CALIFORNIA NATIONAL PRIMATE RESEARCH CENTER
FACILITY UPGRADE PROJECT

Tiered Initial Study
•
Negative Declaration

STATE CLEARINGHOUSE NO. 2003032094

PREPARED BY:

OFFICE OF RESOURCE MANAGEMENT AND PLANNING

University of California
One Shields Avenue
376 Mrak Hall
Davis, California 95616

April 2003

CONTACT: A. SIDNEY ENGLAND
DIRECTOR OF ENVIRONMENTAL PLANNING
(530) 752-2432
Tiered Initial Study
Negative Declaration

Prepared for
Office of Resource Management and Planning
376 Mrak Hall
University of California
One Shields Avenue
Davis, California 95616

April 2003

URS Corporation
500 12th Street
Oakland, California 94607
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UNIVERSITY OF CALIFORNIA       April 21, 2003

CAMPUS: DAVIS

I. PROJECT INFORMATION

1. Project title: CNPRC Facility Upgrade Project

2. Project location: University of California, Davis, Yolo County

3. Lead agency name and address:
   Office of Resource Management and Planning
   University of California
   One Shields Avenue
   Davis, CA 95616

4. Project sponsor’s name and address: Same as Item 3 above

5. Contact person and phone number:
   A. Sidney England, Director of Environmental Planning
   (530) 752-2432

6. Location of the administrative record for this project: See Item 3 above

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

   This environmental analysis is tiered from the 1994 Long Range Development Plan (LRDP) Environmental Impact Report (EIR) (State Clearinghouse No. 94022005), as updated and revised by a number of subsequent documents (listed below). These documents are available for review during normal operating hours at the UC Davis Office of Resource Management and Planning, 376 Mrak Hall on the UC Davis campus; at Reserves in Shields Library on the UC Davis campus; at the Yolo County Public Library, 315 E. 14th Street, Davis; at the Vacaville Public Library, 1020 Ulatis Drive, Vacaville; and online at http://www.ormp.ucdavis.edu/environreview/ (technical appendices are not available online). Hereafter, reference to the 1994 LRDP EIR includes the 1994 LRDP EIR as revised by the documents listed below.

   Revisions to the 1994 LRDP EIR identified in subsequent environmental review documents are summarized in the list below. Appendix A of this Tiered Initial Study includes further information about the changes to the 1994 LRDP and LRDP EIR since original publication.
• Wastewater Treatment Plant (WWTP) Replacement Project EIR (State Clearinghouse Nos. 95123027 and 96072024):
  
  • Updated 1994 LRDP EIR analysis to reflect changes to land use designations presented in the 1994 LRDP (Section 4.6 of the WWTP Replacement Project Draft EIR).
  
  • Identified the loss of an additional 20 acres of prime agricultural land and ruderal/annual grassland habitat over the amount identified in the 1994 LRDP EIR analysis and increased the magnitude of land use and biological resource impacts associated with this loss (Sections 4.4 and 4.6 of the WWTP Replacement Project Draft EIR, and Appendix G of the Final EIR).
  
  • Reevaluated cumulative 1994 LRDP EIR Hydrology and Water Quality, Hazardous Materials and Public Safety, and Air Quality impacts (Sections 4.1, 4.3, and 4.3 of the Draft EIR).
  
• 1997-98 Major Capital Improvement Projects Supplemental EIR (SEIR) (State Clearinghouse No. 97122016):
  
  • Updated 1994 LRDP EIR analysis to reflect changes to land use designations presented in the 1994 LRDP (Sections 5.3, 6.3, and 7.3 of the Draft SEIR).
  
  • Identified the loss of an additional 20 acres of prime agricultural land and 31 acres of ruderal/annual grassland habitat over the amount identified in the 1994 LRDP EIR. To mitigate this loss, identified measure to redesignate 20 acres of prime farmland and ruderal/annual grassland habitat at the Russell Ranch from land designated as Academic and Administrative Low Density to Teaching and Research Fields (Sections 5.3, 5.5, 6.3, 6.5, 7.3, and 7.5 of the Draft SEIR).
  
  • Identified the loss of 11 acres of ruderal/annual grassland habitat over the amount identified in the 1994 LRDP EIR analysis and increased the magnitude of biological resource impacts associated with this loss (Appendix A of the Final SEIR).
  
  • Included project-specific mitigation measure to reduce the magnitude, but not the level of significance, of the cumulative impact on burrowing owl nesting habitat (Section 2 of the Draft SEIR).
  
