and Clean Energy Standards, and would meet the campus baseline¹ as applicable to the project.

3.5.6 Population

The proposed project would add no new students or employees to the UC Davis campus.

3.6 CONSTRUCTION SCHEDULE AND STAGING

Construction of the proposed project is anticipated to begin in summer of 2006 and end in summer of 2007. Construction staging and contractor parking associated with the proposed project would occur within the Equestrian Center.

¹ UC Davis has established a campus baseline which is the minimum number of applicable *Leadership in Energy and Environmental Design* (LEED) rating system “points” that each project on the campus will achieve. With the passage of the Regental Policy on Green Building Design and Clean Energy Standards, each campus in the UC System was required to devise a campus baseline. While the UC System does not require each system campus to apply for United States Green Building Council LEED certification, the UC has committed to achieving a level of building performance comparable to that of LEED certification. The campus baseline provides the starting level of building performance objectives for all campus projects, with the exception of medical facilities.

4 CONSISTENCY WITH THE 2003 LRDP AND 2003 LRDP EIR

In order to determine the proposed project's consistency with the 2003 LRDP and 2003 LRDP EIR, the following questions must be answered:

- Is the proposed project included in the scope of the development projected in the 2003 LRDP?
- Is the proposed location of the project in an area designated for this type of use in the 2003 LRDP?
- Are the changes to campus population associated with the proposed project included within the scope of the 2003 LRDP's population projections?
- Are the objectives of the proposed project consistent with the objectives adopted for the 2003 LRDP?
- Is the proposed project within the scope of the cumulative analysis in the 2003 LRDP EIR?

The following discussion describes the proposed project's relationship to and consistency with the development projections, population projections, land use designations, objectives, and cumulative impacts analyses contained in the 2003 LRDP.

4.1 2003 LRDP SCOPE OF DEVELOPMENT

The proposed project would improve existing facilities and provide indoor space for activities that are already occurring on-campus. The project would not increase the amount or intensity of existing land uses at UC Davis. Accordingly, the project would not contribute to the campus growth that was anticipated in the 2003 LRDP.

4.2 2003 LRDP LAND USE DESIGNATION

The 2003 LRDP designated the Equestrian Center an Academic and Administrative land use to enable the future conversion of the Equestrian Center from a recreational resource to a land area used for new academic or administrative buildings. At this time, the Equestrian Center is not needed to accommodate planned academic or administrative buildings but is needed as a reserve area for future academic and administrative buildings and to provide a suitable location for any unexpected academic or administrative initiatives that occur during the implementation period of the 2003 LRDP. The proposed improvements are a continuation of the existing use and are not expected to hinder the future conversion of the land to an Academic or Administrative use.

4.3 2003 LRDP POPULATION PROJECTIONS

The 2003 LRDP projects that, through 2015-16, the on-campus population will increase to include approximately 30,000 students, 14,500 faculty and staff, and 3,240 non-UC employees². In addition, the total number of household members associated with students and employees living in on-campus housing is expected to increase to approximately 29,803. The fall 2003 on-campus faculty and staff

² The on-campus population includes students and employees on the UC Davis main campus and at other University owned and operated facilities in the City of Davis. The campus population is determined based on headcount, a method of counting faculty, staff, and students in which each person is counted as one unit regardless of whether he or she is employed or studying full-time or part-time. Student population figures represent student headcount averaged over the primary three academic quarters (i.e., fall, winter, spring).

headcount was approximately 10,500, and the 2002-03 three-quarter average on-campus student population was approximately 26,650 (UC Davis ORMP 2003a and b). The proposed project would introduce no new students and no new members of the faculty and staff population. Therefore, the project would not increase the campus population to a level that would approach that projected for 2015-16. Therefore, the proposed project is well within the 2003 LRDP's on-campus population projections.

4.4 2003 LRDP OBJECTIVES

The primary objective of the 2003 LRDP is to plan for the Davis campus' share of the University of California's short- and long-term enrollment demands. In addition, the 2003 LRDP aims to:

- create a physical framework to support the teaching, research, and public service mission of the campus;
- manage campus lands and resources in a spirit of stewardship for the future; and
- provide an environment that enriches campus life and serves the greater community.

The proposed project would support these main 2003 LRDP objectives by improving the stormwater system and by providing indoor arena space for equestrian events and classes. The improved stormwater system would improve water quality by transporting contact water to the campus wastewater treatment plant, which would contribute to the objective of managing campus lands and resources in a spirit of stewardship for the future.

In addition, the 2003 LRDP includes specific objectives that are relevant to the proposed project, including the following:

Recreation: Site formal recreational and athletic facilities with reasonable access to student, faculty, and staff participant populations. LRDP, page 41.

The project would improve the existing facilities at the Equestrian Center to allow continued use of a facility that is in close proximity to the core campus. The proposed arena would support a existing recreational use with reasonable access by providing an all-weather capability for the Equestrian Center.

4.5 2003 LRDP EIR CUMULATIVE IMPACTS ANALYSES

In addition to evaluating the environmental effects directly associated with projected campus development, the 2003 LRDP EIR evaluates the cumulative effects of campus development combined with off-campus development through 2015-16. The cumulative context considered in the 2003 LRDP EIR varies, depending on the nature of the issue being studied, to best assess each issue's geographic extent. For example, the cumulative impacts on water and air quality can be best analyzed within the boundaries of the affected resources, such as water bodies and air basins. For other cumulative impacts, such as hazard risks, traffic, and the need for new public service facilities, the cumulative impact is best analyzed within the context of the population growth and associated development that are expected to occur in the region.

As discussed in Sections 4.1 through 4.4 above, the proposed project is within the scope of campus development projected in the 2003 LRDP EIR. In addition, the campus is unaware of any changes to local growth plans or other changes in the region since certification of the 2003 LRDP EIR that would substantially change that document's conclusions regarding cumulative impacts. Therefore, the

proposed project would incrementally contribute to, but would not exceed, the cumulative impacts analyses included in the 2003 LRDP EIR.

The environmental resource discussions that follow in this document conclude that the project would result in the following types of cumulative impacts.

- The proposed project would not contribute to significant and unavoidable cumulative impacts identified in the 2003 LRDP EIR related to: loss of scenic vistas (Section 7.1); conversion of prime farmland (Section 7.2); loss of habitat for Swainson's hawks and burrowing owls (Section 7.4); loss of wetland and riparian habitat (Section 7.4); loss of valley elderberry beetle habitat (Section 7.4); loss of archaeological and historical resources (Section 7.5); degraded receiving water quality (Section 7.8); increased water extraction from the deep aquifers (Section 7.8); increased water extraction from the shallow/intermediate aquifers (Section 7.8); increased ambient noise levels (Section 7.11); construction of police and fire service facilities (Section 7.13); construction of school facilities (Section 7.13); development of recreation facilities (Section 7.14); degraded intersection and freeway operations (Section 7.15).
- The proposed project would incrementally contribute to, but would not exceed, significant and unavoidable cumulative impacts identified in the 2003 LRDP EIR related to: degradation of visual character or quality (Section 7.1); increases in light and glare (Section 7.1); increases in criteria pollutant emissions (Section 7.3); and construction of wastewater treatment facilities (Section 7.16).
- The proposed project would incrementally contribute to, but would not exceed, less-than-significant cumulative impacts identified in the 2003 LRDP EIR related to: discharge of treated effluent to Putah Creek (Section 7.8); potential conflicts with land use plans, policies, or regulations (Section 7.9).

5 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors, if checked below, would be potentially affected by this project and would involve at least one impact that is a significant or potentially significant impact that has not been previously addressed in the 2003 LRDP EIR and cannot be reduced to a less-than-significant level as indicated by the checklist on the following pages.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology, Soils & Seismicity |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology & Water Quality | <input type="checkbox"/> Land Use & Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population & Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation, Circulation & Parking |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

As indicated in the checklist above and based on the analysis presented in this Tiered Initial Study, it has been determined that for all resource areas, the proposed project would not result in any significant impacts that cannot be mitigated to a less-than-significant level or are not sufficiently addressed by the 2003 LRDP EIR. This Tiered Initial Study has concluded that the project would incrementally contribute to, but would not exceed, certain significant impacts previously identified in the 2003 LRDP EIR, and that for such impacts, no new mitigation measures, other than those previously identified in the 2003 LRDP EIR, are required.

6 DETERMINATION

On the basis of this initial evaluation:

- I find that the proposed project **COULD NOT** have a significant effect on the environment that has not been previously addressed in the 2003 LRDP EIR, and no new mitigation measures, other than those previously identified in the 2003 LRDP EIR, are required. A **NEGATIVE DECLARATION** will be prepared. The proposed Negative Declaration is included in Appendix A.
- I find that the proposed project **COULD** have a significant effect on the environment that has not been previously addressed in the 2003 LRDP EIR, and [a] new project-specific mitigation measure[s], in addition to those previously identified in the 2003 LRDP EIR, [is/are] required to reduce this effect to such a point that clearly no significant impact would occur. A **MITIGATED NEGATIVE DECLARATION** will be prepared. [If this is checked, refer to the Mitigated Negative Declaration in Appendix A.]
- I find that the proposed project **MAY** have a potentially significant effect on the environment that was not previously addressed in the 2003 LRDP EIR. A **TIERED ENVIRONMENTAL IMPACT REPORT** will be prepared to address new impacts not previously identified in the 2003 LRDP EIR.

John A. Meyer
Vice Chancellor – Resource Management and Planning

Date

7 EVALUATION OF ENVIRONMENTAL IMPACTS

Introduction

The following Environmental Checklist form is based on the checklist suggested in Appendix G of the CEQA Guidelines, and it has been adapted to assist in evaluating the environmental effects of the proposed project with respect to the analysis in the 2003 LRDP EIR.

The Environmental Checklist identifies potential project effects as corresponding to the following categories of impacts:

- Potentially Significant Impact: An effect that it was not previously addressed in the 2003 LRDP EIR and may be significant based on substantial evidence and the significant criteria. If the project may result in one or more Potentially Significant Impacts, an EIR is required. This Tiered Initial Study does not identify any Potentially Significant impacts that were not addressed in the 2003 LRDP EIR, and therefore no EIR is required.
- Less than Significant with Mitigation Incorporated: An effect that was not adequately addressed in the 2003 LRDP EIR, but with the implementation of project-specific mitigation measures, is reduced from potentially significant to less than significant. This Tiered Initial Study does not identify any potentially significant impacts that were not previously addressed in the 2003 LRDP EIR, and therefore no project-specific mitigation measures are required.
- Impact for Which the 2003 LRDP EIR is Sufficient: An effect that was adequately addressed and mitigated to the extent feasible in the 2003 LRDP EIR (the Program EIR). For these effects, the Tiered Initial Study explains how the effect was addressed in the 2003 LRDP EIR and why the criteria for supplemental environmental review under CEQA Section 21166 (project changes, changed circumstances, and/or new information) have not been triggered. Effects correspond to this category under the following circumstances:
 - a) The 2003 LRDP EIR found the impact would be reduced to a less-than-significant level with the implementation of applicable 2003 LRDP EIR mitigation measures;
 - b) The impact is significant and unavoidable at a cumulative level, and the 2003 LRDP EIR fully addressed the cumulative impact; or
 - c) The impact is significant and unavoidable at a project level, but the LRDP EIR contained an adequate project-level analysis for the impact.
- Less than Significant Impact: An effect for which no significant impacts, only less than significant impacts, result.
- No Impact: The project does not create an impact.

7.1 AESTHETICS

7.1.1 Background

Section 4.1 of the 2003 LRDP EIR addresses the aesthetics effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.1 of the 2003 LRDP EIR.

Campus

The campus is surrounded by extensive agricultural uses to the west and south, and by residential, institutional, and commercial land uses in the City of Davis to the north and east. Views within the Davis area are generally of two types: open views of agricultural land and supporting facilities with views of hills to the west, and views of developed areas within UC Davis and the City of Davis.

UC Davis consists of four general land units that have distinct visual characters. The central campus is the most developed area of campus and is characterized by varied architectural styles, large trees, and formal landscaping. The west and south campus units and Russell Ranch primarily include teaching and research fields with agricultural buildings (although the west and south campus units also include more developed areas including campus support facilities and academic and administrative facilities).

The 2003 LRDP identifies the following as valued visual elements of the central campus: the large, open lawn of the Quad at the heart of the campus; the framework of tree-lined streets, particularly around the Quad where the street tree branches arch to create a canopy overhead; the Arboretum, with its large trees and variety of landscapes along the waterway; the shingle-sided buildings from the founding years of the University Farm; buildings from the second era of campus development such as Hart Hall and Walker Hall; green open spaces that face the community along Russell Boulevard and A Street; bicycles as a distinct and valued visual emblem on campus; and the South Entry area, including the new entrance quad and the Robert and Margrit Mondavi Center for the Performing Arts.

Design review of campus development projects takes place during the project planning, design, review, and approval processes to sustain valued elements of the campus’ visual environment, to assure new projects contribute to a connected and cohesive campus environment, and to otherwise minimize adverse aesthetics effects as feasible. Formal design review by the campus Design Review Committee takes place for every major capital project. This Committee includes standing members from the Offices of Resource Management and Planning, Architects and Engineers, Grounds, and other departments concerned with potential aesthetic effects, as well as program representatives and invited design professionals with expertise relevant to the project type. Campus design standards and plans that provide the basis for design review include the 2003 LRDP, the Campus Standards and Design Guide manual, the campus Architectural Design Guidelines, and the Campus Core Study.

Project Site

The project site is flat with an open, undeveloped character and large mature trees around the periphery of the site. The site includes minimal development in the form of equestrian pastures surrounded by pipe fencing, small structures such as the barns, and equestrian recreational facilities including the main grassy field area used for horse training and jumping. Views from the site include views into the University Arboretum and views to the west across State Route 113. Views to the site are limited from all directions by the trees and by the recessed location of Interstate 80 and State Route 113.

7.1.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers an aesthetic impact significant if growth under the 2003 LRDP would:

- Have a substantial adverse effect on a scenic vista.
A scenic vista is defined as a publicly accessible viewpoint that provides expansive views of a highly valued landscape. On campus, the open view across agricultural lands west to the Coast Range is considered a scenic vista. This vista is primarily viewed from public viewpoints along SR 113, Hutchison Drive, La Rue Road, and Russell Boulevard.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
For the campus, this standard is interpreted in terms of the effect of development under the 2003 LRDP on the valued elements of the visual landscape identified in the LRDP, or the effect associated with allowing incompatible development in or near areas with high visual quality such as Putah Creek and the Arboretum Waterway.
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

An additional standard from the CEQA Guidelines' Environmental Checklist ("b" in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

7.1.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on aesthetics are evaluated in Section 4.1 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant aesthetics impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
AESTHETICS			
4.1-2	Development on campus from implementation of the 2003 LRDP could degrade the visual character of the campus by substantially degrading the valued elements of the visual landscape identified in the 2003 LRDP.	PS	LS
4.1-3	Development under the 2003 LRDP could create substantial light or glare on campus that could adversely affect daytime or nighttime views in the area.	PS	LS
4.1-5	Development allowed under the 2003 LRDP, in conjunction with other development in the region could substantially degrade the existing visual character or quality of the region.	S	SU
4.1-6	Implementation of the 2003 LRDP together with cumulative development in the region would create new sources of light and glare that could adversely affect daytime or nighttime views in the region.	S	SU

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the

2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

2003 LRDP EIR Mitigation Measures

AESTHETICS

- 4.1-2(a) New structures, roads, and landscaping at UC Davis shall be designed to be compatible with the visual elements and policies identified in the 2003 LRDP.
 - 4.1-2(b) Prior to design approval of development projects under the 2003 LRDP, the campus Design Review Committee must determine that project designs are consistent with the valued elements of the visual landscape identified in the 2003 LRDP, applicable planning guidelines, and the character of surrounding development so that the visual character and quality of the project area are not substantially degraded.
 - 4.1-3(a) Design for specific projects shall provide for the use of textured nonreflective exterior surfaces and nonreflective glass.
 - 4.1-3(b) Except as provided in LRDP Mitigation 4.1-3(c), all new outdoor lighting shall utilize directional lighting methods with shielded and cutoff type light fixtures to minimize glare and upward directed lighting.
 - 4.1-3(c) Non-cutoff, non-shielded lighting fixtures used to enhance nighttime views of walking paths, specific landscape features, or specific architectural features shall be reviewed by the Campus Design Review Committee prior to installation to ensure that: (1) the minimum amount of required lighting is proposed to achieve the desired nighttime emphasis, and (2) the proposed illumination creates no adverse effect on nighttime views.
 - 4.1-3(d) The campus will implement the use of the specified lighting design and equipment when older lighting fixtures and designs are replaced over time.
 - 4.1-5(a) Implement LRDP Mitigation 4.1-2(a) and (b).
 - 4.1-5(b) The cities of Davis, Woodland, Winters, and Dixon, and Yolo and Solano counties can and should implement policies in their plans that address the protection of scenic resources and maintenance of visual quality.
 - 4.1-6(a) Implement LRDP Mitigation 4.1-3(a) and (b).
 - 4.1-6(b) The City of Davis and other surrounding jurisdictions can and should adopt (if necessary) and implement development standards and guidelines, which support the minimal use of site lighting for new developments.
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7.1.4 Environmental Checklist and Discussion

AESTHETICS		Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...						
a)	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) A scenic vista is defined as an expansive view of a highly valued landscape from a publicly accessible viewpoint. On and near campus, viewpoints along SR 113, Hutchison Drive, La Rue Road, and Russell Boulevard provide scenic vistas to the west across agricultural land to the Coast Range. The proposed project would have no effect on scenic vistas. The existing plantings of mature trees within and adjacent to the Equestrian Center disrupt expansive views to the west and of the Coast Range. No impact would occur.

- b,c) The campus is not located near a state scenic highway. However, the 2003 LRDP EIR found that development on campus under the 2003 LRDP could degrade the visual character of the campus by substantially degrading the valued elements of the campus' visual landscape, which are identified above in the background discussion and include specific treed areas, historic buildings, and open space areas (Impact 4.1-2). The proposed project would result in only a minor change to the visual character of the Campus Arboretum. The change to the visual character of the Arboretum would be that the construction of the arena building within the Equestrian Center could be visible from the Campus Arboretum. The potential effect of this building on the visual character of the Campus Arboretum is expected to be less-than-significant because of the mature evergreen trees that obscure the view from the Arboretum toward the Equestrian Center and because the building would be located approximately 700 feet from Arboretum and because existing plantings along SR 113 would provide a vegetated backdrop. In compliance with LRDP Mitigation 4.1-2(a), the proposed project would be designed to be compatible with the visual elements and policies identified in the 2003 LRDP. In compliance with LRDP Mitigation 4.1-2(b), the campus Design Review Committee would review the project design for consistency with the valued elements of the campus' visual landscape, applicable planning guidelines, and the character of surrounding development. With implementation of these measures, which are relevant to the project, the project's potential impact on scenic resources and visual character would be less than significant.