  • Included updated transportation and circulation analysis to assess a new traffic survey and the decision by the City of Davis not to expand the Richards Boulevard undercrossing from two to four lanes. Revised 1994 LRDP EIR transportation Mitigation Measure 4.3-1 (b) to account for the new traffic information (Section 8 of the Draft SEIR).
  
  • Reevaluated cumulative air quality and noise impacts (Section 8 of the Draft SEIR).
• Center for the Arts Performance Hall and South Entry Roadway and Parking Improvements Tiered Initial Study and Mitigated Negative Declaration (State Clearinghouse No. 98092016):

- Updated 1994 LRDP EIR analysis to reflect changes to land use designations presented in the 1994 LRDP (page 29 of the Initial Study).

- Identified the loss of 8.5 acres of prime farmland and ruderal/annual grassland habitat over the amount assessed in the 1994 LRDP EIR. To mitigate this loss, identified measure to redesignate 8.5 acres of prime farmland and ruderal/annual grassland habitat designated as Support to Teaching and Research Fields (pages 29-30 and 60 of the Initial Study).

• USDA Western Human Nutrition Research Complex Tiered Initial Study and Mitigated Negative Declaration (State Clearinghouse No. 99092060):

- Updated the 1994 LRDP EIR analysis to reflect changes to land use designations presented in the 1994 LRDP (pages 45-46 of the Initial Study).

- Revised a project-specific mitigation measure presented in the 1997-98 Major Capital Improvement Projects SEIR that reduced the magnitude, but not the level of significance, of the cumulative impact on burrowing owl nesting habitat (page 65 of the Initial Study).

• Veterinary Medicine Laboratory and Equine Athletic Performance Laboratory Facilities Focused Tiered EIR (State Clearinghouse No. 2000022057):

- Further updated the 1994 LRDP EIR cumulative transportation and circulation impact analysis to account for more accurate estimates of campus population growth in the Health Sciences District. The updated analysis identified that the intersection of Hutchison Drive and Health Sciences Drive would exceed level of service standards. Included a mitigation measure to reduce the impact at this intersection to a less-than-significant level (Section 3 of the Final EIR).

• Segundo Housing Improvement Projects Tiered Initial Study and Mitigated Negative Declaration (State Clearinghouse No. 2001092063):

- Updated the 1994 LRDP EIR analysis to reflect changes to the land use designations presented in the 1994 LRDP (pages 33 to 35 of the Initial Study).

• Conference Center, Hotel, and Graduate School of Management Building Focused Tiered EIR (State Clearinghouse No. 2001082067):

- Updated the 1994 LRDP EIR analysis to reflect changes to the land use designations presented in the 1994 LRDP (Appendix A of the Final EIR).

• West Entry Parking Structure and Office Building Project Initial Study and Mitigated Negative Declaration (State Clearinghouse No. 2002102083):

- Updated the 1994 LRDP EIR analysis to reflect changes to the land use designations presented in the 1994 LRDP (pages 33-34 of the Initial Study).
II. ENVIRONMENTAL REVIEW AND APPROVAL

INTRODUCTION

This environmental analysis is a Tiered Initial Study for the proposed UC Davis California National Primate Research Center (CNPRC) Facility Upgrade Project. Note that the CNPRC formerly was known as the California Regional Primate Research Center (CRPRC). The environmental analysis for the proposed project is tiered from the UC Davis 1994 LRDP EIR in accordance with Sections 15152 and 15168 of the California Environmental Quality Act (CEQA) Guidelines and Public Resources Code Section 21094. The 1994 LRDP EIR is a Program EIR, prepared pursuant to Section 15168 of the CEQA Guidelines (Title 14, California Code of Regulations, Sections 15000 et seq.). The 1994 LRDP EIR analyzed full implementation of uses and physical development proposed under the 1994 LRDP through the year 2005-06 and identified measures to mitigate the significant adverse project and cumulative impacts associated with that growth.

The CEQA concept of "tiering" refers to the coverage of general environmental matters in broad program-level EIRs, with subsequent focused environmental documents for individual projects that implement the program. This environmental document incorporates by reference the discussions in the 1994 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 15152(d) and 15168(d) of the State CEQA Guidelines provide for simplifying the task of preparing environmental documents on later parts of the program by incorporating by reference factors 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.

Accordingly, the tiering of the environmental analysis for the proposed project allows this Tiered Initial Study to rely on the 1994 LRDP EIR for the following:

- a discussion of general background and setting information for environmental topic areas;

- overall growth-related issues through 2005-06;

- issues that were evaluated in sufficient detail in the 1994 LRDP EIR for which there is no significant new information or change in circumstances that would require further analysis; and

- cumulative impacts assessment.