The 2003 LRDP EIR found that development under the 2003 LRDP along with other development in the region could substantially degrade the existing visual character or quality of the region (Impact 4.1-5). LRDP Mitigation 4.1-5(a), included in the proposed project, requires the campus to implement Mitigation Measure 4.1-2(a-b), discussed above. LRDP Mitigation 4.1-5(b) indicates that local jurisdictions can and should implement policies that protect scenic resources and visual quality. However, the feasibility and/or implementation of LRDP Mitigation 4.1-5(b) cannot be guaranteed by the University of California because enforcement and monitoring fall within other jurisdictions. For this reason, the impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- d) The 2003 LRDP EIR found that development on campus under the 2003 LRDP could create substantial light or glare that could adversely affect daytime or nighttime views in the area (Impact 4.1-3). Daytime and nighttime lighting and glare effects from the proposed project could include building lighting and glare from building surfaces. In compliance with LRDP Mitigation 4.1-3(a), the project would use textured nonreflective exterior surfaces and nonreflective glass. In compliance with LRDP Mitigation 4.1-3(b-c), new outdoor lighting associated with the project would use directional lighting methods with shielded and cutoff type light fixtures to minimize glare and upward directed lighting, except in specific, limited locations to enhance nighttime views of walking paths, specific landscape features, or specific architectural features. In compliance with this measure, the Campus Design Review Committee will also review the proposed project's use of non-directional lighting design to ensure that no adverse effects on nighttime views occur. In compliance with LRDP Mitigation 4.1-3(d), the campus will replace

older lighting fixtures over time with directional lighting. With implementation of LRDP Mitigation 4.1-3(a-d), which is included in the proposed project, the project's impact associated with light and glare would be less than significant.

The 2003 LRDP EIR found that campus development under the 2003 LRDP in conjunction with other development in the region would add new sources of light and glare that could adversely affect daytime or nighttime views in the area (Impact 4.1-6). LRDP Mitigation 4.1-6(a), included in the proposed project, requires the campus to implement Mitigation Measure 4.1-3(a) and (b), discussed above. LRDP Mitigation 4.1-6(b) indicates that local jurisdictions can and should adopt and implement development standards and guidelines that support reduced lighting. However, the feasibility and/or implementation of LRDP Mitigation 4.1-6(b) cannot be guaranteed by the University of California because enforcement and monitoring fall within other jurisdictions. For this reason, the impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Summary

Mitigation measures 4.1-2 (a,b), 4.1-3 (a-d), 4.1-5(a,b), and 4.1-6(a,b) from the 2003 LRDP EIR is relevant to the proposed project and would reduce the significance of aesthetics impacts to the extent feasible. The proposed project would not exceed the levels of significance of aesthetics impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant aesthetics impacts that were not previously addressed.

7.2 AGRICULTURAL RESOURCES

7.2.1 Background

Section 4.2 of the 2003 LRDP EIR addresses the agricultural resources effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.2 of the 2003 LRDP EIR.

Campus

As discussed in the 2003 LRDP EIR, of the approximately 5,300 acres of campus land, the California Department of Conservation’s Farmland Mapping and Monitoring Program (FMMP) designates approximately 3,700 acres as Prime Farmland and approximately 90 acres as Farmland of Local Importance. The FMMP designates the remaining 1,520 acres of campus land as Urban and Built-Up (approximately 1,400 acres) and Other Land (approximately 120 acres). Most of the campus’ agricultural lands are located on the west and south campuses and at Russell Ranch. The central campus includes land primarily designated as Urban and Built-Up, but small areas within the central campus that are used for teaching and research fields and community gardens are designated as Prime Farmland.

The 2003 LRDP EIR identifies that development under the 2003 LRDP through 2015-16 could result in conversion of approximately 745 acres of campus land that is considered prime farmland by the California Department of Conservation to nonagricultural uses. Approximately 330 acres of this land would be converted to habitat at Russell Ranch, which would not result in an irreversible loss of prime soil. Mitigation under the 2003 LRDP EIR requires the conservation of prime farmland at a one-to-one (1:1) ratio for prime farmland converted to developed uses and a one-third-to-one (1/3:1) ratio for prime farmland converted to habitat at Russell Ranch.

Project Site

The project site contains no agricultural resources and is designated by the FMMP as Urban and Built-Up land.

7.2.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers an agricultural impact significant if growth under the 2003 LRDP would:

- Convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland considered prime, unique, or of statewide importance to nonagricultural use.
- Conflict with existing zoning for agricultural use or a Williamson Act contract.

7.2.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on agricultural resources are evaluated in Section 4.2 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the

proposed project is within the scope of analysis in the 2003 LRDP EIR. The project is not located on or adjacent to agricultural land and accordingly, would have no effect on agricultural resources.

7.2.4 Environmental Checklist and Discussion

AGRICULTURAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The project site is designated by the FMMP as Urban and Built-Up land. The proposed project would have no effect on farmland. No impact would occur.
- b) Campus lands are state lands and are not eligible for Williamson Act agreements, nor are they subject to local zoning controls. Therefore, the proposed project would not conflict with an existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.
- c) The proposed project would result in no changes to land use and no changes to farmland. No impact would occur.

Summary

The proposed project would not exceed the levels of significance of agricultural impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant agricultural impacts that were not previously addressed.

7.3 AIR QUALITY

7.3.1 Background

Section 4.3 of the 2003 LRDP EIR addresses the air quality effects of campus growth under the 2003 LRDP on air quality. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.3 of the 2003 LRDP EIR.

Campus

The campus is subject to air quality regulation programs under both the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA). Both the federal and state statutes provide for ambient air quality standards to protect public health, timetables for progressing toward achieving and maintaining ambient standards, and the development of plans to guide the air quality improvement efforts of state and local agencies. Within the campus vicinity, air quality is monitored, evaluated, and controlled by the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and the Yolo-Solano Air Quality Management District (YSAQMD). The YSAQMD is one of five air districts located in the Sacramento Valley Air Basin (SVAB) and has jurisdiction over air quality in the Yolo County and the northeastern portion of Solano County.

Historically, air quality laws and regulations have divided air pollutants into two broad categories: “criteria pollutants” and “toxic air contaminants.” Federal and state air quality standards have been established for the following ambient air pollutants, which are called criteria pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter less than 10 microns in diameter (PM₁₀), lead (Pb), and particulate matter less than 2.5 microns in diameter (PM_{2.5}). Ozone is evaluated by assessing emissions of its precursors: reactive organic gases (ROG) and NO₂.

Toxic air contaminants (TACs) are airborne pollutants for which there are no air quality standards but are known to have adverse human health effects. TACs are regulated under federal and state statutes, primarily with control technology requirements for stationary and mobile sources and mitigation established following human health risk assessments. Air toxics are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as farms, landfills, construction sites, and residential areas.

Air quality on campus on any given day is influenced by both meteorological conditions and pollutant emissions. In general, meteorological conditions vary more than pollutant emissions from day to day, and therefore, tend to have a greater influence on changes in measured ambient pollutant concentrations. Ambient concentrations of CO and PM₁₀ are particularly influenced by local emission sources. The EPA has classified the entire SVAB, which includes the campus, as a severe nonattainment area for O₃. The CARB has also designated the area as being in nonattainment under the state ambient air quality standards for O₃ and PM₁₀. The designation of an area as attainment and nonattainment is based on monitored data throughout the SVAB.

Project Site

The project site is isolated from developed resources that could be potentially sensitive air quality receptors and is not adjacent to air quality contaminant sources.

7.3.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers an air quality impact significant if growth under the 2003 LRDP would:

Criteria Pollutants

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation. (According to the YSAQMD, emissions of NOx and ROG in excess of 82 pounds a day, CO emissions in excess of 550 pounds a day, and 150 pounds a day for PM₁₀ would be considered significant.)
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Toxic Air Contaminants

- Contribute to the probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeding the AB 2588 and Proposition 65 threshold of 10 in one million.
- Result in a noncarcinogenic (chronic and acute) health hazard index greater than the AB 2588 threshold of 1.0.

7.3.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on air quality are evaluated in Section 4.3 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant air quality impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. Mitigation is relevant to reduce the magnitude of cumulative impact 4.3-6, but these impacts are identified as significant and unavoidable because they cannot be fully mitigated. Mitigation is identified to reduce the magnitude of project-level impact 4.3-3, but this impact is identified as significant and unavoidable due to uncertainty about the effectiveness of the mitigation.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
AIR QUALITY			
4.3-3	Emissions from construction activities associated with the 2003 LRDP would exceed YSAQMD thresholds.	S	SU
4.3-6	Implementation of the 2003 LRDP, in conjunction with other regional development, would result in a cumulatively considerable increase of non-attainment pollutants.	S	SU

2003 LRDP EIR Impacts AIR QUALITY	Level of Significance Prior to Mitigation	Level of Significance After Mitigation
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Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

2003 LRDP EIR Mitigation Measures

AIR QUALITY

- 4.3-3(a) The campus shall include in all construction contracts the measures specified below to reduce fugitive dust impacts, including but not limited to the following:
- All disturbed areas, including storage piles, which are not being actively utilized for construction purpose, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.
 - All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
 - All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
 - When demolishing buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
 - When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least two feet of freeboard space from the top of the container shall be maintained.
 - All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices also is expressly forbidden.
 - 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.
- 4.3-3(c) The campus shall implement the following control measures to reduce emissions of ozone precursors from construction equipment exhaust:
- To the extent that equipment is available and cost effective, the campus shall encourage contractors to use alternate fuels and retrofit existing engines in construction equipment.
 - Minimize idling time to a maximum of 5 minutes when construction equipment is not in use.
 - To the extent practicable, manage operation of heavy-duty equipment to reduce emissions.
- To the extent practicable, employ construction management techniques such as timing construction to occur outside the ozone season of May through October, or scheduling equipment use to limit unnecessary concurrent operation.
-

7.3.4 Environmental Checklist and Discussion

AIR QUALITY		Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...						
a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b,c) Construction

The 2003 LRDP EIR found that construction activities under the 2003 LRDP could exceed YSAQMD thresholds (Impact 4.3-3). The state 24-hour PM₁₀ standards could be violated when multiple construction projects (especially those involving ongoing grading or excavation activities) occur simultaneously in the same area. Housing or other sensitive receptors located adjacent to construction areas could be affected by high concentrations of PM₁₀. In addition, exhaust pollutants would be emitted during use of construction equipment. The proposed project is isolated from potentially sensitive receptors. Construction of the proposed project is expected to take approximately 12 months and would not be close to any other construction projects.

LRDP Mitigation 4.3-3(a) (requiring campus construction contracts to include measures to reduce fugitive dust impacts), and 4.4-3(c) (requiring control measures to reduce emissions of ozone precursors from construction equipment exhaust) are relevant in the proposed project. However, the proposed project would involve the short-term emission of exhaust pollutants from construction equipment that would not be near sensitive receptors or near any other construction sites and therefore, this effect is expected to be negligible.

The 2003 LRDP EIR found that the impact of the cumulative emissions from the totality of projects under construction at any given time under the 2003 LRDP could be significant and unavoidable. The impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Operation

Criteria Pollutants

The proposed project would involve no increase to vehicular or stationary source emissions. No impact would occur from operations emissions.

Toxic Air Contaminants

The proposed project would include no TAC emissions. No impact would occur.

Cumulative Development

The 2003 LRDP EIR found that implementation of the 2003 LRDP, in conjunction with other regional development, would contribute to emissions of criteria pollutants for which the region is in non-attainment status and could hinder attainment efforts (LRDP Impact 4.3-6). The YSAQMD has accounted for a certain amount of regional growth in the existing Sacramento Regional Clean Air Plan. This plan is currently being updated to extend beyond the year 2005, and campus growth under the 2003 LRDP will be incorporated in the plan update. LRDP Mitigation 4.3-6, included in the proposed project, requires implementation of LRDP Mitigation 4.3-1 (a-c). Regardless, because the YSAQMD remains a nonattainment area for ozone, this cumulative impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

d,e) The 2003 LRDP EIR concluded that odor impacts associated with development under the 2003 LRDP would be less than significant. The proposed project would result in no exposure of sensitive receptors to substantial pollutant concentrations and no increased odor emissions. No impact would occur.

Summary

Mitigation measures 4.3-3(a,c) from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of air quality impacts to the extent feasible. The proposed project would not exceed the levels of significance of air quality impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant air quality impacts that were not previously addressed.

7.4 BIOLOGICAL RESOURCES

7.4.1 Background

Section 4.4 of the 2003 LRDP EIR addresses the effects of campus growth under the 2003 LRDP on biological resources. The following discussion summarizes information presented in the 'Setting' subsection of Section 4.4 of the 2003 LRDP EIR.

Campus

The 5,300-acre campus is located in a region that is composed primarily of agricultural lands that include remnant riparian areas and urban areas. Habitat types on campus can be classified as Agricultural Lands (including Cropland/Pasture, and Orchard/Vineyard), Valley Foothill Riparian Woodland, Ruderal/Annual Grassland, Open Water Ponds, Riverine, and Urban Landscaping/Developed.

The 2003 LRDP EIR considers special status species to be those taxa that are: (1) listed as threatened or endangered under either the California or Federal Endangered Species Acts; (2) candidates for either state or federal listing; (3) species afforded protection under the Fish and Game Code of California; (4) federal and California Department of Fish and Game (CDFG) "Species of Special Concern"; (5) CDFG "Species of Special Concern" highest and second priority lists; (6) and California Native Plant Society (CNPS) List 1-3 plants.

A database search identified 15 special status plant species, 8 special status invertebrates, 11 special status fish, 3 special status amphibians, 3 special status reptiles, 26 special status birds, and 7 special status mammals that have the potential to occur on or within a 10-mile radius of the campus. However, only a few of these species are known to occur on campus or have potential habitat present on campus, including: the northern California black walnut, burrowing owl, Swainson's hawk, valley elderberry longhorn beetle, California tiger salamander, chinook salmon, giant garter snake, steelhead, and the northwestern pond turtle.

Project Site

The project site was evaluated for the potential presence of elderberry shrubs and the results indicate that six elderberry shrubs are on the project site. The proposed improvements to the Equestrian Center would take place in a manner that would avoid the existing elderberry shrubs.

Habitat

Habitat at the Equestrian Center includes pasture areas used for the horses and urban landscaping in the more developed areas of the Equestrian Center. The periphery of the site contains mature trees and the interior of the site is predominantly grassy areas with some low shrubs near structures.

Pasture. Pasture is used for livestock grazing and may not be leveled, regularly disked, or irrigated. Vegetation is typically a low, grassland-like ground cover. Campus pastures provide variable habitat values depending on their size and intensity of grazing. Pastures that are essentially confined animal pens may provide almost no value for native wildlife, while larger pastures with grassland-like habitat provide higher habitat values for wildlife.

Urban Landscaping/Developed. Urban habitat includes landscaped areas that are vegetated with trees, shrubs, and maintained grassy areas. While the University Arboretum contains a significant collection of botanical specimens, it is included within this habitat designation because it is essentially a

landscaped park with many non-native plantings, and is subject to regular maintenance as well as high frequency use by people (picnicking, jogging, walking, etc.).

Central campus landscaped areas, with their abundance of mature trees, provide wildlife habitat values (food and cover) within the developed areas of central campus. Many species of birds (including the Swainson's hawk) are known to nest in central campus trees. Other resident and migratory hawks, owls, songbirds, and woodpeckers are also known to use landscaped areas on the campus for nesting, food, and cover.

Special Status Species

Burrowing Owl. The burrowing owl (*Speotyto cunicularia*) is fully protected against take pursuant to Section 3503.5 of the California Fish and Game Code and is a CDFG species of special concern. In addition, biologists and environmental organizations concerned about the status of burrowing owls in California have proposed listing it under the California Endangered Species Act (CESA). Burrowing owls are small birds with the relatively unique habits of being active during the day as well as in the evening and nesting underground. They typically use burrow systems formerly occupied by ground squirrels or other large burrow dwelling rodents. Their diet is usually dominated by insects but may also include small mammals, reptiles, and amphibians. Burrowing owls generally forage in open fields with relatively sparse, short vegetation; their foraging ability is disrupted by dense, tall vegetation.

Nesting burrowing owls have been recorded at various central campus locations since 1981. No information is available on the status of burrowing owls on the campus prior to 1981. A significant reduction in the number of breeding pairs has occurred since 22 pairs were observed in 1981. Only 12 pairs were observed in 1986, and breeding was not observed on the central campus from 1992 through 1997 (Jones and Stokes 1992-2000). During the last decade, nesting burrowing owls have been observed adjacent to the University Airport's runway (1 pair) and sporadically on teaching and research fields west of SR 113 between Russell Boulevard and Hutchison Drive (1-2 pairs). Nesting burrowing owls have not been observed during casual observations at Russell Ranch, but no formal surveys have been conducted. Due to the clean farming practices at Russell Ranch, their presence at the site is unlikely.

The declining population of burrowing owls on campus has persisted longest on the open fields in and around the Health Sciences District. Most recently, these lands have been managed primarily for weed control, a practice that keeps the area open and potentially suitable for nesting and foraging by burrowing owls. Since at least the mid-1980s all campus actions related to management of these fields have considered the presence of burrowing owls.

The burrowing owl population in the Health Sciences District has been monitored routinely since the early 1990s (Jones and Stokes 1992-2000, May and Associates 2001-2002). From 1992 through 1998, burrowing owl surveys were conducted approximately nine times each year from February through November so that an opportunity to observe owls during the entire nesting season was possible. Beginning in January 1999, surveys have been conducted approximately once every three weeks. From 1993 through 1996, no burrowing owls were observed in the survey area. In 1997, burrowing owls were observed sporadically between March and November in the field east of the Health Sciences District. Although nesting was not documented in 1997, pellets and white wash were identified at a burrow entrance in March of that year. In 1998 a single pair of burrowing owls nested near the intersection of Garrod Drive and Veterinary Medicine Drive. During 1999, two pairs of burrowing owls nested and fledged young in the fields east of the Health Sciences District. During 2000, two pairs of burrowing owls nested in the same field east of the Health Sciences District (Jones & Stokes Associates 1992-2000). The single pair that was present in the winter 2000-2001 was relocated to artificial burrows in the eastern portion of the field east of the Health Sciences District. Relocation

was undertaken in compliance with CDFG guidelines as part of the UC Davis Veterinary Medicine Facilities Improvement Project. The relocated pair used the artificial burrow for several months, but has not been observed since. The area around the Health Sciences District is currently managed to protect nesting burrowing owls that may be present but to discourage the establishment of ground squirrel burrows and therefore any new burrowing owls.

Dispersing young from other areas could become established on previously unoccupied campus sites. Ground squirrel colonies and scattered burrows along the edges of fields and roads represent potential nesting habitat for the burrowing owl.

Swainson's Hawk. The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species under the California Endangered Species Act and is also fully protected against take pursuant to Section 3503.5 of the Fish and Game Code of California. The Swainson's hawk is a relatively large bird of prey that typically nests in large trees in riparian corridors as well as isolated trees remaining in or adjacent to agricultural fields in the Central Valley. However, in the City of Davis, and on the central campus, these hawks also nest in the large trees among buildings, roads, and dwellings.

This species forages in open grassland habitats and has adjusted to foraging in certain types of agricultural lands. The value of foraging habitat can be affected by a variety of characteristics, including density and availability of prey, proximity to disturbing features, and distance to nesting territories. Published information indicates these raptors typically forage within a 10 mile radius of nest sites but may range up to 18 miles from a nest site in search of suitable foraging habitat and available prey. Formal studies have shown that Swainson's hawks will spend the majority of foraging time in close proximity to the nest site when high quality foraging habitat (measured by the abundance and availability of prey) is present.

The occurrence of the Swainson's hawk in and around the campus is well documented. UC Davis conducted yearly surveys for Swainson's hawk nests on the campus and within one half mile of the campus from 1991 through 1998. Project-specific surveys have been conducted annually since 1998. The results of these surveys documented approximately 20 active nests per year and a total of approximately 50 total nests within one-half mile of the campus over the decade. Most of the Swainson's hawk nests are located in the Putah Creek riparian corridor.

Valley Elderberry Longhorn Beetle (VELB). The VELB (*Desmoceros californicus dimorphus*) is listed as a threatened species under the Federal Endangered Species Act (FESA). This species requires its host plant, the Mexican elderberry shrub (*Sambucus* spp.), for its complete life cycle. The USFWS considers all elderberry shrubs within the historic range of VELB (the Central Valley and foothills up to 2,000 feet) as potential habitat for this species. Project-specific surveys have been conducted for the Mexican elderberry shrub on campus. Elderberry shrubs occur primarily along both forks of Putah Creek. Scattered shrubs and shrub clusters also are located throughout the campus primarily along fences and power lines where fruit-eating birds may deposit seeds.

Trees

The periphery of the site contains mature trees but these tree would not be affected by the proposed improvements.

7.4.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a biological resources impact significant if growth under the 2003 LRDP would:

- Result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS).
- Result in the “take” (defined as kill, harm, or harass) of any listed threatened or endangered species or the habitat of such species.
- Result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS.
- Result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish, or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local applicable policies protecting biological resources.

An additional standard from the CEQA Guidelines’ Environmental Checklist (“f” in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

7.4.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on biological resources are evaluated in Section 4.4 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant biological resources impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
BIOLOGICAL RESOURCES			
4.4-4	Development allowed under the 2003 LRDP could result in the failure of nesting efforts by nesting raptors, including Swainson’s hawks or other birds of prey.	PS	LS
4.4-5	Development allowed under the 2003 LRDP would result in the loss of active nest sites for Swainson’s hawk.	PS	LS
4.4-6	Development allowed under the 2003 LRDP would result in the loss of potential habitat for the VELB.	PS	LS
4.4-8	Development allowed under the 2003 LRDP could result in the loss or adverse modification of natural wetlands or other waters of the U.S. that fall under the jurisdiction of the ACOE and/or CDFG.	PS	LS

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the

2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

2003 LRDP EIR Mitigation Measures

BIOLOGICAL RESOURCES

- 4.4-4(a) The campus shall conduct a pre-construction survey of trees on and adjacent to a project site during the raptor breeding season (approximately March 1 to August 31). Additionally, the campus shall conduct surveys within a ½-mile radius of the site to determine the presence or absence of any nesting Swainson's hawks. The surveys shall be conducted by a qualified biologist during the same calendar year that the proposed activity is planned to begin to determine if any nesting birds-of-prey would be affected. If phased construction procedures are planned for the proposed activity, the results of the above survey shall be valid only for the season when it is conducted.
- If any Swainson's hawks are nesting within a one-half-mile radius of the project site or if other raptors are nesting in, on or adjacent to the project site, a qualified biologist shall determine the potential for disturbance to nesting raptors, including Swainson's hawks. If the biologist determines that there is a significant potential for disturbance, the campus shall implement feasible changes in the construction schedule or make other appropriate adjustments to the project in response to the specific circumstances. If feasible project changes are not readily identifiable, the campus will consult with CDFG to determine what actions should be taken to protect the nesting efforts. If, after five years, a previously recorded nest site remains unoccupied by a Swainson's hawk, it will no longer be considered as a Swainson's hawk nest site subject to this mitigation.
- 4.4-4(b) The campus shall continue to conduct annual surveys to determine the location of nesting Swainson's hawks and other birds of prey on the campus outside the Putah Creek corridor. If nesting Swainson's hawks are found during the survey at a previously unknown location within one-half mile of a project site and/or at a location closer to the project or more visually exposed to the project site than a nearby previously documented site, a qualified biologist shall, prior to project construction, determine the potential for disturbance to nesting Swainson's hawks. If the biologist determines that there is a significant potential for disturbance, the campus shall implement feasible changes in the construction schedule or make other appropriate adjustments to the project in response to the specific circumstances (e.g. relocating noisy equipment or creating temporary sound barriers).
- The implementation of LRDP Mitigations 4.4-4(a) and (b) shall be conducted under the supervision of a biologist whose qualifications include:
- A bachelor's degree in biology or a related field;
 - Two years of field experience related to nesting raptors; and
 - Prior construction monitoring experience.
- Further:
- All decisions of the qualified biologist shall be made in consultation with the California Department of Fish and Game;
 - Monitoring shall be conducted for a sufficient time (minimum of 3 consecutive days following the initiation of construction) to verify that the nesting pair does not exhibit significant adverse reaction to construction activities (i.e., changes in behavioral patterns, reactions to construction noise, etc.); and
 - Nest site monitoring will continue for a minimum of once a week through the nesting cycle at that nest.
- 4.4-5 Mitigation 4.4-4(a) and (b) will be implemented, including pre-construction survey of trees on and adjacent to a project site during the raptor breeding season (approximately March 1 to August 31). If a Swainson's hawk nest tree is present, the tree will be removed outside the nesting season (March-May).
- 4.4-6(a) During the project design stage and as a condition of project approval, the campus shall:
- Conduct a project-specific survey for all potential VELB habitat, including a stem count and an assessment of historic or current VELB use; and
 - Avoid and protect all potential VELB habitat within a natural open space area where feasible

2003 LRDP EIR Mitigation Measures
BIOLOGICAL RESOURCES

- 4.4-6(b) For those areas where avoidance is infeasible, the Russell Ranch Mitigation Area shall include approximately 20 acres within and adjacent to the riparian corridor of Putah Creek and within and adjacent to the existing drainage in the northeast corner of the site that will be used as a receptor site for transplanted elderberry shrubs and the associated elderberry seedlings and other native plant seedlings required to be planted in accordance with the USFWS VELB Mitigation Guidelines (USFWS 1996). The site is estimated to support between 100 and 500 transplanted elderberry shrubs, depending on the size and number of stems on the shrubs at the time they are transplanted.
- 4.4-8(a) During the project design phase, the campus shall conduct a wetlands delineation of the project site if wetlands are potentially present. The wetland delineation shall be verified by the ACOE.
 Should no wetland habitats or natural drainages be delineated on the site then no further mitigation shall be required. However, if any jurisdictional wetland habitats or natural drainages are delineated on a project site, then LRDP Mitigation 4.4-8(b) shall be required.
- 4.4-8(b) For projects that involve the fill of jurisdictional wetlands, the campus shall implement the following mitigation program that will ensure no net loss of wetland functions and values. To the extent feasible, the campus will avoid filling wetlands by redesigning the project to promote environmentally sensitive siting and design. If avoidance is not feasible, the campus shall minimize the fill acreage. If neither of these options is feasible, the wetlands will be mitigated for at a 3:1 ratio. This ratio will include both creation and preservation, with creation equaling at least a 1:1 ratio. To ensure no net loss of wetlands, the mitigation should include wetland enhancement as well. This would include monitoring, cleanup, and maintenance of preserved wetland habitats within and adjacent to the campus, as necessary.
- 4.4-8(c) The campus shall obtain the necessary ACOE, CDFG, and RWQCB permits prior to filling or other adverse modifications of any verified jurisdictional water of the U.S., or alteration, filling or modification of the channel, bed or bank of Putah Creek, South Fork of Putah Creek, Arboretum Waterway or any other natural drainage regulated under Section 1600 of the CDFG code.

7.4.4 Environmental Checklist and Discussion

BIOLOGICAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
-

a) **Plants**

The 2003 LRDP EIR found that development under the 2003 LRDP could result in the loss of special-status plant species (LRDP Impact 4.4-1). However, the project is located on pasture and developed land and would not affect areas with potential for special-status plant species. The 2003 LRDP EIR identified that valley-foothill riparian, open water pond, riverine, wetland or ruderal/annual grassland habitat could potentially support special-status plant species. Because the project site does not include these habitat types, no impact would occur.

Wildlife

Burrowing Owl: The proposed project would take place on pasture and developed/urban habitat types. The 2003 LRDP EIR identifies in LRDP Impact 4.4-3 conversion of Agricultural or conversion of Ruderal/Annual Grassland habitat types as potential impacts to loss of burrowing owl habitat. Burrowing owls are not reported to use the land at the Equestrian Center, because the land is not an Agricultural or Ruderal/Annual Grassland habitat type, because the site is highly manicured to avoid open holes, and because ground squirrel populations are controlled, no impact to burrowing owls is expected.

Swainson’s Hawk: The 2003 LRDP EIR found that development under the 2003 LRDP could interfere with nesting efforts of Swainson’s hawk or other birds of prey (LRDP Impacts 4.4-4 and 4.4-5). Construction of the Equestrian Center project would not result in a loss of foraging habitat for Swainson’s hawks, but Swainson’s hawks have historically nested in the Central Campus area, and hawks could nest in trees around the Equestrian Center site before the start of construction. Five nest sites within ½-mile of the project have been used over the last decade. No impacts to birds that might use these sites are expected because they are at least are at least ¼-mile away, are screened from the project site by existing buildings, trees, and Interstate 80; and are used by birds that are habituated to existing high levels of activity, including on-going activities at the Equestrian Center, traffic on Interstate 80, and users of the UC Davis Arboretum.

Continued implementation of LRDP Mitigation Measures 4.4-4 (a,b) and 4.4-5 requires the protection of active raptor nests through pre-construction surveys and avoidance of construction that would affect raptors during breeding season. These mitigation measures would reduce LRDP impacts to less than significant, but cumulative loss of Swainson’s Hawk habitat in the region was determined to be a cumulatively significant impact. The proposed project does not alter the cumulative impact of the LRDP, and analysis of this impact in the 2003 LRDP EIR is sufficient.

Valley Elderberry Longhorn Beetle. Consistent with LRDP EIR Mitigation 4.4-6(a), the project site was surveyed for elderberry shrubs. Six elderberry shrubs were found on the project site. The 2003 LRDP EIR found that development under the 2003 LRDP would result in loss of potential

habitat for VELB (LRDP Impact 4.4-6). Consistent with US Fish and Wildlife Service Guidelines, the existing elderberry shrubs would be preserved in place, which would comply with LRDP Mitigation Measure 4.4-6(a). It would not be necessary to transplant the elderberry bush to the Russell Ranch Mitigation Area in compliance with LRDP Mitigation 4.4-6(b). Because construction at the project site would not result in loss of elderberry bushes it would not contribute to the cumulative loss of VELB habitat.

- b,c) The proposed project would not effect riparian or wetland areas. No impact would occur.
- d) The Putah Creek corridor is the principal corridor for the movement of native resident and migratory fish and wildlife through the UC Davis campus. It is the regional connection between the hills in western Yolo County and the Sacramento River. The proposed project is approximately ½ mile from the Putah Creek Corridor. Therefore, the project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. No impact would occur.
- e) The proposed project would not remove any trees. No impact would occur.
- f) The campus does not fall within the boundaries of, nor is it adjacent to, an adopted regional Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). The campus has implemented two low effects HCPs for VELB at Russell Ranch. [Identify if project is not located at Russell Ranch and would not interfere with the Russell Ranch HCPs. Therefore, the proposed project would not conflict with an adopted HCP or NCCP and no impact would occur.

Summary

Mitigation measures 4.4-4 (a,b), 4.4-5, 4.4-6 (a,b), and 4.4-8 (a,b,c) from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of impacts on biological resources to the extent feasible. The proposed project would not exceed the levels of significance of biological resource impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant biological resource impacts that were not previously addressed.

7.5 CULTURAL RESOURCES

7.5.1 Background

Section 4.5 of the 2003 LRDP EIR addresses the effects of campus growth under the 2003 LRDP on cultural resources. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.5 of the 2003 LRDP EIR.

Campus

Cultural resources on campus include prehistoric and historic resources. Prehistoric resources are those sites and artifacts associated with the indigenous, non-Euroamerican population, generally dating prior to contact with people of European descent. Historic resources include structures, features, artifacts, and sites that date from Euroamerican settlement of the region.

Archaeological Resources

The campus lies in the ethnographic territory of the Patwin. Since 1991, extensive archaeological investigations (survey, testing, monitoring, and/or excavation) have been conducted on campus in conjunction with the development of campus projects (Nadolski 2003). Patwin sites, including burials, have been identified at several locations on the central campus. Areas within 800 feet of the banks of the historic channel of Putah Creek and its tributaries and slough channels, and within 800 feet of specific known archaeological sites, have been identified as archaeologically sensitive zones on campus.

Historic Resources

The earliest direct historic contacts in the Davis area probably occurred during 1806 to 1808. Farming on a large scale began in the Davis area in the 1850s. A “university farm” was established at Davis in 1906, classes began in 1909, and Davis became a general University of California campus in 1959. No properties within the campus are listed on the National Register of Historic Places. Six properties on or near the campus have been recorded with the California Inventory of Historic Resources. Historic architectural features typically must be at least 50 years of age to be considered for listing on the California Register of Historical Resources (CRHR).

Project Site

No historic resources will be altered by the proposed project. Cultural resource surveys conducted at the project site have indicated that the area does not include significant cultural resources (Pacific Legacy 2000, Pacific Legacy 1998, Biosystems Analysis 1995). However, due to the proximity of the proposed project to the historic alignment of Putah Creek, the area is regarded as within the campus zone of cultural sensitivity and construction monitoring for cultural resources will be conducted.

7.5.2 2003 LRDP EIR Standards of Significance

In addition to the following archaeological and historical standards of significance identified in the 2003 LRDP EIR, an additional standard from the CEQA Guidelines’ Environmental Checklist (“c” in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

Archaeological Resources

The 2003 LRDP EIR considers an impact on archaeological resources significant if growth under the 2003 LRDP would:

- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guideline § 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

A “unique archaeological resource” is defined under CEQA through Public Resources Code Section 21083.2(g). A unique archaeological resource implies an archaeological artifact, object, or site about which it can be clearly demonstrated that there is a high probability that it meets one of the following criteria:

- The archaeological artifact, object, or site contains information needed to answer important scientific questions and there is a demonstrable public interest in that information, or
- The archaeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type, or
- The archaeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

For a resource to qualify as a unique archaeological resource, the agency must determine that there is a high probability that the resource meets one of these criteria without merely adding to the current body of knowledge (PRC § 21083.2(g)). An archaeological artifact, object, or site that does not meet the above criteria is a nonunique archaeological resource (PRC § 21083.2(h)). An impact on a nonunique resource is not a significant environmental impact under CEQA (CEQA Guideline § 15064.5(c)(4)). If an archaeological resource qualifies as a historical resource under CRHR or other criteria, then the resource is treated as a historical resource for the purposes of CEQA (CEQA Guideline § 15064.5(c)(2)).

Section 15064.5 of the CEQA Guidelines assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed under PRC § 5097.98. California Health and Safety Code § 7050.5(b) prohibits disturbance of human remains uncovered by excavation until the Coroner has made a finding relative to PRC § 5097 procedures.

Historical Resources

For the purposes of this EIR, as mandated by PRC § 21083.2, impacts of the proposed project on an historical resource would be considered significant if it would:

- cause a significant adverse change in the significance of a historical resource as defined in CEQA Guideline § 15064.5.

The standards of significance for historical resources are based on Appendix G and § 15064.5 of the CEQA Guidelines. Accordingly, historical resources include resources listed in, or determined to be eligible for listing in, the CRHR; resources included in a qualifying local register (such as the City of Davis Register of Historic Resources); and resources that the lead agency determines to meet the criteria for listing in the CRHR. These criteria may apply to any historic built environmental feature, and to historic or prehistoric archaeological sites. Properties or sites that are eligible for inclusion in the CRHR are termed “historical resources”. Under the provisions of CEQA Guideline Section

15064.5(a)(3) generally, a lead agency should find that a property is historically significant if it determines that the project meets one or more of the criteria for listing on the CRHR, which extend to any building, structure, feature or site that:

- is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- is associated with lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history

With few exceptions, to qualify as a historical resource a property must be at least 50 years old and also must retain physical integrity and integrity to its period of significance. For historic structures and buildings, significantly altering the setting, remodeling, or moving the structure may diminish or destroy its integrity. However, under some conditions, a building that has been moved or altered may still retain its historic significance. Landscaping or landscape features may in some cases contribute to the significance of an historic architectural property. Such elements would be assessed as part of the evaluation of the related historic architectural property. Archaeological sites may also qualify as historical resources under CEQA Guideline Section 15064.5(a)(3). Archaeological sites most often are assessed relative to CRHR Criterion D (for potential to yield data important to history or prehistory). An archaeological deposit that has been extensively disturbed and archaeological artifacts found in isolation may not be eligible for listing on the CRHR, because the lack of stratigraphic context may reduce the potential for the resource to yield significant data. A resource that does not meet one of the criteria for eligibility to the CRHR is not a historical resource under CEQA, and impacts to such a property are not significant.