The purpose of this Tiered Initial Study is to evaluate the potential environmental impacts of the project with respect to the 1994 LRDP EIR to determine what level of additional environmental review, if any, is
appropriate. Based on the analysis contained in this Tiered Initial Study, one of the following determinations will be made:

- the project is exempt from CEQA;
- the project incrementally contributes to, but does not exceed, environmental impacts previously identified in the 1994 LRDP EIR, no additional mitigation measures are required, and preparation of Findings consistent with this determination is appropriate;
- the project would result in new impacts that were not previously identified in the 1994 LRDP EIR, but there is no substantial evidence that such new impacts may have a significant effect on the environment and preparation of a Negative Declaration is appropriate;
- the project would result in new potentially significant impacts that were not previously identified in the 1994 LRDP EIR, but proposed project-specific mitigation measures would reduce such impacts to a point where clearly no significant effects would occur and there is no substantial evidence that the project as mitigated may have a significant effect on the environment, and preparation of a Mitigated Negative Declaration is appropriate; or
- the project would result in new significant environmental impacts not previously identified in the LRDP EIR, and preparation of a tiered EIR is appropriate.

Mitigation measures identified in the 1994 LRDP EIR that apply to the proposed project will be required to be implemented as part of the project.

The CRPRC Improvement Projects Tiered Focused EIR (SCH. No. 2000042075, certified in December 2001) analyzed the potential impacts of construction of several new projects at what is now the CNPRC. The proposed project would upgrade the CNPRC with the addition of several modular buildings and replacement of one temporary building within the same facility. The CRPRC Improvement Projects Tiered Focused EIR identified measures to mitigate significant impacts of the development of the improvement projects. Although the CRPRC Improvement Projects were much more substantial in scope that the current project, some of the analysis presented in the EIR for that project also is relevant to the current project, and is incorporated by reference.

SCOPE OF THE PROPOSED INITIAL STUDY

Based on the analysis presented 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 a less-than-significant level through implementation of 1994 LRDP EIR mitigation measures or are not sufficiently addressed by the 1994 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 incorporation of 1994 LRDP EIR; or contribute to a significant unavoidable impact that was adequately analyzed in the 1994 LRDP EIR for which no new mitigation measures are available and no new analysis is proposed. The preparation of a Negative Declaration is appropriate (the Negative Declaration is presented in Appendix B).
Since none of the conditions described in CEQA or the CEQA Guidelines calling for preparation of a subsequent EIR have occurred, this Tiered Initial Study includes only minor technical changes or additions to the analysis set forth in the 1994 LRDP EIR. The analysis presented in this document does not raise important new issues about the significant effects on the environment analyzed in the 1994 LRDP EIR.

PUBLIC AND AGENCY REVIEW

Public and agency comments on the Draft Tiered Initial Study and Proposed Draft Negative Declaration were accepted from March 20, 2003 to April 18, 2003. Copies of the Tiered Initial Study available during normal operating hours at the UC Davis Office of Resource Management and Planning, 376 Mrak Hall on the UC Davis campus; at Reserves in Shields Library on the UC Davis campus; at the Yolo County Public Library, 315 E. 14th Street, Davis; at the Vacaville Public Library, 1020 Ulatis Drive, Vacaville; and online at www.ormp.ucdavis.edu/environreview/. Copies of the 1994 LRDP, 1994 LRDP EIR, WWTP Replacement Project EIR, 1997-98 Major Capital Improvement Projects SEIR; Center for the Arts Tiered Initial Study and Mitigated Negative Declaration; USDA Western Human Nutrition Research Center Tiered Initial Study and Mitigated Negative Declaration; Veterinary Medicine Laboratory and Equine Athletic Performance Laboratory Facility Tiered EIR; the Segundo Housing Improvement Projects Tiered Initial Study and Mitigated Negative Declaration; the Conference Center, Hotel, and Graduate School of Management Building Focused Tiered EIR; and the West Entry Parking Structure Tiered Initial Study are also available at these locations.

No comments were received during the comment period. Comments on the Draft Tiered Initial Study were to be e-mailed to environreview@ucdavis.edu or sent to:

A. Sidney England
Office of Resource Management and Planning
University of California
One Shields Avenue
Davis, CA 95616

ORGANIZATION OF TIERED INITIAL STUDY

This Tiered Initial Study is organized into the following sections.