7.5.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on cultural resources are evaluated in Section 4.5 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant cultural resources impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. Mitigation measures are included to reduce the magnitude of project-level impact 4.5-3 and cumulative impact 4.5-5, but these impacts are identified as significant and unavoidable because they cannot be fully mitigated.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
CULTURAL RESOURCES			
4.5-1	Implementation of the 2003 LRDP could damage or destroy an archaeological resource or historic building or structure as the result of grading, excavation, ground disturbance or other project development.	PS	LS
4.5-2	Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA guidelines 15064.5, as the result of ground disturbance, alteration, removal or demolition associated with project development.	PS	LS
4.5-3	Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA guidelines 15064.5, and the values that contribute to the	S	SU

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
CULTURAL RESOURCES			
	significance of the resource cannot be preserved through documentation and data recovery.		
4.5-4	Implementation of the 2003 LRDP could disturb human remains, including those interred outside of formal cemeteries.	PS	LS
4.5-5	Development under the 2003 LRDP would contribute to cumulative damage to and loss of the resource base of unique archaeological resources and historical resources (including archaeological sites and historic buildings and structures) in Yolo and Solano counties.	S	SU

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

2003 LRDP EIR Mitigation Measures

CULTURAL RESOURCES

- 4.5-1(a) As early as possible in the project planning process, the campus shall define the project's area of potential effects (APE) for archaeological resources and, if structures are present on the site, for historic structures. The campus shall determine the potential for the project to result in cultural resource impacts, based on the extent of ground disturbance and site modification anticipated for the proposed project. Based on this information, the campus shall:
- (i) Prepare an inventory of all buildings and structures within the APE that will be 50 years of age or older at the time of project construction for review by a qualified architectural historian. If no structures are present on the site, there would be no impact to historic built environment resources from the project. If potentially historic structures are present, LRDP Mitigation 4.5-1(c) shall be implemented.
 - (ii) Determine the level of archaeological investigation that is appropriate for the project site and activity, as follows:
 - Minimum: excavation less than 18 inches deep and in a relatively small area (e.g., a trench for lawn irrigation, tree planting, etc.). Implement LRDP Mitigation 4.5-1(b)(i).
 - Moderate: excavation below 18 inches deep and/or over a large area on any site that has not been characterized and is not suspected to be a likely location for archaeological resources. Implement LRDP Mitigation 4.5-1 (b)(i) and (ii).
 - Intensive: excavation below 18 inches and/or over a large area on any site that is within 800 feet of the historic alignment of Putah Creek, or that is adjacent to a recorded archaeological site. Implement LRDP Mitigation 4.5-1 (b) (i), (ii) and (iii).
- 4.5-1(b) During the planning phase of the project, the campus shall implement the following steps to identify and protect archaeological resources that may be present in the APE:
- (i) For project sites at all levels of investigation, contractor crews shall be required to attend an informal training session prior to the start of earth moving, regarding how to recognize archaeological sites and artifacts. In addition, campus employees whose work routinely involves disturbing the soil shall be informed how to recognize evidence of potential archaeological sites and artifacts. Prior to disturbing the soil, contractors shall be notified that they are required to watch for potential archaeological sites and artifacts and to notify the campus if any are found. In the event of a find, the campus shall implement item (vi), below.
 - (ii) For project sites requiring a moderate or intensive level of investigation, a surface survey shall be conducted by a qualified archaeologist during project planning and design and prior to soil disturbing

2003 LRDP EIR Mitigation Measures

CULTURAL RESOURCES

activities. For sites requiring moderate investigation, in the event of a surface find, intensive investigation will be implemented, as per item (iii), below. Irrespective of findings, the qualified archaeologist shall, in consultation with the campus, develop an archaeological monitoring plan to be implemented during the construction phase of the project. The frequency and duration of monitoring shall be adjusted in accordance with survey results, the nature of construction activities, and results during the monitoring period. In the event of a discovery, the campus shall implement item (vi), below.

- (iii) For project sites requiring intensive investigation, irrespective of subsurface finds, the campus shall retain a qualified archaeologist to conduct a subsurface investigation of the project site, to ascertain whether buried archaeological materials are present and, if so, the extent of the deposit relative to the project's area of potential effects. If an archaeological deposit is discovered, the archaeologist will prepare a site record and file it with the California Historical Resource Information System.
 - (iv) If it is determined through step (iii), above, that the resource extends into the project's area of potential effects, the resource will be evaluated by a qualified archaeologist, who will determine whether it qualifies as a historical resource or a unique archaeological resource under the criteria of CEQA Guidelines § 15064.5. If the resource does not qualify, or if no resource is present within the project area of potential effects (APE), this will be noted in the environmental document and no further mitigation is required unless there is a discovery during construction (see (vi), below).
 - (v) If a resource within the project APE is determined to qualify as an historical resource or a unique archaeological resource (as defined by CEQA), the campus shall consult with the qualified archaeologist to consider means of avoiding or reducing ground disturbance within the site boundaries, including minor modifications of building footprint, landscape modification, the placement of protective fill, the establishment of a preservation easement, or other means that will permit avoidance or substantial preservation in place of the resource. If avoidance or substantial preservation in place is not possible, the campus shall implement LRDP Mitigation 4.5-2(a).
 - (vi) If a resource is discovered during construction (whether or not an archaeologist is present), all soil disturbing work within 100 feet of the find shall cease. The campus shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the deposit, and assessment of the remainder of the site within the project area to determine whether the resource is significant and would be affected by the project. LRDP Mitigation 4.5-1(b), steps (iii) through (vii) shall be implemented.
 - (vii) A written report of the results of investigations will be prepared by a qualified archaeologist and filed with the appropriate Information Center of the California Historical Resources Information System.
- 4.5-3 If a significant historic resource or unique archaeological resource cannot be preserved intact, before the property is damaged or destroyed the campus shall ensure that the resource is appropriately documented, as follows.
- (i) For a built environment feature, appropriate documentation is described under LRDP 4.5-2 (b)
 - (ii) For an archaeological site, a program of research-directed data recovery shall be conducted and reported, consistent with LRDP Mitigation 4.5-2(a).
- 4.5-4(a) Implement LRDP Mitigation 4.5-1, 4.5-2 and 4.5-3 to minimize the potential for disturbance or destruction of human remains in an archaeological context and to preserve them in place, if feasible.
- 4.5-4(b) Provide a representative of the local Native American community an opportunity to monitor any excavation (including archaeological excavation) within the boundaries of a known Native American archaeological site.
- 4.5-4(c) In the event of a discovery on campus of human bone, suspected human bone, or a burial, all excavation in the vicinity will halt immediately and the area of the find will be protected until a qualified archaeologist determines whether the bone is human. If the qualified archaeologist determines the bone is human, or if a qualified archaeologist is not present, the campus will notify the Yolo or Solano County Coroner (depending on the county of the find) of the find before additional disturbance occurs. Consistent with California Health and Safety Code § 7050.5(b), which prohibits disturbance of human remains uncovered by excavation until the Coroner has made a finding relative to PRC 5097 procedures, the campus will ensure that the remains and vicinity of the find are protected against further disturbance. If it is determined that the find is of Native American origin, the campus will comply with the provisions of PRC § 5097.98 regarding identification and involvement of the Native American Most Likely Descendant (MLD).
- 4.5-4(d) If human remains cannot be left in place, the campus shall ensure that the qualified archaeologist and the MLD are provided opportunity to confer on archaeological treatment of human remains, and that appropriate

2003 LRDP EIR Mitigation Measures
CULTURAL RESOURCES

studies, as identified through this consultation, are carried out prior to reinternment. The campus shall provide results of all such studies to the local Native American community, and shall provide an opportunity of local Native American involvement in any interpretative reporting. As stipulated by the provisions of the California Native American Graves Protection and Repatriation Act, the campus shall ensure that human remains and associated artifacts recovered from campus projects on state lands are repatriated to the appropriate local tribal group if requested.

4.5-5 Implement LRDP Mitigations 4.5-1 through 4.5-4.

7.5.4 Environmental Checklist and Discussion

CULTURAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) The project site contains no historical resources. No impact would occur.
- b) Cultural resource surveys conducted at the project site have included surface scans and subsurface auger tests. These tests indicate that the project site does not contain culturally significant materials (Pacific Legacy 2000, Pacific Legacy 1998, Biosystems Analysis 1995). However, due to the proximity of the proposed project to the historic alignment of Putah Creek, the area is regarded as within the campus zone of cultural sensitivity and construction monitoring for cultural resources will be conducted. The project will include construction monitoring and construction restrictions in accordance with LRDP Mitigation 4.5-1(b).

The 2003 LRDP EIR identified that development under the 2003 LRDP would contribute to the cumulative damage to and loss of archaeological resources in Yolo and Solano counties (LRDP Impact 4.5-5). Because any disturbance of native soils involves the potential to result in impacts to archaeological resources, the proposed project could contribute to this impact. LRDP Mitigation Measure 4.5-5, which is relevant to the proposed project, requires the campus to implement the measures discussed above to survey and project cultural resources. However, the University cannot ensure that other regional jurisdictions would act to protect cultural resources. In addition, it is possible that significant archaeological resources on campus and/or the region could not be protected. Because this impact cannot be fully mitigated, this cumulative impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed

and no new information has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- c) During the course of development at UC Davis, extensive excavation for buildings and infrastructure, and extensive agricultural operations have not revealed the presence of unique paleontological or geological resources. It appears that the campus lacks unique paleontological and geological resources due to the deep alluvial deposition of fairly uniform soil types in the area. No impact would occur, and no additional analysis is required.
- d) The 2003 LRDP EIR found the potential for development under the 2003 LRDP to disturb human remains, including those interred outside of formal cemeteries (LRDP Impact 4.5-4). LRDP Mitigation 4.5-4(a-d), included in the proposed project, would ensure that human remains in archaeological and isolated contexts would be protected from destruction that might take place from development through measures including identification, Native American consultation, preservation in place or recovery, respectful treatment and study, and reinterment. Therefore, this impact would be less than significant.

Summary

Mitigation measures 4.5-1(a,b), 4.5-3, 4.5-4(a-d), and 4.5-5 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of impacts on cultural resources to the extent feasible. The proposed project would not exceed the levels of significance of cultural resource impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant cultural resource impacts that were not previously addressed.

7.6 GEOLOGY, SOILS, & SEISMICITY

7.6.1 Background

Section 4.6 of the 2003 LRDP EIR addresses the geology, soils, and seismicity effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the 'Setting' subsection of Section 4.6 of the 2003 LRDP EIR.

Campus

The campus is located within the Putah Creek Plain of California's Great Valley geomorphic province. Except for the somewhat raised elevation along the levee adjacent to Putah Creek, the campus is topographically flat. Soils on campus generally contain a high amount of silt and clay, and as a result, are moderately to slowly permeable and have slow runoff rates, minimal erosion hazards, and moderate to high shrink-swell potential. The predominant soil constraint to construction on campus is soil shrink-swell potential (the potential for soil volume to change with a loss or gain in moisture).

A series of low foothills, including the Dunnigan Hills, the Capay Hills, and the English Hills, lie approximately 20 miles west of the campus at the eastern base of the Coast Range. The presence of subsurface thrust faults within these regional foothills and within 100 miles of the campus indicates the potential for seismic ground shaking in the Davis region. The Davis region is not located within an Alquist-Priolo Fault Zone as defined in the Alquist-Priolo Earthquake Fault Zoning Act, which is designed to prohibit the construction of structures for human occupancy across active faults. According to the California Geological Survey's Probabilistic Seismic Hazard Assessment for the State of California, the peak ground acceleration with a 10 percent probability of being exceeded in 50 years is 0.2 to 0.3g on the central campus, increasing to 0.3 to 0.4g on the western portion of Russell Ranch (CDOC 1996). By comparison, in most parts of the San Francisco Bay Area, the peak ground acceleration is 0.5g or greater. Likely effects of ground shaking during a probable maximum intensity earthquake for the area could include structural damage to stucco, masonry walls, and chimneys, which could expose people to risks associated with falling objects and potential building collapse.

Project Site

The engineering and design process for the project facilities will incorporate the findings from the geotechnical survey to ensure adequate design for compliance with the California Building Code. No unusual site conditions are expected and the proposed improvements will utilize conventional foundation and substrate design to achieve an acceptable structural design.

7.6.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers an impact related to geology, soils, and seismicity significant if growth under the 2003 LRDP would:

- Expose people or structures to potential substantial adverse effects involving strong seismic ground shaking.
- Expose people or structures to potential substantial adverse effects involving seismic-related ground failure.
- Result in substantial soil erosion or the loss of topsoil. (Impacts associated with this standard are addressed in Section 7.8 Hydrology & Water Quality.)

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Additional standards from the CEQA Guidelines' Environmental Checklist ("a,i" and "a,iv" in the checklist below) were found not applicable to campus growth under the 2003 LRDP.

7.6.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to geology, soils, and seismicity are evaluated in Section 4.6 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. No significant impacts identified in the 2003 LRDP EIR related to geology, soils, and seismicity are relevant to the proposed project.

7.6.4 Environmental Checklist and Discussion

GEOLOGY, SOILS, & SEISMICITY					
Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

a,i) The UC Davis campus and the surrounding area are not located within an Alquist-Priolo Earthquake Fault Zone, and the closest known active fault rupture zones are over 30 miles away. Therefore, no impact would occur and no further analysis is required.

a,ii) The campus is located in a seismically active area that could experience ground shaking, liquefaction, and settlement. The peak ground acceleration for the main campus including the proposed project site, is estimated to be 0.2 to 0.3g, and 0.3 to 0.4g on the western portion of Russell Ranch. This intensity of seismic groundshaking has the potential to dislodge objects from shelves and to damage or destroy buildings and other structures. In the case of such a seismic event, people on campus and in the area would be exposed to these hazards.

The campus minimizes hazards associated with damage or destruction to buildings and other structures by reviewing and approving all draft building plans for compliance with the California Building Code (CBC), which includes specific structural seismic safety provisions. The campus also adheres to the University of California Seismic Safety Policy, which requires anchorage for seismic resistance of nonstructural building elements such as furnishings, fixtures, material storage facilities, and utilities that could create a hazard if dislodged during an earthquake. Campus Environmental Health and Safety (EH&S) provides guidance for preparing department-level Illness and Injury Prevention Plans that emphasize methods for minimizing seismic hazards in laboratories, for example, by properly securing chemical containers and gas cylinders. Each campus department has a Safety Coordinator who develops and maintains a departmental emergency response plan. The departmental emergency response plans must be submitted to the Emergency Preparedness Policy Group for annual review to assure consistency with the campus Emergency Operations Plan, which includes seismic safety and building evacuation procedures. The emergency procedures incorporated into the departmental emergency response plans further reduce the hazards from seismic shaking by preparing faculty, staff, and students for emergencies. Because the proposed project would be undertaken by the UC Davis Architects and Engineers, all of these procedures would apply to the proposed project. Therefore, the project-level impact associated with risks due to seismic ground shaking would be less than significant. In addition, it is reasonable to assume that all regional jurisdictions would enforce the seismic provisions of the CBC, and therefore the cumulative impact is also considered less than significant.

a,iii) The potential for liquefaction on the campus is generally low because the depth to groundwater is relatively large (30 to 80 feet, depending on the season). Furthermore, as discussed above for (a,ii), campus policy requires compliance with the CBC and the University of California Seismic Safety Policy, which include structural and nonstructural seismic safety provisions. Complying with the provisions of the CBC requires that a geotechnical investigation be performed to provide data for the architect and/or engineer to responsibly design the project. Geotechnical investigations address the potential for liquefaction, lateral spreading, and other types of ground failure. The engineering and design process for the project will incorporate findings from the geotechnical survey to ensure adequate design for compliance with the California Building Code. No unusual site conditions are expected and the proposed improvements will utilize conventional foundation and substrate design to achieve an acceptable structural design. Therefore, because, in compliance with campus procedure, the project will comply with the CBC and the University of California Seismic Safety Policy, impacts associated with seismic-related ground failure would be less than significant.

The Davis area subsided by approximately 2 inches between 1999 and 2002. Because the subsidence is regional, unlike local differential settlement, it would not affect building foundations. Subsidence can adversely affect utilities such as storm drains which rely on gradient for gravity-driven flow if the differential subsidence across the length of the pipeline causes the gradient of the pipelines to change direction. On the campus, the differential subsidence is about 0.4 inch per mile. Thus, over a period of 10 years, the gradient of a pipeline could change by as much as 4 inches per mile. Gravity-driven pipelines typically used for wastewater and storm water are designed with gradients between 0.5 and 1 percent (27 to 53 feet drop per mile). Given these gradients, the small potential change of about 4 inches per mile over a period of 10 years would not affect the functioning of existing and proposed storm drains or other utilities.

- a,iv) The UC Davis campus and the surrounding area are characterized by flat topography and therefore would not be subject to landslides. Therefore, no impact would occur and no further analysis is required.
- b) The soil types that occur on the UC Davis campus generally, including the project site, contain a high amount of silt and clay, and these soil types have minimal erosion hazard associated with them (see pages 4.6-1,2 and Figure 4.6-1 of the 2003 LRDP EIR). Therefore, this impact is considered to be less than significant. The relationship between receiving water quality and potential soil erosion as a result of construction activities is addressed in items (a) and (c) in Section 7.8 Hydrology & Water Quality.
- c) See the discussion in item (a,iii) above.
- d) The soils in several areas of the campus have high shrink/swell potential and could, on a site-specific basis, have the potential to create risk to life or property. Campus policy requires compliance with the CBC, which includes provisions for construction on expansive soils such as proper fill selection, moisture control, and compaction during construction. Complying with the provisions of the CBC requires that a geotechnical investigation be performed to provide data for the architect and/or engineer to responsibly design the project. The project will comply with the CBC, which will ensure that this impact is less than significant.
- e) The 2003 LRDP EIR identifies that an impact would result if soils are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. No septic tanks or alternative wastewater disposal systems are included in the proposed project, and there would be no impact.

Summary

No LRDP EIR Mitigation Measures from the 2003 LRDP EIR are relevant to the proposed project for geology, soils, and seismicity impacts. The proposed project would not exceed the levels of significance of geology, soils, and seismicity impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant impacts that were not previously addressed.

7.7 HAZARDS & HAZARDOUS MATERIALS

7.7.1 Background

Section 4.7 of the 2003 LRDP EIR addresses the hazards and hazardous materials effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the 'Setting' subsection of Section 4.7 of the 2003 LRDP EIR.

Campus

A variety of hazardous materials are used on campus during the course of daily operations. Hazardous chemicals used on campus include: chemical solvents, reagents, and aromatic hydrocarbons that are used in campus laboratories; pesticides, fungicides, and herbicides used by agricultural programs and in landscape maintenance; relatively small amounts of solvents, paints, and acids used by fine arts programs; gasoline and diesel fuels, oils and lubricants, antifreeze, cleaning solvents and corrosives, paints and paint thinners, and freon refrigerants used in vehicle and building maintenance. In addition, radioactive materials, biohazardous materials, and laboratory animals are used in teaching and research activities. The use of hazardous materials on campus generates hazardous byproducts that must eventually be handled and disposed of as hazardous wastes.

Generation, transportation, and disposal of hazardous wastes are regulated by various agencies. The lead federal regulatory agency is the Environmental Protection Agency. The State Department of Toxic Substances Control (DTSC) has primary state regulatory responsibility but can delegate enforcement authority to local jurisdictions that enter into agreements with the state agency, as it did with Yolo County Department of Environmental Health (YCDEH) under the Certified Unified Program Agency (CUPA) program.

The campus' Office of Environmental Health and Safety (EH&S) coordinates most local, state, and federal regulatory compliance functions related to the campus' health, safety, and environmental issues. EH&S performs safety education and training, regulatory interpretation and applicability, approval of potentially hazardous procedures, resolution of safety problems, surveillance, and monitoring. In addition, EH&S provides guidance for several campus safety programs, including: the Chemical Inventory System, which tracks inventory and use of hazardous materials on campus; the CUPA Self-Audit Program, which complies with the terms of an agreement with the YCDEH; development of laboratory-specific Chemical Hygiene Plans; the Radiation and X-Ray Safety Programs; and the Biological Safety Administrative Advisory Committee. EH&S is also a working partner in such campus administrative advisory groups as the Chemical Safety Committee, the Radiation Safety Committees, the Animal Use and Care Committee, and the Biological Safety Committee. External administrative and benchmarking reviews of the EH&S programs are conducted periodically to identify means of further improving the programs. Benchmarking performed by the Campus Safety, Health, and Environmental Management Association (CSHEMA) in 2000 honored the UC Davis EH&S with a "Unique or Innovative Program Award" for its daily on-call program.

Project Site

The proposed project site is mostly undeveloped land that has previously been used for recreational and agricultural purposes. The area is not expected to contain potential environmental contaminants. Prior to project approval, a site assessment will investigate site conditions and past practices to further screen for potential contamination.

7.7.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a hazards and hazardous materials impact significant if growth under the 2003 LRDP would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- For a project within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Additional standards from the CEQA Guidelines’ Environmental Checklist (“f” and “h” in the checklist below) were found not applicable to campus growth under the 2003 LRDP.

7.7.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to hazards and hazardous materials are evaluated in Section 4.7 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Potentially significant hazards and hazardous materials impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. In addition, LRDP Impacts 4.7-12, presented below, is considered less than significant prior to mitigation, but the 2003 LRDP EIR identified mitigation to further reduce the significance of this impact. Less than significant impacts without mitigation measures are not presented here.

2003 LRDP EIR Impacts HAZARDS & HAZARDOUS MATERIALS		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
4.7-12	Construction activities on campus under the 2003 LRDP would not expose construction workers and campus occupants to contaminated soil or groundwater.	LS	LS

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the

2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

2003 LRDP EIR Mitigation Measures

HAZARDS & HAZARDOUS MATERIALS

4.7-12 The campus shall perform due diligence assessments of all sites where ground-disturbing construction is proposed.

7.7.4 Environmental Checklist and Discussion

HAZARDS & HAZARDOUS MATERIALS	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a,b,c) The proposed project would not use or transport hazardous materials, radioactive materials, or biohazardous materials, and would not include the use of laboratory animals. No impact would occur.
- d) The Laboratory for Energy Related Research/South Campus Disposal site is the only campus site that was listed as a hazardous materials site pursuant to Government Code Section 65962.5. The proposed project would not disturb this site.

In addition, the 2003 LRDP EIR found that construction activities under the 2003 LRDP would not expose construction workers and campus occupants to contaminated soil or groundwater (Impact 4.7-12) and that demolition or renovation of buildings under the 2003 LRDP would not expose construction workers or campus occupants to contaminated building materials (Impact 4.7-13). Campus policy requires that due diligence surveys be performed for all proposed project sites as part of the project planning process, and a Phase 1 environmental assessment will be conducted prior to project approval. Federal and state regulations require that workers who may be exposed to contaminants during the course of their jobs know of the presence of contamination and be properly trained. In addition, these regulations require that appropriate engineering and administrative controls and protective equipment be provided to reduce exposure to safe levels. Current campus due diligence policy and Cal/OSHA regulations minimize the exposure of construction workers to contaminants. In addition, if contaminants are identified on project sites, the campus would coordinate site remediation. Therefore, the impacts would be less than significant. To ensure that due diligence surveys are performed and to further reduce this less-than-significant impact, LRDP Mitigations 4.7-12 have/has been implemented as part of the proposed project.

- e) The 2003 LRDP EIR found that development of certain projects on the west campus under the 2003 LRDP could result in safety hazards associated with aircraft. However, the proposed project is not one of these projects and would not conflict with airport operations. Therefore, the impact would be less than significant.
- f) The University Airport is a public use airport, not a private airstrip. No other airport facilities are within the immediate vicinity of the campus. No impact would occur. Refer to item e) above for a discussion of potential safety hazards associated with the University airport, a local public use airport.
- g) The 2003 LRDP EIR found that implementation of the 2003 LRDP could interfere with the campus' Emergency Operations Plan through construction-related road closures (Impact 4.7-17). The proposed project would not require the closure of any campus roads. No other potential impacts associated with interference of an adopted emergency response plan or emergency evacuation plan would occur.
- h) Areas along Putah Creek are the only areas on campus that could be susceptible to wildland fires. Urbanization will not occur in close proximity to these areas under the 2003 LRDP because land along Putah Creek is designated for Open Space and Teaching and Research Fields, and land adjacent to these open areas is designated primarily for Teaching and Research Fields and low density development. The project is approximately one mile from Putah Creek and would not be susceptible to a wildland fire from Putah Creek. Therefore, no impact would occur.

Summary

Mitigation measure 4.7-12 from the 2003 LRDP EIR is relevant to the proposed project and would reduce the significance of hazards and hazardous materials impacts to the extent feasible. The proposed project would not exceed the levels of significance of hazards and hazardous materials impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant hazards and hazardous materials impacts that were not previously addressed.

7.8 HYDROLOGY & WATER QUALITY

7.8.1 Background

Section 4.8 of the 2003 LRDP EIR addresses the hydrology and water quality effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.8 of the 2003 LRDP EIR.

Campus

Surface Water Resources

The UC Davis campus is located in the Lower Sacramento watershed. Putah Creek, the principal waterway in the Davis area, originates from springs in the Mayacmas Mountains northwest of the campus, flows into Lake Berryessa, through Winters, along the southern boundary of Russell Ranch, along the southern boundary of UC Davis’ west and south campuses, and eventually into the Yolo Bypass, an overflow channel for the Sacramento River. The North Fork Cutoff and the Arboretum Waterway on campus follow the historic channel of Putah Creek, but currently have no natural flow. The North Fork Cutoff is a typically dry stream channel on the west campus that is currently occupied by sheep and cattle programs in the Department of Animal Science. The Arboretum Waterway serves as the storm water detention basin for the central campus.

UC Davis is a member of the Solano Project, and currently has rights to purchase 4,000 acre-feet of Putah Creek water from Lake Berryessa per year, although reductions in deliveries can occur during drought conditions. The water is delivered to the southwest corner of the campus via an underground pipeline. UC Davis also has rights to surface water from Putah and Cache Creeks. The campus has not used this water in the recent past, but the tenant farmer at Russell Ranch uses approximately 3,750 acre-feet of water per year from Putah and Cache creeks (via Willow Canal) for irrigation of commercial crops.

The quantity and quality of flows in Putah Creek are highly variable and depend on releases from Lake Berryessa, precipitation, storm water runoff, and treated effluent discharge. The campus’ tertiary level Wastewater Treatment Plant (WWTP) is the only major discharger of treated effluent to Putah Creek. The plant is regulated under a National Pollutant Discharge Elimination System (NPDES) Waste Discharge Requirement (WDR) permit issued by the Central Valley Regional Water Quality Control Board (CVRWQCB).

Groundwater Resources

The campus is underlain by sand and gravel alluvial deposits that include deep and shallow/intermediate depth aquifers. Deep gravel and sand aquifers underlie the campus between 600 to 1,500 feet below ground surface and supply the campus domestic/fire system. Historic annual domestic water use on campus over the past three decades has ranged from less than 600 million gallons per year (mgy) during drought conditions to nearly 900 mgy (UC Davis 1997). Despite the campus’ significant growth in recent decades, the campus’ deep aquifer demands have not significantly increased since the late 1960s, a trend that reflects the success of the campus’ water conservation efforts.

Shallow/intermediate depth sand and gravel aquifers underlie the campus at depths from 150 to 800 feet below ground surface and supply the campus utility water system, main campus agricultural water needs, and campus and tenant farmer irrigation needs at Russell Ranch. Over the past ten years, an average of approximately 2,657 acre-feet per year of shallow/intermediate aquifer water was used

for agricultural purposes on campus, including approximately 1,813 acre-feet on the main campus and approximately 844 acre-feet at Russell Ranch (UC Davis Agricultural Services 2003, UC Davis ORMP 2003c). Water levels in the shallow/intermediate aquifer vary seasonally and strongly correlate to precipitation. A generally upward recharge trend over the period from 1957 to 2002 indicates that there has not been long-term overdraft of the shallow/intermediate depth aquifers.

Regional groundwater quality is generally characterized as having high mineral content. Calcium, magnesium, and sulfates have been identified as the dominant problematic constituents.

Flooding & Drainage

On campus, the South Fork of Putah Creek, the North Fork Cutoff, and the Arboretum Waterway channels are designated as FEMA 100-year floodplain areas. In addition, a portion of Russell Ranch along County Road 31 and a portion of the west campus along County Road 98 are also subject to flooding during a 100-year storm event.

The central campus drainage system intercepts and collects runoff and transports this water to the Arboretum Waterway. During large storm events, water rises in the Arboretum Waterway, overtops the weir at the west end of the waterway, and flows into the pump pond located north of the weir. From the pump pond, water is pumped through an underground storm drain to the South Fork of Putah Creek. The peak discharge from the Arboretum Waterway to Putah Creek measured since December 1999 was 65 cubic feet per second (cfs). The majority of land in the west and south campuses and at Russell Ranch is used as teaching and research fields and is not drained by a storm drainage system. Irrigation practices on campus teaching and research fields typically do not generate surface runoff. However, large storm events may result in shallow overland flows. In addition, developed areas on the west and south campuses include storm water conveyance systems that drain to Putah Creek.

To protect the quality of storm water on campus that ultimately drains to Putah Creek, UC Davis construction and industrial activities are subject to the NPDES storm water requirements. Routine maintenance and minor construction activities on campus are subject to the campus' Phase II Storm Water Management Plan (SWMP).

Project Site

The Equestrian Center site is flat and during wet weather, experiences extensive ponding of stormwater. The drainage system consists of shallow swales that do not appear to have been engineered to achieve adequate drainage and have been modified extensively over the years in attempts to improve the drainage system. Stormwater runoff currently flows into the Arboretum Waterway and eventually is pumped to the south fork of Putah Creek.

7.8.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a hydrology and water quality impact significant if growth under the 2003 LRDP would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on site or off site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on site or off site.
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding.

Additional standards from the CEQA Guidelines' Environmental Checklist ("g" and "j" in the checklist below) were found not applicable to campus growth under the 2003 LRDP.

7.8.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on hydrology and water quality are evaluated in Section 4.8 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant hydrology and water quality impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. In addition, Impact 4.8-1, presented below, is considered less than significant prior to mitigation, but mitigation measures were identified in the 2003 LRDP EIR to further reduce the significance of this impact. Other less than significant impacts that do not include mitigation measures are not presented here. Mitigation measures are included to reduce the magnitude of project-level impact 4.8-6 and cumulative impacts 4.8-13 and 4.8-14, but these impacts are identified as significant and unavoidable because they cannot be fully mitigated. Mitigation is also relevant to reduce the magnitude of cumulative impact 4.8-10, but this impact is identified as significant and unavoidable because mitigation falls within other jurisdictions to enforce and monitor and therefore cannot be guaranteed by the University of California.

2003 LRDP EIR Impacts HYDROLOGY & WATER QUALITY		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
4.8-1	Campus construction activities associated with implementation of the 2003 LRDP would not contribute substantial loads of sediment or other pollutants in storm water runoff that could degrade receiving water quality.	LS	LS
4.8-2	Development under the 2003 LRDP would increase impervious surface on the campus and could alter drainage patterns, thereby increasing runoff and loads of pollutants in storm water, which could affect water quality.	PS	LS
4.8-3	Implementation of the 2003 LRDP could alter drainage patterns in the project area and increase impervious surfaces, which could exceed the capacity of storm water drainage systems and result in localized flooding and contribution to offsite flooding.	PS	LS
4.8-4	Campus growth under the 2003 LRDP would increase discharge of treated effluent from the campus wastewater treatment plant into the South Fork of	PS	LS

2003 LRDP EIR Impacts HYDROLOGY & WATER QUALITY		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
	Putah Creek, which could exceed waste discharge requirements and degrade receiving water quality.		
4.8-6	Campus growth under the 2003 LRDP could increase the amount of water extracted from the shallow/intermediate aquifer and would increase impervious surfaces. Extraction from the shallow/intermediate aquifer could deplete groundwater levels and could contribute to local subsidence, and increased impervious coverage could interfere substantially with recharge. This could result in a net deficit in the intermediate aquifer volume or a lowering of the local groundwater table.	SU	SU
4.8-10	Development under the 2003 LRDP, in conjunction with construction activities, increased impervious surfaces, and alterations to drainage patterns associated with other development in the region that would increase impervious surface coverage in the watershed, could increase storm water runoff, and could provide substantial sources of polluted runoff, which could affect receiving water quality.	S	SU
4.8-11	Implementation of the 2003 LRDP in combination with regional development could alter drainage patterns and increase the rate or amount of surface runoff, which could exceed the capacity of storm water drainage systems and result in flooding within the Putah Creek watershed.	PS	LS
4.8-12	Growth under the 2003 LRDP and other development in the region would increase discharge of treated effluent to the Putah Creek watershed, which could degrade receiving water quality.	PS	LS
4.8-13	Growth under the 2003 LRDP and other development in the region would increase the amount of water extracted from the deep aquifer and increase impervious surfaces. This could result in a net deficit in the deep aquifer volume or a lowering of the local groundwater table but would not interfere substantially with recharge of the deep aquifer.	S	SU
4.8-14	Growth under the 2003 LRDP and other development in the region would increase the amount of water extracted from shallow/intermediate aquifers and increase impervious surfaces. This could contribute to local subsidence, substantially deplete groundwater supplies, and could interfere substantially with recharge of the shallow/intermediate depth aquifer, resulting in a net deficit in the shallow/intermediate aquifer volume or a lowering of the local groundwater table.	S	SU

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

2003 LRDP EIR Mitigation Measures HYDROLOGY & WATER QUALITY

- | | |
|-------|---|
| 4.8-1 | The campus shall continue to comply with the NPDES state-wide General Permit for Discharge of Storm Water Associated with Construction Activity by implementing control measures and BMPs required by project-specific SWPPPs and with the Phase II SWMP to eliminate or reduce non-storm and storm water discharges to receiving waters. |
| 4.8-2 | The campus shall comply with the measures in the Phase II SWMP to ensure that project design includes a |

2003 LRDP EIR Mitigation Measures

HYDROLOGY & WATER QUALITY

- combination of BMPs, or equally effective measures as they become available in the future, to minimize the contribution of pollutants to receiving waters.
- 4.8-3(a) Prior to approval of specific projects under the 2003 LRDP, the campus shall perform a drainage study to evaluate each specific development to determine whether project runoff would exceed the capacity of the existing storm drainage system, cause ponding to worsen, and/or increase the potential for property damage from flooding.
- 4.8-3(b) If it is determined that existing drainage capacity would be exceeded, ponding could worsen, and/or risk of property damage from flooding could increase, the campus shall design and implement necessary and feasible improvements. Such improvements could include, but would not be limited to, the following:
- (i) The expansion or modification of the existing storm drainage system.
 - (ii) Single-project detention or retention basins incorporated into project design with features including but not limited to: small onsite detention or retention basins; rooftop ponding; temporary flooding of parking areas, streets and gutters; landscaping designed to temporarily retain water; and gravel beds designed to collect and retain runoff.
 - (iii) Multi-project storm water detention or retention basins.
- 4.8-4(a) The campus shall continue to monitor and modify its pretreatment program, WWTP operation, and/or treatment processes as necessary to comply with WDRs.
- 4.8-4(b) The campus shall implement a monitoring program specifically targeted at the following constituents: copper, cyanide, iron and nitrate + nitrite, and make appropriate modifications as necessary to the campus pretreatment program to avoid exceedance of permit limits for these constituents.
- 4.8-6(a) The campus shall continue to implement water conservation strategies to reduce demand for water from the intermediate aquifer. Utility water conservation strategies shall include the following or equivalent measures:
- (i) Landscape, where appropriate, with native, drought resistant plants and use lawns only where needed for pedestrian traffic, activity areas, and recreation.
 - (ii) Install efficient irrigation systems including centrally controlled automatic irrigation systems and low-flow spray systems.
 - (iii) Apply heavy applications of mulch to landscaped areas to reduce evaporation
 - (iv) Use treated wastewater for landscape irrigation where feasible.
- 4.8-6(b) The campus shall continue to monitor shallow/intermediate aquifer water elevations at existing campus wells to ascertain whether there is any long-term decline in water levels.
- 4.8-6(c) The campus shall continue to participate in regional subsidence monitoring, including by installing an extensometer, to determine the vertical location of local subsidence.
- 4.8-6(d) If shallow/intermediate aquifer monitoring or subsidence monitoring indicate that campus water use from the intermediate aquifer is contributing to a net deficit in aquifer volume and/or significant subsidence, the campus will reduce use of water from the aquifer by using surface water and/or treated wastewater effluent to irrigate campus recreation fields.
- 4.8-6(e) The campus shall incorporate the following or equally effective measures into project designs under the 2003 LRDP where feasible, to increase percolation and infiltration of precipitation into the underlying shallow/intermediate aquifers:
- (i) Minimize paved surfaces.
 - (ii) Use grassy swales, infiltration trenches, or grass filter strips to intercept storm water runoff.
 - (iii) Implement LRDP Mitigation 4.8-3(b), which specifies construction of detention and infiltration facilities in those areas that do not discharge storm water to the Arboretum.
- 4.8-10(a) Implement LRDP Mitigation 4.8-1 and 4.8-2.
- 4.8-10(b) Jurisdictions within the Putah Creek watershed should comply with Phase II NPDES Municipal Storm Water Permit requirements for small municipalities in order to minimize the contribution of sediment and other pollutants associated with development in the region.

2003 LRDP EIR Mitigation Measures
HYDROLOGY & WATER QUALITY

- 4.8-10(c) Comprehensive SWPPPs and monitoring programs should be implemented by all storm water dischargers associated with specified industrial and construction activities, in compliance with the state’s General Permits. Such plans shall include BMPs or equally effective measures.
- 4.8-11 The campus shall implement LRDP Mitigation 4.8-3(a-c) in order to prevent flooding on campus.
- 4.8-12 The campus shall implement LRDP Mitigation 4.8-4(a) and (b) to minimize the potential for degradation of receiving water quality.
- 4.8-13(a) Implement LRDP Mitigation 4.8-5(a-d).
- 4.8-13(b) The City of Davis is expected to implement measures to reduce the amount of water withdrawn from the deep aquifer consistent with policies adopted in its General Plan.
- Give priority to demand reduction and conservation over additional water resource development (Policy WATER 1.1)
 - Require water conserving landscaping (Policy WATER 1.2)
 - Provide for the current and long-range water needs of the Davis Planning Area, and for protection of the quality and quantity of groundwater resources (Policy WATER 2.1)
 - Manage groundwater resources so as to preserve both quantity and quality (Policy WATER 2.2)
 - Research, monitor and participate in issues in Yolo County and the area of origin of the City’s groundwater that affect the quality and quantity of water (Policy WATER 4.1)
- 4.8-14(a) The campus should implement LRDP Mitigation 4.8-6(a-e) to minimize its withdrawal from the shallow/intermediate aquifer and maximize the potential for infiltration.
- 4.8-14(b) Consistent with current water planning policies, the City of Davis is expected to implement measures to reduce impervious surfaces and reduce the amount of water withdrawn from the shallow/intermediate aquifer, consistent with, but not limited to, the water policies listed in LRDP Mitigation 4.8-13(b).