Section I – Project Information: provides summary background information about the proposed project, including project location, lead agency, and contact information, and about the 1994 LRDP.

Section II - Environmental Review And Approval: includes a summary of the scope of the Tiered Initial Study, public and agency review information, and an overview of the document's organization introduction.

Section III - Project Description: includes the description of the proposed project.

Section IV - Consistency with the 1994 LRDP: describes the consistency of the proposed project with the 1994 LRDP and 1994 LRDP EIR.
Section V – Environmental Factors Potentially Affected: identifies which environmental factors were determined to be affected by the project. No “Potentially Significant Impacts”, as indicated by the Tiered Environmental Checklist, were identified for the CNPRC Facility Upgrade Project.

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

Section VII - Evaluation of Environmental Impacts: contains the Tiered Environmental Checklist form. The Checklist form is used to assist in evaluating the potential environmental impacts of the proposed project with respect to the 1994 LRDP EIR. The Checklist form identifies potential project effects as follows: (1) new potentially significant project impacts that were not adequately analyzed in the 1994 LRDP EIR, or previously identified significant impacts for which new feasible mitigation measures are available; (2) new less-than-significant impacts with mitigation incorporated; (3) environmental impacts of the project that were adequately analyzed and mitigated in the 1994 LRDP EIR; (4) less-than-significant impacts, and (5) effects that would not result in any adverse environmental impact.

This section also contains an explanation of all checklist answers, and recommended mitigation measures.

Section VIII - References: lists materials used in the preparation of this report.

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

Section X - Report Preparers: lists the names of individuals involved in the preparation of this report.


Appendix B –Negative Declaration: presents the proposed Negative Declaration for the project.

Appendix C - Cumulative Impacts Analysis - Focus on Potential Environmental Effects Associated with Projected Student Enrollment Increases through 2014-15: presents an evaluation of currently anticipated campus growth through 2014-15 and associated potential cumulative environmental effects.
III. PROJECT DESCRIPTION

UC DAVIS

The 5,300 acre UC Davis campus (the 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, in general, is comprised of four campus units: the central campus, the south campus, the west campus, and Russell Ranch (see Figure 3-2, Regional and Local Setting, on page 3-5 of the 1994 LRDP Draft EIR). The “main campus” refers to the central, south, and west campus units, excluding Russell Ranch. Most of the academic and extracurricular activities occur within the central campus. The central campus is bounded approximately 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 1,590 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 acquired by the campus in 1990 and is intended for use in large-scale agricultural and environmental research and the study of sustainable agricultural practices. 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 on the west and northwest. In addition, UC Davis owns several buildings in Research Park, located in the City of Davis south of I-80.

PROJECT DESCRIPTION

The proposed project consists of four facility components, the construction and operation of which would upgrade the capabilities and functionality of the CNPRC. These include: (1) two 840-gsf modular freezer buildings for long-term storage of frozen research samples; (2) up to twenty 980-gsf modular buildings for indoor holding of CNPRC animals from the adjacent outdoor field corrals; (3) two 840-gsf modular buildings and one 1,150-gsf modular building that would be used for administrative and research office space; and (4) a new, one-story 7,433-gsf building for lab and work space to replace the existing 6,000 gsf Temporary Building 196 (TB 196), which would be demolished.

PROJECT SITE

The CNPRC is located in Yolo County on the west campus unit of UC Davis. The CNPRC is located at the west edge of the UC Davis Campus, west of the intersection of County Road (CR 98) and Hutchison Drive in Yolo County, and occupies approximately 120 acres. The proposed upgrades would be constructed on land that is designated in the 1994 UC Davis LRDP for use by the CNPRC and are within the footprint of the existing developed facilities at the CNPRC. Existing land use at the site includes buildings and cages used for laboratory research, housing and breeding of nonhuman primates. Surrounding the CNPRC are UC Davis teaching and research fields and the campus landfill.

Figure 1 shows the UC Davis campus location within the region. Figure 2 shows the location of the CNPRC facility on the campus.
BACKGROUND AND NEED FOR THE PROJECT

The CNPRC needs additional and upgraded workspace and animal accommodation space. The purpose and need for each project component are described in detail below.
Source: 1994 LRDP DEIR, Figure 3-2
**Freezer Modular Storage**
The CNPRC presently is operating with a shortage of freezer space for freezing and long-term storage of frozen research samples. Additional space is required because of the increasing need to maintain existing research samples and to provide long-term storage space for samples from future research project. Adequate freezer storage would help to minimize animal usage for future data verification and new analysis by preserving samples from completed research trials for later analysis or reanalysis. This would help reduce the use of new animals when reanalysis is needed to duplicate a completed trial. The two proposed freezer modules would provide the needed additional space. The proposed freezer modules would not increase the employment or the amount of research activity at the CNPRC, but would improve research efficiency.

**Animal Holding Modular Buildings**
The CNPRC needs new animal holding building modules for holding, rearing, and research space, to provide indoor housing for animals. The CNPRC animal population expands seasonally as young are born to animals residing in the CNPRC field corrals. In response to new research interests that increasingly require stricter control protocols than can be achieved with outdoor housing, the CNPRC is proposing the use of indoor animal holding for a certain percentage of the increased herd that would otherwise have been housed outdoors. The new holding facilities would permit the movement of immature animals born in outdoor field corrals to indoor animal holding buildings. No new animals would be introduced to the CNPRC as the result of animal holding modular building construction. The ultimate herd size at the facility is governed by the birth rate among mature animals housed in the field corrals. The field corrals (and the associated increased animal populations) were approved as part of the CRPRC Improvement Projects Draft Tiered Focused EIR (SCH. No. 2000042075), and are not part of the current project. Ten new employees would be needed at the CNPRC for the care of animals housed indoors in the new animal holding modules.

**Office Modular Buildings**
Existing office space at the CNPRC is overcrowded. Three new modular buildings would provide adequate office space for employees currently working at the CNPRC, as well as for the ten new employees needed for animal maintenance in the animal holding modules described above.

**Building Replacement for TB 196**
A new single-story building would replace and upgrade workspace presently provided by TB 196. The existing TB 196 building is in poor condition and is unsuitable for renovation. The new building would replace and upgrade research laboratory space, surgery support space, animal testing and animal housing space presently provided by TB 196.

**Project Objectives**
The campus identified the following objectives for the proposed project:

- Provide adequate freezer space for long term storage of frozen research samples.
- Provide indoor animal holding facilities to improve research quality and capabilities by allowing stricter research protocols than can be achieved with outdoor housing.
- Provide administrative and research office space to accommodate currently overcrowded office space.
• Provide high quality research space within a modern facility designed for strict research needs. Replace and utilize the existing site of TB 196 in order to efficiently utilize land within the existing CNPRC.

• Locate new and replacement CNPRC facilities adjacent to the existing operations and infrastructure of the CNPRC.

PROJECT ELEMENTS

Facility upgrades, within the existing footprint of the CNPRC, would cover a total of about 30,865 gross square feet (gsf). Construction of the various upgrades would require demolition of TB 196 and minor site preparation for each of the modular buildings. This would include minor site leveling, soil compaction, minor foundation work, and trenching for utilities. Modulares would then be brought to the site and connected to the foundation and utilities. Interior finishing and outfitting with cages (for the animal holding buildings) would be completed on-site. Site improvements would include sidewalks and minimal landscaping. Table 1 summarizes salient information about the project. Figure 3 shows the location of the proposed facilities within the CNPRC.
TABLE 1. PROJECT SUMMARY

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Number of Buildings /Facilities</th>
<th>Gross Square Feet (gsf)</th>
<th>Assignable Square Feet (asf)</th>
<th>Built Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freezer Modules</td>
<td>2</td>
<td>1,680</td>
<td>1,428</td>
<td>0.04</td>
</tr>
<tr>
<td>Animal Holding Modular Buildings</td>
<td>20</td>
<td>19,600</td>
<td>16,660</td>
<td>0.45</td>
</tr>
<tr>
<td>Office Modular Buildings</td>
<td>3</td>
<td>2,832</td>
<td>2,424</td>
<td>0.065</td>
</tr>
<tr>
<td>TB 196 Building Replacement</td>
<td>1</td>
<td>7,433(^1)</td>
<td>6,318</td>
<td>0.17</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>31,545(^1)</td>
<td>26,830</td>
<td></td>
</tr>
</tbody>
</table>

Total laboratory space included in the project: 1,170 gsf

Number of employees added as a result of the project: 10

Approximate new acreage of impervious surface: 1.0 acre

Source: UC Davis, ORMP, 2002\(^1\)

\(^1\) 6,000-gsf of existing space is to be demolished in TB 196; therefore, this project component results in only 1,433 gsf of additional space

Freezer Modules
Two prefabricated modular freezer buildings would be installed within the facility, each on a concrete foundation. Each building would measure 14-feet by 60-feet long, and cover 840 gross square feet (gsf). Inside the buildings, electrically powered freezers would be used for freezing and long-term storage of frozen research samples, as described above. A 100-kilowatt diesel-powered, stand-alone emergency generator with diesel fuel tank would be installed on a concrete foundation outside and adjacent to the freezer modules. The emergency generator would provide backup electricity to the freezer, to ensure sample preservation in event of a power failure.