7.8.4 Environmental Checklist and Discussion

HYDROLOGY & WATER QUALITY		Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...						
a)	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,f) **Construction**

The 2003 LRDP EIR found that construction on campus under the 2003 LRDP would not contribute substantial loads of sediment or other pollutants to storm water runoff (Impact 4.8-1). Construction on campus is covered under the NPDES state-wide General Permit for Discharge of Storm Water Associated with Construction Activity. As part of this permit, campus construction projects managed by outside contractors and/or disturbing over one acre (including the proposed project) must implement Storm Water Pollution Prevention Plans (SWPPPs), which specify Best Management Practices (BMPs) to reduce the contribution of sediments, spilled and leaked liquids from construction equipment, and other construction-related pollutants to storm water runoff. All routine maintenance activities and any construction projects disturbing less than one acre that are not managed by outside contractors are covered under the campus' Phase II Municipal Storm Water Management Plan, which requires BMPs to reduce contribution of pollutants to storm water runoff. Because the UC Davis campus is required to comply with the NPDES state-wide permit and Phase II requirements, the water quality effects associated with construction activities on campus are considered to be less than significant. In addition, LRDP Mitigation 4.8-1, included as part of the project, requires the campus to implement BMPs to reduce construction-related water quality impacts.

Operation

The 2003 LRDP EIR found that campus growth under the 2003 LRDP would increase discharge of treated effluent from the campus WWTP into the South Fork of Putah Creek, which could exceed waste discharge requirements and degrade receiving water quality (Impact 4.8-4). Stormwater improvements included in the proposed project would direct water from confined animal spaces to the campus WWTP. With current and future discharge control programs and possible operational changes, the increased discharge from the WWTP associated with the proposed project as well as other projects under the 2003 LRDP is expected to comply with NPDES regulations, and therefore will not cause degradation of receiving water quality. The campus will

continue to monitor effluent discharge in compliance with the applicable WDRs for the WWTP, and if effluent limits are exceeded, the campus will modify its pretreatment program and WWTP operation as appropriate. These practices are further confirmed in LRDP Mitigation 4.8-4(a), which is included as part of the project. In compliance with LRDP Mitigation 4.8-4(b), also relevant to part of the project, the campus will target monitoring and pretreatment for the contaminants specifically identified as of potential concern by the CVRWQCB. This issue is further addressed in Section 7.16.4(a). These measures would reduce the impact to a less-than-significant level.

The 2003 LRDP EIR found that growth under the 2003 LRDP and other development in the region would increase the cumulative discharge of treated effluent to the Putah Creek watershed, which could degrade receiving water quality (Impact 4.8-12). However, UC Davis is currently the only major discharger of treated effluent to Putah Creek, and no other major dischargers are expected in the future. LRDP Mitigation 4.8-12, included as part of the project, requires implementation of LRDP Mitigation 4.8-4(a-b), discussed above, which would reduce the impact of increased effluent discharge from the campus WWTP to Putah Creek to a less-than-significant level. Therefore, with implementation of LRDP Mitigation 4.8-12, which is included in the proposed project, the cumulative impact would be less than significant.

b) Deep Aquifer

The proposed project would not increase consumption of water from the deep aquifer but would increase the amount of impervious surface. The 2003 LRDP EIR found that campus growth under the 2003 LRDP would increase the amount of water extracted from the deep aquifer and would increase impervious surfaces, which could result in a net deficit in the deep aquifer volume or a lowering of the local groundwater table but would not interfere substantially with recharge of the deep aquifer (Impact 4.8-5). The deep aquifer is confined with limited lateral and vertical recharge and is overlain by thick clay layers that are relatively impermeable. Because of these characteristics, increased impervious surfaces associated with development under the 2003 LRDP will not significantly affect the recharge capacity of the deep aquifer. The 2001 demand for water from the deep aquifer was approximately 2,671 acre-feet. The annual demand for deep aquifer water under the 2003 LRDP, including demand associated with the proposed project, is expected to increase to approximately 5,301 acre-feet through 2015-16 (UC Davis ORMP 2003c). LRDP Mitigation 4.8-5(a-c), included as part of the project, would require continued water conservation efforts, efforts to determine the ability of the deep aquifer to provide for the campus' long-term water needs, and efforts to minimize withdrawals by UC Davis and the City of Davis from the same deep aquifers. If monitoring identifies that the aquifer is unable to meet the campus' long-term needs, consistent with LRDP Mitigation 4.8-5(d), the campus would treat intermediate aquifer water and/or surface water to serve domestic water needs. Regardless of these mitigation measures, if UC Davis' future demand for water from the deep aquifer increases, groundwater levels in the deep aquifer could lower, contributing to a net deficit in the overall groundwater budget. The effects of increased demand on the volume of the deep aquifer are currently not well understood (although consistent with LRDP Mitigation 4.8-5(b), the campus will continue to study these effects). Therefore, this impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

The 2003 LRDP EIR found that growth under the 2003 LRDP and other development in the region would cumulatively increase the amount of water extracted from the deep aquifer and would increase impervious surfaces, which could result in a net deficit in the deep aquifer volume or a lowering of the local groundwater table, but would not interfere substantially with recharge

of the deep aquifer (Impact 4.8-13). The long-term reliability of the deep aquifer could be at risk if both UC Davis and the City of Davis rely on the aquifer to meet their future needs. In compliance with LRDP Mitigation 4.8-13(a), included in the proposed project, the campus would minimize withdrawals from those aquifers shared with the City of Davis by locating new wells on the west campus when feasible, monitor the deep aquifer, conserve water, and manage water supplies efficiently. LRDP Mitigation 4.8-13(b) recognizes the City of Davis General Plan's objectives regarding reduction of water extraction from the deep aquifer. However, regardless of mitigation, because the effects of increased demand on the volume of the deep aquifer are currently not well understood, this impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Shallow/Intermediate Aquifer

The proposed project would add approximately 45,000 square feet of impervious surface but would not increase the demand for water from the shallow/intermediate aquifers. The 2003 LRDP EIR found that the campus' extraction from shallow/intermediate aquifers could deplete groundwater levels and could contribute to local subsidence. In addition, increased impervious coverage could interfere with recharge of the shallow/intermediate aquifers. This could result in a net deficit in the intermediate aquifer volume or a lowering of the local groundwater table (Impact 4.8-6).

The 2001 baseline annual campus demand (including irrigation demand associated with the tenant farmer at Russell Ranch) for water from the shallow/intermediate aquifers was approximately 3,827 acre-feet. Under the 2003 LRDP, due to conversion of teaching and research fields to other uses with reduced irrigation requirements, overall annual demand for water from the shallow/intermediate aquifers is anticipated to decrease to approximately 3,362 acre-feet through 2015-16 (UC Davis ORMP 2003c). However, these projections do not address the potential identified in LRDP Mitigation 4.8-5(d) for intermediate aquifer water to be used to serve the campus' domestic water needs. If this mitigation is implemented, demand for water from the intermediate aquifer could increase. In addition, recent monitoring efforts indicate subsidence in the campus vicinity. Due to the short history of subsidence monitoring in the area, the extent and cause of this subsidence is currently unknown, however, extraction from the shallow/intermediate aquifer could be a contributing factor. Additionally, development under the 2003 LRDP, including the proposed project, would increase the amount of impervious surfaces on campus. However, because the soils underlying the campus generally have low permeability and would provide limited recharge, new impervious surfaces are not likely to significantly reduce the amount and rate of groundwater recharge. Most recharge in the area is associated with streams and waterways, which would not be affected by the project.

LRDP Mitigation 4.8-6(a-c), included as part of the proposed project, would require continued utility water conservation efforts, monitoring of the intermediate aquifer, and subsidence monitoring efforts. Furthermore, implementation of LRDP Mitigation 4.8-6(e), included in the proposed project, would encourage project designs on campus that increase percolation and infiltration to the shallow/intermediate aquifer. The proposed project includes an unlined stormwater detention pond that would allow some amount of infiltration. If the monitoring efforts required by LRDP Mitigation 4.8-6(b) or (c) identify that campus intermediate aquifer use is contributing to a net deficit in aquifer volume or significant subsidence, LRDP Mitigation 4.8-6(d) would be implemented to reduce campus utility water use by requiring use of Solano Project surface water and/or tertiary treated wastewater effluent from the campus WWTP for irrigation of campus recreation fields. Regardless of mitigation, the combination of effects from continued

demand for water from the shallow/intermediate aquifer, local subsidence trends, and increased coverage could potentially result in a significant impact on intermediate aquifer groundwater levels. Therefore, Impact 4.8-6 is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

The 2003 LRDP EIR found that growth under the 2003 LRDP and other development in the region would cumulatively increase the amount of water extracted from shallow/intermediate aquifers and would increase impervious surfaces. This could contribute to local subsidence, substantially deplete groundwater supplies, and could interfere substantially with recharge of the shallow/intermediate depth aquifer, resulting in a net deficit in the shallow/intermediate aquifer volume or a lowering of the local groundwater table (Impact 4.8-14). Although campus extraction of water from the shallow/intermediate aquifers is anticipated to continue to decrease through 2015-16, a potential increase in extraction in the Davis area could cause well levels to decrease. In addition, extraction from these aquifers could be causing subsidence that has been observed in the area, and increases in impervious surfaces could impede the amount of groundwater recharge. Implementation of LRDP Mitigation 4.8-13(a) and (b) would reduce the campus and City extractions from the shallow/intermediate aquifers, would reduce the amount of new impervious surfaces in the area, and would continue groundwater level and subsidence monitoring efforts. Regardless of mitigation, the combination of effects from continued local demand for water from the shallow/intermediate aquifers, local subsidence trends, and increased coverage could result in a significant and unavoidable impact on the aquifers. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- c) The proposed project would provide improved drainage and improved pollution controls by conveying water with high nutrient levels from confined animal spaces in the Equestrian Center to the campus wastewater treatment plant. Other stormwater from the Equestrian Center would be conveyed to the campus Arboretum Waterway. The 2003 LRDP EIR found that development under the 2003 LRDP would increase impervious surfaces on the campus and could alter drainage patterns, thereby increasing runoff and loads of pollutants in storm water, which could adversely affect surface water quality (Impact 4.8-2). Discharge of storm water to the Arboretum Waterway is covered under a NPDES Phase II permit for small municipal storm water systems, which requires BMPs to reduce pollutants in storm water discharge to the maximum extent practicable. LRDP Mitigation 4.8-2 requires the campus to comply with Phase II regulations. As described in item (a) above, both construction and operation activities are required to employ BMPs. With implementation of Phase II requirements, increases in storm water runoff and levels of contaminants in runoff associated with implementation of the 2003 LRDP, including the proposed project, would have a less than significant impact on receiving waters. The proposed project would include a stormwater pollution prevention program.

The 2003 LRDP EIR found that development under the 2003 LRDP, in conjunction with construction activities, increased impervious surfaces, and alterations to drainage patterns associated with other development in the watershed could increase storm water runoff and could provide substantial sources of polluted runoff, which could adversely affect receiving water quality (Impact 4.8-10). LRDP Mitigations 4.8-10 (a-c) require the campus and regional jurisdictions to comply with NPDES Phase II requirements and implement SWPPPs for specified industrial and construction activities. However, implementation of LRDP Mitigation 4.8-10(b) and (c) cannot be guaranteed by the University of California because it falls within other

jurisdictions to enforce and monitor. Therefore, the impact is currently considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- d,e) The 2003 LRDP EIR found that implementation of the 2003 LRDP would alter drainage patterns in the project area and would increase impervious surfaces, which could exceed the capacity of storm water drainage systems and result in localized flooding and contribution to offsite flooding (Impact 4.8-3). Campus runoff is not expected to significantly increase peak flows in Putah Creek under the 2003 LRDP because anticipated development represents only a minor increase in the percentage of impervious area in the watersheds. Campus discharges from the Arboretum Waterway to Putah Creek are not expected to exceed the existing pumping capacity of approximately 80 cfs (the current NPDES permit has a maximum discharge limit of 130 cfs). The current campus standard for storm water management is a 10-year storm event, under the campus Stormwater Management Plan (Wengler 2005). However, under existing conditions, localized flooding on some portions of the campus occurs during a 2-year storm event. In most cases, this flooding consists of temporary water ponding at storm drain inlets and along roads that does not result in property damage or other serious consequences. Without any improvements, increased runoff associated with development under the 2003 LRDP, including the proposed project, would increase the likelihood of localized flooding (West Yost & Associates 2000). The proposed project would decrease the likelihood of localized flooding by providing increased drainage facilities within the Equestrian Center. The new drainage facilities would convey stormwater to the campus Wastewater Treatment Plant. In effect, the proposed project helps to implement LRDP Mitigation 4.8-3(b) (construction of necessary storm water system and/or onsite detention facilities). Therefore, this impact would be less than significant.

The 2003 LRDP EIR also found that implementation of the 2003 LRDP in combination with regional development could alter drainage patterns and increase the rate or amount of surface runoff, which could cumulatively exceed the capacity of storm water drainage systems and result in flooding within the Putah Creek watershed (Impact 4.8-11). In most cases, this flooding consists of temporary water ponding at storm drain inlets and along roads that does not result in property damage or other serious consequences. With implementation of LRDP Mitigation 4.8-11, storm water discharges from the campus would be reduced and would not contribute to regional flooding problems.

Storm water runoff pollution is evaluated further in items (a,f) and (c) above.

- g) Under the 2003 LRDP, housing (including on-campus student housing and housing within the proposed neighborhood) would be constructed outside the 100-year flood zones on campus (see 2003 LRDP EIR, Figure 4.8-4, 100-Year Floodplain). The proposed project would include no housing. Therefore, no impact would occur.
- h) The 2003 LRDP EIR found that development under the 2003 LRDP could place non-residential structures within a 100-year floodplain, which could expose people and structures to risks associated with flooding and/or could impede or redirect flows, contributing to flood hazards (LRDP Impact 4.8-9). The proposed project would not be located in a 100-year floodplain and no impact would occur.
- i) The campus is located approximately 23 miles downstream of the Monticello Dam (forming Lake Berryessa) and approximately 15 miles downstream of the Putah Diversion Dam. An inundation study prepared by the U.S. Bureau of Reclamation shows that, in the highly unlikely case of a dam

breach, the campus (as well as the City of Davis) would be inundated under a maximum of 3 to 9 feet of water approximately 3.5 to 4 hours following the breach (USBR 1998). However, the probability of such a release is far less than one in one million (USBR 2000). As of June 2000, Monticello Dam was determined to be in satisfactory condition, and the dam exhibited no unusual cracks, seeps, or deformations. In addition, the State Department of Dam Safety evaluates dams regularly, which would give adequate time to respond to any deterioration in the safety of the structure. Therefore, the risk of flooding on campus as a result of a dam failure is considered a less than significant impact.

- j) The campus is not subject to inundation by seiche, tsunami, or mudflow. The campus is generally flat and is not located in close proximity to any large water bodies. Therefore, no impact would occur.

Summary

Mitigation Measures 4.8-1, 4.8-2, 4.8-3, 4.8-4, 4.8-6, 4.8-10, 4.8-11, 4.8-12, 4.8-13 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of hydrology and water quality impacts to the extent feasible. The proposed project would not exceed the levels of significance of hydrology and water quality impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant hydrology and water quality impacts that were not previously addressed.

7.9 LAND USE & PLANNING

7.9.1 Background

Section 4.9 of the 2003 LRDP EIR addresses the land use and planning effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.9 of the 2003 LRDP EIR.

Campus

The approximately 5,300-acre UC Davis campus is located within Yolo and Solano counties. Local land use is predominantly agricultural, with small cities and towns. The campus is surrounded by extensive agricultural uses to the west and south and by residential, institutional, and commercial land uses in the City of Davis, to the north and east. The City of Davis is a university-oriented community with over 62,000 residents. The UC Davis campus consists of four general units: the central campus, the south campus, the west campus, and Russell Ranch. In addition, the University of California owns several properties in the City of Davis, including buildings in downtown Davis and buildings and vacant parcels in the South Davis Research Park, located south of I-80.

As a state entity, UC Davis is not subject to municipal policies such as the City of Davis General Plan. Nevertheless, such policies are of interest to the campus.

The 2003 LRDP is the campus’ primary land use planning guide. It designates campus lands for the following uses through 2015-16: *Academic and Administrative* (High and Low Density); *Teaching and Research Fields*; *Teaching and Research Open Space*; *Parking*; *Physical Education, Intercollegiate Athletics, and Recreation* (PE/ICA/Recreation); *Research Park* (High and Low Density); *Formal Open Space*; *Community Gardens*; *Faculty/Staff Housing*; *Student Housing*; *Mixed Use Housing*; and *Elementary School*.

Project Site

The Equestrian Center is on the edge of the UC Davis core campus adjacent to the junction of Interstate 80 and State Route 113. The Equestrian Center includes approximately 25 acres with facilities for boarding, training, and jumping horses. Buildings at the site include the central barn, a hay barn, a stable, and a caretaker trailer. Additional improvements include covered pipe pens, stables, paddocks, a small jumping arena, a western arena, the main arena, and a large grassy area of approximately five acres used for horse training. The arenas are used for specialized equestrian classes and training. Site access is provided on a gravel road from Garrod Drive.

Land surrounding the Equestrian Center includes Interstate 80 to the south, State Route 113 to the west, and the UC Davis Arboretum to the north and east. The UC Davis Arboretum is a living plant museum, teaching resource, and a recreational area occupying approximately 100 acres at UC Davis. Near the Equestrian Center, the UC Davis Arboretum has walking paths and extensive tree plantings.

The 2003 LRDP designated the Equestrian Center an Academic and Administrative land use to enable the future conversion of the Equestrian Center from a recreational resource to a land area used for new academic or administrative buildings. At this time, the Equestrian Center is not needed to accommodate planned academic or administrative buildings but is needed as a reserve area for future academic and administrative buildings and to provide a suitable location for any unexpected academic or administrative initiatives that occur during the implementation period of the 2003 LRDP. The proposed improvements are not expected to hinder the future conversion of the land to Academic and Administrative uses.

7.9.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a land use and planning impact significant if growth under the 2003 LRDP would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.
- Result in development of land uses that are substantially incompatible with existing adjacent land uses or with planned uses.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

An additional standard from the CEQA Guidelines' Environmental Checklist ("a" in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

7.9.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to land use and planning are evaluated in Section 4.9 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. The 2003 LRDP EIR did not identify any potentially significant or significant land use and planning impacts. The less than significant land use and planning impacts identified in the 2003 LRDP EIR do not require mitigation.