Animal Holding Modular Buildings
Up to 20 prefabricated modular buildings for animal holding would be placed on concrete foundations in a cluster within the existing developed area of the CNPRC. Each building would measure 14 feet by 70 feet (980 gsf each), for a total of 19,600 gsf for the twenty buildings. The buildings would be used for indoor animal holding, animal rearing, and animal research. The buildings would not include laboratory space but would include a sink and counter space, for animal care functions. A connection to the campus sanitary sewer system would be used for the sink and for disposal of animal waste. Existing utilities are within close proximity of the building sites, and only minor trenching would be needed for utility connections. The ten new employees associated with the project would be needed primarily for indoor animal care in these holding facilities.

Office Modular Buildings
Three prefabricated modular buildings, two comprising 840 gsf each and measuring 14 feet wide by 60 feet long, and one of approximately 1152 square feet, measuring approximately 24 feet by 48 feet, would be installed on concrete foundations within the developed area of the CNPRC and used for administrative and research office space. These would increase the amount of office and administrative space available for employees currently working at the CNPRC, who presently are overcrowded. Existing utilities for the buildings are in close proximity of the installation sites and only minor trenching would be needed for utility connections.
Building Replacement for TB 196
A new, one-story 7,433-gsf building would be erected to replace the existing 6,000-gsf TB 196, for an increased building area of 1,433 gsf, within the developed area of the existing CNPRC facility. The new structure would provide research laboratory space, surgery support space, animal testing space, and animal housing space. The laboratory space in this new building would total 1,170 gsf, and would replace 880-gsf of laboratory space that currently is provided in TB 196, for an increase in lab space of 290 gsf. This laboratory, like other laboratory space on campus, could use small quantities of biohazardous materials, radioactive materials and hazardous chemicals, and could produce small quantities of biohazardous, radioactive and chemical wastes.

The existing TB 196, which is less than 45 years old, is in deteriorating condition and is unsuitable for renovation. The existing facility would be demolished and the new facility would be sited using approximately the same footprint. The new structure would utilize pre-manufactured metal building components complete with a concrete slab. Construction work would include site utilities, pre-manufactured buildings systems, architectural finishes, casework and equipment, electrical power and lighting, plumbing, mechanical heating and air conditioning, security and fire alarms. All existing supporting utilities would be reused for the new facility; therefore construction would be limited to the existing developed area.

POPULATION

The number of employees at the CNPRC would increase by about ten persons as a result of the proposed Facility Upgrade Project. These additional employees would be needed to provide indoor animal care in the animal holding modular buildings, for animals bred in the field corrals. All ten employees would be added to the CNPRC staff within four years of project approval.

UTILITIES AND INFRASTRUCTURE

The proposed facilities would require connections to campus utilities and infrastructure including electricity, natural gas, domestic water, sanitary sewer, and telecommunications. These connections would be made within or immediately adjacent to the CNPRC facility, and would require only minimal trenching. Prior to the construction of the proposed upgrades, the storm drain improvements approved as part of the CRPRC Improvement Projects will have been completed, and would serve the proposed project. Storm water from the proposed project sites would drain to a new storm water retention basin. No water from the facility upgrades would drain to the Covell Drain. Existing utilities at the CRPRC are adequately sized to serve the proposed project.

PROJECT SCHEDULE

The campus proposes to implement the CNPRC Facility Upgrade Project over a period of 15 years from the date of approval. Most of the upgrades would be completed within two years, with the animal modules added as needed to accommodate animals from the field corrals. It is anticipated that seven of the animal holding buildings would be constructed within two years of project approval, the next three during years two to four and the remaining ten during years five to 15. The two freezer modules would be installed immediately upon project approval. Installation of the two smaller office modules, and temporary building demolition and replacement, would start within two years of project approval. The third office module would be constructed in three to four years.
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. It is anticipated that the UC Davis Facilities and Enterprise Policy Committee (FEPC), of which the UC Davis Chancellor is the Chairperson, will consider design approval of this project in 2003. Initial construction of facility upgrades likely would begin at that time. The campus has filed for coverage under the statewide General Permit for Storm Water Discharges associated with Construction Activity (General Permit). The General Permit serves as a National Pollutant Discharge Elimination System (NPDES) permit for all construction projects on the Davis campus. In compliance with the General Permit, UC Davis will require the contractor to prepare and implement a storm water pollution prevention plan and will file appropriate notice with the Central Valley Regional Water Quality Control Board.
IV. CONSISTENCY WITH 1994 LRDP

In order to determine the consistency of the proposed project with the 1994 LRDP and 1994 LRDP EIR, the following questions must be answered:

- Is the proposed project included in the scope of the development projected in the 1994 LRDP?
- Is the proposed location of the project in an area designated for this type of use in the 1994 LRDP?
- Are changes to campus population that would result from the proposed project included within the scope of the 1994 LRDP population projections?
- Are the objectives of the proposed project consistent with the adopted objectives for the 1994 LRDP?
- Is the proposed project within the scope of the cumulative analysis in the 1994 LRDP EIR?

The following discussion describes the relationship of the proposed project to development projections, population projections, land use designations, and objectives contained in the 1994 LRDP, and the project’s consistency with each of these items. The proposed project's consistency with the 1994 LRDP EIR cumulative analysis is also discussed below. Appendix A of this document summarizes the amendments to the 1994 LRDP and the revisions and updates to the 1994 LRDP EIR since original publication.

1994 LRDP SCOPE OF DEVELOPMENT

The 1994 LRDP approved development of approximately 1.75 million asf of building space through 2005-06 for academic and administrative uses, including space for instruction and research, libraries, student services, administrative/support, and public service/non-University agencies. The 1994 LRDP EIR assumed total campus academic and administrative development through 2005-06 would be 6,495,740 asf. Between 1993 to 2000, approximately 504,768 asf of space was approved, constructed or occupied, for a total of 5,250,768 asf. Additional project approvals as of February 2003 have increased this space to approximately 5,928,850 asf (Table 1). The proposed project would construct approximately 26,830 asf of academic and administrative space. This additional space would not exceed planned development.

If approved, the proposed project and another project currently under consideration, the Veterinary Medicine Instructional Facility, would cumulatively add 64,520 academic and administrative asf to the campus (increasing the academic and administrative space on campus to 5,993,376 asf). This space would not exceed the 6,495,570 asf of development approved under the 1994 LRDP, as presented in Table 2. Therefore, the proposed project would be consistent with the development approved under the 1994 LRDP.
1994 LRDP LAND USE DESIGNATIONS

The proposed project is comprised of uses that are consistent with the 1994 LRDP land use designations for the CNPRC site. The proposed facility upgrades would be located within areas designated for Low Density Academic and Administrative uses in the 1994 LRDP. Therefore, the proposed project would be consistent with the existing LRDP designation for the project site.

1994 LRDP POPULATION PROJECTIONS

The on-campus population anticipated under the 1994 LRDP for 2005-06 is 38,630 (26,000 students and 12,630 faculty and staff). The 2001-02 on-campus population was approximately 35,370 (24,870 students and 10,500 faculty and staff). Recently built and approved projects and would bring this total to approximately 38,400 (26,850 students and 11,550 staff). The proposed project would contribute approximately 10 new campus employees. The proposed project, together with the proposed Tercero Housing Improvement Project, the Campus Child Care Center, and the Veterinary Medicine Instructional facility, would add approximately 60 new campus employees to the faculty/staff population, for a total of 12,055 faculty and staff on campus. Projected enrollment increases through 2004 would add 1,980 new students to the total campus population in the same period, for a total campus population of 38,405. (Table 2). The expected increases would not exceed the on-campus population anticipated under the 1994 LRDP.