7.9.4 Environmental Checklist and Discussion

LAND USE & PLANNING	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in development of land uses that are substantially incompatible with existing adjacent land uses or with planned uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) The proposed project would have no potential to physically divide an established community. No impact would occur and no additional analysis is required.

b,d) The applicable land use plan for the campus is the 2003 LRDP. The 2003 LRDP designated the Equestrian Center an Academic and Administrative land use to enable the future conversion of the Equestrian Center from a recreational resource to a land area used for new academic or administrative buildings. At this time, the Equestrian Center is not needed to accommodate planned academic or administrative buildings but is needed as a reserve area for future academic and administrative buildings and to provide a suitable location for any unexpected academic or

administrative initiatives that occur during the implementation period of the 2003 LRDP. The proposed improvements are not expected to hinder the future conversion of the land to an Academic or Administrative use. If needed in the future for an Academic or Administrative use, the improvements proposed at the Equestrian Center may need to be removed and potentially relocated to an alternative campus site. At this time, potential sites for relocation exist on the South Campus, West Campus, or the Russell Ranch. The proposed indoor arena could be reused as a component of the veterinary school if conversion to an academic use is ever required or, the indoor arena could be removed to accommodate a future academic use. Construction of the indoor arena is not expected to hinder the future use of the site for academic or administrative uses. Because the proposed project would not change an existing use and is not expected to hinder the future conversion of the site to an Academic and Administrative use, the land use impact is considered less-than-significant.

c) The campus does not fall within the boundaries of, nor is it adjacent to, an adopted regional HCP or NCCP. The campus has implemented two low effects HCPs for VELB at Russell Ranch. The project is located approximately four miles from the Russell Ranch. Therefore, the proposed project would not conflict with an adopted HCP or NCCP, and there will be no impact.

Summary

The 2003 LRDP EIR did not identify any significant land use and planning impacts, nor did it identify any associated mitigation measures. The proposed project would not exceed the levels of significance of land use and planning impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant land use and planning impacts that were not previously addressed.

7.10 MINERAL RESOURCES

7.10.1 Background

Section 4.6, Geology, Soils, and Seismicity, of the 2003 LRDP EIR briefly addresses mineral resources issues. The 2003 LRDP EIR concludes that development on campus would not impede extraction or result in the loss of availability of mineral resources.

Sand and gravel are important mineral resources in the region (CDOC 2000). However, natural gas is the only known or potential mineral resource that has been identified on campus. Natural gas can be extracted at wells placed considerable distances from deposits. No other known or potential mineral resources have been identified on the UC Davis campus. Therefore, development on campus does not impede extraction or result in the loss of availability of mineral resources.

7.10.2 2003 LRDP EIR

Because development on campus would not impede extraction or result in the loss of availability of mineral resources, the 2003 LRDP EIR did not identify any standards of significance, impacts, or mitigation measures associated with mineral resources. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR.

7.10.3 Environmental Checklist and Discussion

MINERAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a, b) Natural gas is the only known or potential mineral resource that has been identified on campus. Natural gas can be extracted at wells placed considerable distances from deposits. Therefore, development on campus would not impede extraction or result in the loss of availability of a known mineral resource. No impact would occur and no further analysis is required.

7.11 NOISE

7.11.1 Background

Section 4.10 of the 2003 LRDP EIR addresses the noise effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.10 of the 2003 LRDP EIR.

Campus

The primary noise source in the vicinity of the campus is vehicular traffic using I-80, SR 113, and local roads. Other sources of noise include occasional aircraft over-flights associated with the University Airport located on the west campus and another small airport in the vicinity, agricultural activities, railroads, and landscaping activities. Land use surrounding the campus is primarily agricultural, with residential, commercial, and other uses concentrated along the northern and eastern boundaries of the main campus.

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB), and the decibel scale adjusted for A-weighting (dBA) is a special frequency-dependent rating scale that relates to the frequency sensitivity of the human ear. Community noise usually consists of a base of steady “ambient” noise that is the sum of many distant and indistinguishable noise sources, as well as more distinct sounds from individual local sources. A number of noise descriptors are used to analyze the effects of community noise on people, including the following:

- L_{eq} , the equivalent energy noise level, is the average acoustic energy content of noise, measured during a prescribed period, typically one hour.
- L_{dn} , the Day-Night Average Sound Level, is a 24-hour-average L_{eq} with a 10 dBA “penalty” added to noise occurring during the hours of 10:00 PM to 7:00 AM to account for greater nocturnal noise sensitivity.
- CNEL, the Community Noise Equivalent Level, is a 24-hour-average L_{eq} with a “penalty” of 5 dB added to evening noise occurring between 7:00 PM and 10:00 PM, and a “penalty” of 10 dB added to nighttime noise occurring between 10:00 PM and 7:00 AM.

Noise monitoring over a 24-hour period in 2003 at sites located in urban areas on and adjacent to the campus (including areas next to freeways, roads, residences, and academic buildings) reflected CNEL levels ranging from 63 to 65 dBA CNEL. Ambient noise levels measured over a short period at various urban sites on campus varied from 49 to 63 dBA L_{eq} .

Project Site

The Equestrian Center is adjacent to the junction of Interstate 80 and State Route 113, which are both significant noise sources. The centerline of Interstate 80 is approximately 900 feet from the site of the proposed covered arena. The closest travel lane is the west bound Interstate 80 to State Route 113 connection lane. This travel lane is approximately 10 to 30 feet lower than the project site and serves a fairly low volume of vehicles. The lane is approximately 150 feet from the project site. The separation between the travel lanes and the project site, along with the freeways’ elevation (below the Equestrian Center), reduces noise levels at the project site.

7.11.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a noise impact significant if growth under the 2003 LRDP would result in the following:

- Exposure of persons to or generation of noise levels in excess of levels set forth in Table 4.10-3 of the 2003 LRDP EIR as reprinted below as Table 2. Road traffic and other long-term sources of noise as are listed as the first item in Table. 2.

Table 2: Thresholds of Significance for Noise Evaluations

Noise Source ^a	Criterion Noise Level ^b	Substantial Increase in Noise Level ^b
Road Traffic and Other Long-Term Sources	65 dBA CNEL	>=3 dBA if CNEL w/project is >= 65 dBA >=5 dBA if CNEL w/project is 50–64 dBA >=10 dBA if CNEL w/project is < 50 dBA
Stadium (Periodic, intermittent)	70 dBA L _{eq(h)} ^c Daytime (7:00 a-7:00 p) 70 dBA L _{eq(h)} Evening (7:00 p-11:00 p) 65 dBA L _{eq(h)} Nighttime (11:00 p-7:00 a)	Not Applicable
Railroad	Within 750 feet of railroad line ^d	
Aircraft	65 dBA CNEL	>=1.5 dBA if CNEL w/project is >= 65 dBA >=3 dBA if CNEL w/project is 60–64 dBA >=5 dBA if CNEL w/project is < 60 dBA
Construction (temporary)	80 dBA L _{eq(8h)} ^c daytime (7:00 a-7:00 p) 80 dBA L _{eq(8h)} evening (7:00 p-11:00 p) 70 dBA L _{eq(8h)} nighttime (11:00 p-7:00 a)	Not Applicable

Source: 2003 LRDP EIR

^a The 2003 LRDP would not substantially increase rail activity; therefore, a threshold of significance for rail noise is not included in this table.

^b At noise-sensitive land use unless otherwise noted. Noise-sensitive land uses include residential and institutional land uses.

^c L_{eq(h)} is an average measurement over a one-hour period.

^d Screening analysis distance criterion from FTA 1995.

^e L_{eq(8h)} is an average measurement over an eight-hour period.

- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.

7.11.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to noise are evaluated in Section 4.10 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed

project is within the scope of analysis in the 2003 LRDP EIR. The project would not contribute to noise impacts identified in the 2003 LRDP EIR.

7.11.4 Environmental Checklist and Discussion

NOISE	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) The proposed project will not result in exposure of persons to noise levels in excess of the UC Davis standards. The proposed project would enhance existing facilities at an existing land use. While the site is adjacent to the freeway right-of-way, the noise conditions at this site are unique because of the distance to the freeway travel lanes and the change in elevation between the proposed project and the travel lanes. These conditions are existing (Equestrian Center users currently experience these conditions) and the noise conditions will not change as a result of the proposed project. The proposed project will not increase the number of people at the Equestrian Center and, because certain activities will take place inside the arena, the number of people exposed to noise conditions at the Equestrian Center may decrease as a result of the proposed project. No impact would occur.

b,d) Standard construction techniques will be used to construct the proposed project and no use of pile driving, blasting, or other special construction techniques are expected. Because the site is fairly open and located in a relatively loud environment from the freeway traffic, the increase in noise levels or vibration is not expected to be noticeable to the users at the Equestrian Center and the impact would be less than significant.

c) The proposed project is not expected to result in any increase to vehicle trips or other types of operational noise sources. No impact would occur.

- e) The project is approximately one mile from the University Airport. The 2003 LRDP, including the proposed project, does not propose changes to University Airport operations, nor does it propose occupied uses within the airport's 65 CNEL noise contour. Therefore, the project would not expose people to excessive noise levels associated with this public use airport and would not increase the number of people exposed to lesser airport noise. No impact would occur.
- f) The University Airport is a public use airport, not a private airstrip. No other private airport facilities are within the immediate vicinity of the campus. No impact would occur. Refer to item e) above for discussion of potential noise impacts associated with the campus' public use airports.

Summary

No LRDP EIR noise Mitigation Measures from the 2003 LRDP EIR are relevant to the proposed project. The proposed project would not exceed the levels of significance of noise impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant noise impacts that were not previously addressed.

7.12 POPULATION & HOUSING

7.12.1 Background

Section 4.11 of the 2003 LRDP EIR addresses the population and housing effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.11 of the 2003 LRDP EIR.

The on-campus population at UC Davis includes students, faculty/staff, and non-UC Davis affiliates working on campus. The current and projected campus population figures are presented in Table 1 of this Tiered Initial Study. As of 2003, approximately 80 percent of the student population and 50 percent of the employee population lived in the Davis area, and approximately 94 percent of students and 90 percent of employees lived within the three-county area of Yolo, Solano, and Sacramento counties. Outside the City of Davis, the predominant residence locations of students and employees are Woodland, West Sacramento, Winters, Dixon, Vacaville, and Fairfield (UC Davis ORMP 2003d).

Vacancy rates in the City of Davis are considered low, and housing costs in the City are generally higher than those elsewhere in the region. Since 1994, the campus has been working toward the goals of maintaining a UC Davis housing supply that can accommodate 25 percent of the on-campus enrolled students and can offer housing to all eligible freshmen. The 2003 LRDP focuses on providing additional on-campus student housing that will accommodate a total of approximately 7,800 students on the core campus (or 26 percent of the peak student enrollment through 2015-16) and an additional 3,000 students in a west campus neighborhood. The campus currently offers one faculty and staff housing area (Aggie Village), which includes 21 single-family units (17 of which have cottages) and 16 duplexes. The 2003 LRDP plans to provide an additional 500 faculty and staff housing units within the west campus neighborhood through 2015-16.

Project Site

No housing is located or planned on or adjacent to the project site. The proposed project would not result in any increase to the campus student or employee population.

7.12.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers an impact related to population and housing significant if growth under the 2003 LRDP would:

- Directly induce substantial population growth in the area by proposing new housing and employment.
- Create a demand for housing that could not be accommodated by local jurisdictions.
- Induce substantial population growth in an area indirectly (for example, through extension of roads or other infrastructure).

Additional standards from the CEQA Guidelines’ Environmental Checklist (“b” and “c” in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

7.12.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to population and housing are evaluated in Section 4.11 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the

proposed project is within the scope of analysis in the 2003 LRDP EIR. The project would not contribute to population impacts identified in the 2003 LRDP EIR.

7.12.4 Environmental Checklist and Discussion

POPULATION & HOUSING	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a demand for housing that cannot be accommodated by local jurisdictions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The proposed project would result in no increase to the campus population. No impact would occur.
- b) The proposed project would not displace any existing housing. Therefore, no impact would occur.
- c) The proposed project would not displace substantial numbers of people. Therefore, no impact would occur.
- d) The 2003 LRDP EIR found that future housing in the region is anticipated to adequately accommodate population growth associated with the 2003 LRDP, including the proposed project, as well as other population growth in the region. Therefore, the 2003 LRDP EIR found that the potential for campus growth to create a demand for housing that could not be accommodated by local jurisdictions is a less than significant impact.

Summary

The 2003 LRDP EIR did not identify any mitigation measures to reduce the significance of impacts associated with population and housing. The proposed project would not exceed the levels of significance of population and housing impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant population and housing impacts that were not previously addressed.

7.13 PUBLIC SERVICES

7.13.1 Background

Section 4.12 of the 2003 LRDP EIR addresses the public services effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.13 of the 2003 LRDP EIR.

In accordance with the CEQA Guidelines, this Public Services analysis evaluates the environmental effects associated with any physical changes required to meet increases in demand for public services, including police, fire protection, schools, and libraries. Project-level public services impacts are addressed by evaluating the effects of on-campus population growth on public services that directly serve the on-campus population (primarily UC Davis services). Cumulative public services impacts are addressed by evaluating the effects of off-campus population growth on the public services in the Cities of Davis, Dixon, Winters, and Woodland.

UC Davis provides most public services needed on campus, including fire protection, police protection, and library services. The Davis Joint Unified School District (DJUSD) serves the City of Davis and portions of Yolo and Solano counties. These services are discussed further below:

- **Fire Protection:** The UC Davis Fire Department provides primary fire response and prevention, natural disaster response, hazardous materials incident response, and emergency medical service to the main campus. The fire department’s goal is to respond to 90 percent of campus emergency calls within 6 minutes (UC Davis Fire Department 2003). As of 2003, the UC Davis Fire Department achieves its stated standard of response (Chandler 2003).
- **Police:** In 2001-02, the UC Davis Police Department employed approximately 32 sworn officers to provide 24-hour service to the main campus and facilities owned and leased by UC Davis in the City of Davis, a service area including a campus population of approximately 36,445 people (including UC and non-UC employees, students, and dependents living in on-campus housing) (Chang 2001). Although the campus does not currently rely on any level of service standards, the Police Department has indicated that it would like to reach and maintain 1 sworn officer on the main campus per 1,000 members of the campus population. In 2001-02, the campus was just under this level, with approximately 0.9 sworn officers per 1,000 members of the campus population.
- **Schools:** In 2001-02 a total of approximately 8,677 students were enrolled in the DJUSD’s nine elementary schools, two junior high schools, one high school, one continuation high school, and one independent study program. The DJUSD estimates student enrollment based on a rate of 0.69 student per single-family residential unit and 0.44 student per multi-family residential unit in its service area.
- **Libraries:** UC Davis currently has four main libraries, distributed among the academic centers of the central campus, which serve students, faculty, staff, and the general public, including: Shields Library (the main campus library located centrally on the core campus), the Carlson Health Sciences Library, the Law Library, and the Physical Sciences and Engineering Library.

Project Site

The project site is currently the UC Davis Equestrian Center and receives public services from the UC Davis Fire Department and Police Department.

7.13.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a public services impact significant if growth under the 2003 LRDP would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.

Effects associated with recreation services are evaluated in Section 7.14 Recreation, and effects associated with the capacity of the domestic fire water system to provide adequate fire protection are evaluated in Section 7.16 Utilities.

7.13.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on public services are evaluated in Section 4.12 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. The project would not contribute to public service impacts identified in the 2003 LRDP EIR.

7.13.4 Environmental Checklist and Discussion

PUBLIC SERVICES	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a, i&ii) UC Davis Fire and Police Protection

The proposed project is in the southwest corner of the central campus and is accessed by Garrod Drive. The proposed project would not increase the campus population and is not expected to increase the demand for police or fire service at the Equestrian Center. No impact would occur.

a, iii) Schools

The project would not result in increased population and would not increase the number of school-age dependents. No impact would occur.

a, iv) Effects associated with parks are evaluated in Section 7.14 Recreation.

a, v) **Libraries**

The proposed project would not contribute to demand for library services because no increase to the campus population is expected. No impact would occur.

Summary

No LRDP EIR Mitigation Measures related to public services from the 2003 LRDP EIR are relevant to the proposed project. The proposed project would not exceed the levels of significance of public service impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant public service impacts that were not previously addressed.

7.14 RECREATION

7.14.1 Background

Section 4.13 of the 2003 LRDP EIR addresses the environmental effects associated with modifying recreational resources to meet campus growth under the 2003 LRDP. The following discussion summarizes information presented in the 'Setting' subsection of Section 4.13 of the 2003 LRDP EIR.

UC Davis contains many park-like areas and recreation facilities. Park facilities at UC Davis range in size from small picnic and landscaped areas within campus housing areas to extensively landscaped areas in the academic core of the central campus, such as the Arboretum. Areas such as the Quad, the landscaped areas along A Street and Russell Boulevard, the Putah Creek Riparian Reserve in the west campus, and many areas within the Arboretum are used regularly by members of the UC Davis campus and visitors to the campus.

Recreation facilities on the campus include structures, bike paths, and fields used for physical education, intercollegiate athletics, intramural sports, sports clubs, and general recreation. Recreation structures include Hickey Gym, The UC Davis Pavilion, the Recreation Swimming Pool, the Activities and Recreation Center and the Schaal Aquatic Center. The general public may purchase privilege cards to use some campus recreation facilities, or may join community or campus organizations that have access to some facilities.

Project Site

The project site is currently the UC Davis Equestrian Center and the proposed project would continue the use of the site for recreational purposes.

7.14.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a recreation impact significant if growth under the 2003 LRDP would:

- Increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Propose the construction of recreation facilities or require the expansion of recreation facilities, which might have an adverse physical effect on the environment.

7.14.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 associated with recreation are evaluated in Section 4.13 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. The project would not contribute to recreation impacts identified in the 2003 LRDP EIR.

7.14.4 Environmental Checklist and Discussion

RECREATION	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) The proposed project would not increase the campus population. No impact would occur.

The 2003 LRDP EIR found that increased population at UC Davis under the 2003 LRDP, including the population growth associated with the proposed project, is expected to result in increased demand for and usage of campus recreation facilities. However, to counteract the effects of increased usage, it is campus practice to increase maintenance levels of recreation facilities in response to increases in demand. In addition, the 2003 LRDP designates approximately 18 acres of land west of SR 113 for future recreation fields. The 2003 LRDP also designates land for greenbelts to the west of State Route 113, expansion of the campus Arboretum, expansion of the Putah Creek Riparian Reserve, and enhanced formal open space (garden walks and formal courtyards) within the central campus. The construction of new facilities would take place when warranted by increased demand and when financially feasible. The campus practice of increasing maintenance activities and the planned construction of new facilities would prevent the deterioration of existing recreation facilities, resulting in a less than significant impact.

The 2003 LRDP EIR found that implementation of the 2003 LRDP, together with other regional growth, could result in the development of parks and recreation facilities off-campus that could result in significant environmental impacts (Impact 4.13-2). Depending on the site, development of new parks and recreation facilities in the cities of Dixon, Winters, and Woodland could result in impacts such as loss of prime farmland or valuable habitat. However, environmental impacts are too speculative to determine at this time. In compliance with LRDP Mitigation 4.13-2, the campus would negotiate with respective jurisdictions to determine the University's fair share of costs for feasible mitigation to reduce associated significant environmental impacts, if any. Due to the speculative nature of this cumulative impact, it is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- b) The proposed project is primarily improvements to recreational facilities. This document as a whole, considers its physical effects and concludes that the 2003 LRDP EIR and the Findings and Statement of Overriding Considerations adopted by The Regents in connections with approval of the 2003 LRDP adequately analyze and address and any significant environmental impacts.

Summary

No LRDP EIR Mitigation Measures related to recreation from the 2003 LRDP EIR are relevant to the proposed project. The proposed project would not exceed the levels of significance of recreation impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant recreation impacts that were not previously addressed.

7.15 TRANSPORTATION, CIRCULATION, & PARKING

7.15.1 Background

Section 4.14 of the 2003 LRDP EIR addresses the transportation, circulation, and parking effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the 'Setting' subsection of Section 4.14 of the 2003 LRDP EIR.

Campus

UC Davis is served by six main campus roadways or "gateways" that connect the campus to residential and downtown areas in the City of Davis, and two gateways that provide direct access to regional freeways (I-80 and SR 113). Circulation within the central campus is accommodated primarily by the campus "loop" roadway system, which includes Russell Boulevard, A Street, New and Old Davis Road, California Avenue, and La Rue Road. Other roadways within the core campus area are restricted to transit and emergency vehicles, bicyclists, and pedestrians. Primary vehicular access to the south campus is provided by Old Davis Road, to the west campus by Hutchison Drive, and to Russell Ranch by Russell Boulevard.

Level of service (LOS) is a general measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned to roadway intersections. These grades represent the comfort and convenience associated with driving from the driver's perspective. To assess the worst-case traffic conditions, LOS is measured during morning (7 to 9 AM) and afternoon (4 to 6 PM) peak commute times. The LOS of campus roadways varies. Monitoring of campus intersections during peak hours in Fall 2001 and Fall 2002 found that the Hutchison Drive/Health Sciences Drive intersection (with LOS E during the PM peak hour) was the only study intersection to operate below the campus' operation standard (standards are identified in the following section). The campus is planning on installing a traffic signal at this intersection by fall 2006.

Bicycles are a major component of the transportation system at UC Davis and in the City of Davis. UC Davis has an extensive system of bicycle paths, which makes bicycles a popular form of travel on campus. The UC Davis Bicycle Plan (UC Davis 2002) estimates that 15,000 to 18,000 bicycles travel to the campus on a typical weekday during the Fall and Spring sessions when the weather is good.

Parking at UC Davis is provided by a combination of surface lots and parking structures. UC Davis Transportation and Parking Services (TAPS) oversees parking services on campus including selling parking passes, providing traffic control at special events, ticketing violators, and measuring parking utilization throughout campus on a quarterly basis. Approximately 14,500 parking spaces were provided on campus as of 2001-02.

Project Site

The Equestrian Center is accessed from La Rue Road to Garrod Drive and then to a narrow driveway of approximately 1,200 feet that leads to the Equestrian Center parking areas. Small distributed parking areas throughout the Equestrian Center provide sufficient parking for vehicles and trailers.

7.15.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a transportation, circulation, and parking impact significant if growth under the 2003 LRDP would:

- Cause an increase in the traffic that may be substantial in relation to the existing roadway capacity of the street system as indicated by LOS standards for congestion at intersections.

The addition of project traffic causing a LOS change from acceptable to unacceptable would have a significant impact. The following LOS thresholds apply to the study intersections.

- LOS D is the minimum acceptable LOS for UC Davis.
- LOS E is the minimum acceptable LOS for the City of Davis. LOS F is acceptable for the City of Davis Core Area.
- LOS E is the minimum acceptable LOS for I-80 and its associated interchanges.
- LOS C is the minimum acceptable LOS for SR 113 and its associated interchanges.

In addition, the project would have a significant impact if the project adds 10 or more vehicles to the volume of a study intersection that is expected to operate unacceptably without the project. For intersections that operate unacceptably without the project, even a small amount of additional traffic could increase the delay. For this EIR, future volumes are rounded to the nearest 10; therefore, 10 vehicles is the minimum amount of traffic that could be added to an intersection already operating at an unacceptable level.

Increased intersection congestion would also be a significant impact if it would exceed a LOS standard established by the county congestion management agency (or any affected agency or jurisdiction) for designated roads or highways.

- LOS E is the minimum acceptable LOS for roadways and intersections in Solano County.
 - LOS E is the minimum acceptable LOS for I-80 and its associated interchanges between the Solano County limit and Olive Drive.
 - LOS E is the minimum acceptable LOS for SR 113 and its associated interchanges within the Davis city limits.
 - LOS E is the minimum acceptable LOS for Russell Boulevard between SR 113 and B Street.
 - ~ LOS E is the minimum acceptable LOS for Richards Boulevard between First Street and I-80.
 - ~ LOS E is the minimum acceptable LOS for First Street between B Street and Richards Boulevard.
 - ~ LOS E is the minimum acceptable LOS for B Street between First Street and 5th Street.
- Result in inadequate parking capacity.

For parking, a project would be considered to have a significant impact if it is expected to increase the winter utilization rate to over 90 percent on the central campus, Health Sciences District, and/or major facilities of the west and south campus without adequate time (usually 24 months) to implement a parking solution to campus construction standards.

- Conflict with applicable adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Impacts related to safety risks associated with the UC Davis airport and emergency access are discussed in Section 7.7 Hazards and Hazardous Materials. The 2003 LRDP would make only limited changes to the roadway network and would not create or increase hazards due to design features such as dangerous intersections.

7.15.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on traffic, circulation, and parking are evaluated in Section 4.14 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. The project would not contribute to traffic, circulation, and parking impacts identified in the 2003 LRDP EIR.

7.15.4 Environmental Checklist and Discussion

TRANSPORTATION, CIRCULATION, & PARKING	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with applicable adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a,b) The proposed project would have result in no increase to the campus population and no increase in the activities at the Equestrian Center. The amount of automobile trips associated with the Equestrian Center is not expected to increase. No impact would occur.
- c) Impacts related to safety risks associated with the UC Davis airport are discussed in Section 7.7, Hazards and Hazardous Materials.
- d) The proposed project would have no effect on roadways and would not create any hazardous design feature. No impact would occur.

- e) Impacts related to emergency access are discussed in Section 7.7, Hazards and Hazardous Materials.
- f) The proposed project would have no effect on parking demand. No impact would occur.
- g) The proposed project would have no effect on demand for transit services. No impact would occur.

Summary

No LRDP EIR Mitigation Measures related to transportation, circulation, and parking from the 2003 LRDP EIR are relevant to the proposed project. The proposed project would not exceed the levels of significance of transportation, circulation, and parking impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant impacts that were not previously addressed.

7.16 UTILITIES & SERVICE SYSTEMS

7.16.1 Background

Section 4.15 of the 2003 LRDP EIR addresses the effects of campus growth on utility systems under the 2003 LRDP. The campus provides the following utility and service systems to campus projects:

- Domestic/Fire Water
- Utility Water
- Agricultural Water
- Storm Drainage
- Wastewater
- Solid Waste
- Chilled Water
- Steam
- Electricity
- Natural Gas
- Telecommunications

The campus is required to comply with a UC-wide green building policy and clean energy standard. The policy encourages principles of energy efficiency and sustainability in the planning, financing, design, construction, renewal, maintenance, operation, space management, facilities utilization, and decommissioning of facilities and infrastructure to the extent possible, consistent with budgetary constraints and regulatory and programmatic requirements. In addition, the policy aims to minimize increased use of non-renewable energy by encouraging programs addressing energy efficiency, local renewable power and green power purchases from the electrical grid (UC Office of the President 2003).

Project Site

The proposed project would use campus utilities and service systems including: wastewater, storm drainage, and electricity. These utilities and service systems are discussed below:

- **Wastewater:** UC Davis operates a campus wastewater conveyance and treatment system that is independent from regional facilities. The campus Wastewater Treatment Plant (WWTP) is located in the south campus, and treated effluent from the plant discharges to Putah Creek. The peak month capacity of the campus WWTP, as regulated under the existing NPDES permit issued by the CVRWQCB, is 2.7 mgd. Since the current WWTP began operation in March 2000, the maximum monthly flow has been 2.2 mgd. Maximum flow in 2001-02 was 1.6 mgd. The proposed project would connect to the campus wastewater system by connecting a two-inch force main to the existing sewer main located in Old Davis Road approximately 600 feet north of Interstate 80.
- **Storm Drainage:** The central campus and developed parts of the west and south campuses are served by campus storm water drainage systems. The central campus drainage system involves a system of underground pipes that drain to the Arboretum Waterway (providing the only major detention storage in the system), from which storm water it is pumped to the South Fork of Putah Creek during large storm events. The proposed project would construct a new component to the campus stormwater system to capture stormwater runoff from confined animal spaces within the Equestrian Center. The water would be conveyed in an underground pipe to a stormwater detention pond at the southwest corner of the Equestrian Center site. Water from the detention pond would be pumped into a two-inch pressurized force main and sent to the proposed connection point with the campus wastewater treatment system described above.
- **Electricity:** The main campus currently receives electricity from PG&E at the campus substation located south of I-80 and from an approximately 2.7 MW cogeneration plant located on the core campus in the CHCP facility. The campus electrical system has an

available capacity of 64.4 megawatts (MW). Annual electrical usage on campus in 2001-02 was approximately 200 million kilowatt-hours (KWh) per year and peak demand was approximately 34,000 KW. The proposed project would connect to the campus electrical system approximately 200 feet north of the proposed stormwater detention pond.

7.16.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a utilities and service systems impact significant if growth under the 2003 LRDP would:

- Exceed the Central Valley Regional Water Quality Control Board's wastewater treatment requirements.
- Require or result in the construction or expansion of water or wastewater treatment facilities, which would cause significant environmental effects.
- Require or result in the construction or expansion of storm water drainage facilities, which could cause significant environmental effects.
- Result in the need for new or expanded water supply entitlements.
- Exceed available wastewater treatment capacity.
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Fail to comply with applicable federal, state, and local statutes and regulations related to solid waste.
- Require or result in the construction or expansion of electrical, natural gas, chilled water, or steam facilities, which would cause significant environmental impacts.
- Require or result in the construction or expansion of telecommunication facilities, which would cause significant environmental impacts.

7.16.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on utilities and service systems are evaluated in Section 4.15 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant utilities and service systems impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. In addition, impacts 4.15-3, 4.15-4, and 4.15-6, presented below, are considered less than significant prior to mitigation, but mitigation measures were identified in the 2003 LRDP EIR to further reduce the significance of these impacts. Less than significant impacts that do not include mitigation are not presented here. A mitigation measure is included to reduce the magnitude of cumulative impact 4.15-10, but this impact is identified as significant and unavoidable because it cannot be fully mitigated.

2003 LRDP EIR Impacts UTILITIES & SERVICE SYSTEMS		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
4.15-3	Implementation of the 2003 LRDP would require the expansion of wastewater treatment and conveyance facilities, the construction and operation of which would not result in significant environmental impacts.	LS	LS
4.15-4	Implementation of the 2003 LRDP would require the expansion of campus storm drainage conveyance and detention facilities, which would not result in significant environmental impacts.	LS	LS
4.15-6	Implementation of the 2003 LRDP would require the expansion of the campus electrical system, which would not result in significant adverse environmental impacts.	LS	LS

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

2003 LRDP EIR Mitigation Measures UTILITIES & SERVICE SYSTEMS	
4.15-3	Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the sanitary sewer line at the point of connection is adequate. If the capacity of the sewer line is determined inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation.
4.15-4	Once preliminary project design is developed, the campus shall review each project to determine whether existing storm drainage system is adequate at the point of connection. If the storm drainage system is determined inadequate, the campus will upgrade the system to provide adequate storm water drainage and/or detention prior to occupation or operation.
4.15-6(a)	Once preliminary project design is developed, the campus shall review each project to determine whether the existing electrical system is adequate at the point of connection. If the electrical system is determined inadequate, the campus will upgrade the system to provide adequate service to the project prior to occupation or operation.

7.16.4 Environmental Checklist and Discussion

UTILITIES & SERVICE SYSTEMS		Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...						
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers' existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Require or result in the construction or expansion of electrical, natural gas, chilled water, or steam facilities, which would cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Require or result in the construction or expansion of telecommunication facilities, which would cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) The proposed project would contribute wastewater to the campus WWTP only during wet weather. Contributions from the proposed project would be metered by the pumping capacity at the stormwater detention basin and would result in a minimal increase (approximately 25 gallons per minute which could reach 36,000 gallons per day during a large storm event) to the campus WWTP. The permitted peak monthly average capacity of the campus WWTP is currently 2.7 mgd, and growth under the 2003 LRDP, including the proposed project, is anticipated to increase the volume of discharge to 3.8 mgd through 2015-16. A project to expand the capacity of the WWTP to 3.8 mgd was approved in November 2005. As discussed further in item "a,f" in Section 7.8, Hydrology and Water Quality, with continuation of current practices, implementation of 2003 LRDP EIR mitigation measures and expansion of the WWTP, the campus anticipates meeting the WWTP's permit requirements. Therefore, the impact associated with possible exceedances of WWTP requirements would be less than significant.

b) Domestic Water Facilities

The project would not require any changes to the domestic water supply. No impact would occur.

Utility Water Facilities

The project would not require utility water supply. No impact would occur.

Wastewater Facilities

The project contribute up to 36,000 gallons per day to the campus WWTP during wet weather and would connect to the system approximately 600 feet north of Interstate 80. The 2003 LRDP EIR identified that implementation of the 2003 LRDP, including the proposed project, would require the expansion of campus wastewater treatment and conveyance facilities, the construction

and operation of which would not result in significant environmental impacts (Impact 4.15-3). Future expansion of the existing WWTP and installation of new sanitary sewer conveyance lines would primarily occur on previously disturbed ground. In addition, the campus would survey the site before construction and perform monitoring during construction (in compliance with 2003 LRDP Mitigations 4.4-1 and 4.5-1) to avoid inadvertent biological and cultural resource impacts. Therefore, this impact would be less than significant. LRDP Mitigation 4.15-3, included in the proposed project, would further reduce the significance of this impact by ensuring the campus practice of reviewing projects to determine if there is adequate capacity to provide sanitary sewer service, and to upgrade the system as necessary. Because the proposed project would not contribute to regional population growth, the project would have no effect on the expansion of wastewater treatment facilities in other jurisdictions.

- c) The proposed project would provide increased storm drainage service to the Equestrian Center site and would reduce the stormwater flows from the Equestrian Center site to the campus storm drainage system in the Arboretum Waterway. The project would route a portion of the Equestrian Center storm drainage water to the campus WWTP as described above. No impact would occur to the campus storm drainage system.
- d) The project would require no domestic/fire water from the deep aquifer and no utility water from the shallow/intermediate aquifer. No impact would occur.
- e) The campus' WWTP would provide wastewater treatment for the proposed project. As discussed in item (b) above, LRDP Mitigation 4.15-3, included in the proposed project, would ensure the campus practice of reviewing projects to determine if there is adequate capacity to provide sanitary sewer service, and to upgrade the system as necessary. The proposed project is consistent with current projections for sanitary sewer capacity. Therefore, this impact would be less than significant.
- f) The project would require no additional service from the campus landfill. No impact would occur.
- g) The proposed project would comply with all applicable statutes and regulations related to solid waste. Therefore, no impact would occur.
- h) The proposed project would utilize no natural gas, chilled water, or steam service. The project would require electricity service for the storm drain pump at the detention pond and electricity service to the proposed arena building. In accordance with LRDP Mitigation 4.15-6, the demand for electricity service would be met by electrical transformers located at the Equestrian Center and no expansion of the campus electrical system would be required to serve the proposed project.
- i) The project would require no additional service for telecommunications. No impact would occur.

Summary

Mitigation measures 4.15-3, 4.15-4, and 4.15-6(a) from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of utility and service system impacts to the extent feasible. The proposed project would not exceed the levels of significance of utility and service system impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant impacts that were not previously addressed.

7.17 MANDATORY FINDINGS OF SIGNIFICANCE

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) The proposed project would not significantly affect fish or wildlife habitat, nor would it eliminate examples of California history or prehistory. Cumulative regional impacts could be significant, but mitigation measures to reduce these potentially significant impacts to less-than-significant levels are not available or are not within the jurisdiction of the University of California to enforce and monitor. These impacts were adequately analyzed in the 2003 LRDP EIR and fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.
- b,c) The proposed project would not contribute to significant unavoidable impacts identified in the 2003 LRDP EIR related to: aesthetics, agricultural resources, cultural resources, geology and soils, hazards and hazardous materials, noise, population and housing, public services, recreation, and transportation/circulation. It would incrementally contribute to, but would not exceed, significant and unavoidable impacts related to: air quality, biological resources, hydrology and water quality, and utilities and service systems. These impacts were adequately analyzed in the 2003 LRDP EIR and fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

8 FISH & GAME DETERMINATION

Based on the information presented in this Tiered Initial Study, the project has a potential to adversely affect wildlife or the habitat upon which wildlife depend. Therefore, a filing fee will be paid.

Certificate of Fee Exemption

Pay Fee

9 REFERENCES

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APPENDIX A
PROPOSED NEGATIVE DECLARATION

PROPOSED NEGATIVE DECLARATION

Lead Agency: University of California

Project Proponent: University of California, Davis

Project Location: Yolo County, North of Interstate 80 and East of State Route 113.

Project Description: The proposed Equestrian Center Improvement project would upgrade the existing UC Davis Equestrian Center by providing:

- A covered arena of approximately 45,000 gross square feet (gsf),
- Stormwater drains, concrete curbing to divert water, a stormwater detention basin, and associated land grading to capture stormwater runoff from the existing equestrian confined animal facilities and transport the runoff to the campus wastewater treatment system, and,
- Replacement of existing pens, fences, and small ancillary structures that are in a deteriorated condition at the Equestrian Center.

The project would take place on approximately 25 acres of land currently used by the UC Davis Equestrian Center in the southwest portion of the UC Davis Central Campus adjacent to the junction of Interstate 80 and State Route 113. The proposed arena would provide the Equestrian Center an all-weather practice and teaching facility. The drainage improvements would improve the water quality of stormwater runoff. The replacement of existing ancillary facilities is needed to overcome deteriorated conditions caused by normal wear and tear and by deferred maintenance.

Reference: This Proposed Negative Declaration incorporates by reference in their entirety the text of the Tiered Initial Study prepared for the project, the 2003 LRDP, and the 2003 LRDP EIR.

Determination: In accordance with CEQA, a Draft Tiered Initial Study has been prepared by UC Davis that evaluates the environmental effects of the proposed project. On the basis of the project's Draft Tiered Initial Study the campus found that the proposed project could not have a significant effect on the environment that has not been previously addressed in the 2003 LRDP EIR, and no new mitigation measures, other than those previously identified in the 2003 LRDP EIR, are required.

Public Review: In accordance with Section 15073 of the CEQA Guidelines, the Draft Tiered Initial Study for the project will be circulated for public and agency review from February 24 to March 27. Comments received during the review period and responses to these comments will be presented in the final Tiered Initial Study.