TABLE 2. PROJECTED POPULATION AND BUILDING SQUARE FOOTAGE INCREASES FOR PROJECTS CURRENTLY UNDER ENVIRONMENTAL REVIEW

<table>
<thead>
<tr>
<th>Program</th>
<th>Student Population</th>
<th>Faculty &amp; Staff Population</th>
<th>Total On-Campus Population</th>
<th>Assignable Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built or Approved through February, 2003</td>
<td>24,870(^1)</td>
<td>11,500</td>
<td>36,370</td>
<td>5,928,853</td>
</tr>
<tr>
<td>CNPRC Facility Upgrade Project</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>26,830</td>
</tr>
<tr>
<td>Campus Child Care Center</td>
<td>--</td>
<td>20</td>
<td>20</td>
<td>--</td>
</tr>
<tr>
<td>Catering Kitchen Building</td>
<td>--</td>
<td>15</td>
<td>15</td>
<td>--</td>
</tr>
<tr>
<td>Tercero Housing Expansion</td>
<td>--</td>
<td>0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Tercero Dining Commons Expansion</td>
<td>--</td>
<td>10</td>
<td>10</td>
<td>--</td>
</tr>
<tr>
<td>Veterinary Medicine Instructional Facility</td>
<td>--</td>
<td>5</td>
<td>5</td>
<td>37,690</td>
</tr>
<tr>
<td>Expected Campus Enrollment Increase (2002-2004)</td>
<td>1,980</td>
<td>--</td>
<td>1,980</td>
<td>--</td>
</tr>
<tr>
<td>Total Proposed</td>
<td>1,980</td>
<td>60</td>
<td>2,040</td>
<td>64,520</td>
</tr>
<tr>
<td>Existing, Approved and Proposed Projects</td>
<td>26,850(^2)</td>
<td>11,550</td>
<td>38,400</td>
<td>5,997,411</td>
</tr>
<tr>
<td>Projections for 2005-06 (1994 LRDP)</td>
<td>26,000</td>
<td>12,630</td>
<td>38,630</td>
<td>6,895,750</td>
</tr>
</tbody>
</table>

\(^1\) This number is likely high because projects constructed after 2004 would probably not be fully occupied by the end of the 2005-06 academic year, and/or space vacated to occupy the proposed projects would probably not be...
fully backfilled.
1994 LRDP OBJECTIVES

The purpose of the 1994 LRDP is to guide land use and development of the campus environment in response to projected growth and the changing nature of academic programs. The intent of the 1994 LRDP was to meet the needs of the anticipated growth in enrollment and employment by:

- Providing new instructional space and classrooms required to serve the anticipated growth in student population
- Providing expanded instruction and research space projected for the biological sciences, agricultural sciences, physical sciences, and veterinary medicine
- Providing flexibility for significant expansion in response to future academic missions

More specifically, the 1994 LRDP includes the following objectives that are applicable to the proposed project:

- **Building space**: Manage existing building space to provide sufficient and suitable space for existing and evolving campus programs.
- **Location of programs**: Cluster related academic and administrative programs geographically, when feasible, to facilitate academic interaction.
- **West Campus**: West Campus land uses would be expanded to include high and low density academic and administrative uses. High density land uses in the West Campus would be located exclusively at the CNPRC and would be clustered with other existing high-density development.

The proposed project would be consistent with the overall growth goals of the campus and with the specific objectives contained in the 1994 LRDP relative to the West Campus.

1994 LRDP EIR CUMULATIVE ANALYSIS

The 1994 LRDP EIR contained cumulative analyses for the projected buildout of the LRDP. The cumulative context in the 1994 LRDP EIR varied depending on the nature of the issue being studied. Cumulative effects were classified by either natural resources boundaries (i.e., biological resources, hydrology, geology, and air quality) or by population growth within the City of Davis and Yolo and Solano counties (i.e., public and community services, transportation, hazardous materials, noise, aesthetics, and cultural resources). The cumulative impact for each environmental issue in the 1994 LRDP EIR was defined based on the cumulative context that best defined the extent of the possible cumulative effect (See Section 5.2, Cumulative Impacts, of the 1994 LRDP EIR).

The proposed project includes construction and operation of minor new and replacement facilities at the CNPRC. As discussed above, the proposed project is within the scope of development and population assumed in the 1994 LRDP EIR for Academic and Administrative land use for buildout of the Campus through 2005-06, both in terms of assignable square footage and campus population projections. Therefore, the proposed project incrementally contributes to, but does not exceed, the cumulative impact evaluation presented in the 1994 LRDP EIR, as revised.
The technical discussions in the Tiered Initial Study Checklist, attached hereto, concludes that the proposed project would:

- not contribute to significant and unavoidable cumulative impacts identified in the 1994 LRDP EIR related to loss of prime agricultural land (Item 2a), and loss of valley elderberry longhorn beetle habitat (Item 8a), and loss of burrowing owl habitat (Item 8a).

- incrementally contribute to, but not exceed, significant and unavoidable impacts identified in the 1994 LRDP EIR related to: intersection level of service (LOS) (see Item 4b), noise levels (see Item 5a, c), criteria and toxic air emissions (see Item 6b,c,d), exposure to existing hazardous materials during construction (see Item 7a), hazardous materials use (see Item 7a), radioactive materials use (see Item 7a), biohazardous materials use (see Item 7a), emergency response (see Item 7g), loss of groundwater recharge potential (see Item 9b), water demand from the deep aquifer (see Item 9b), seismic ground shaking (see Item 10a), loss of cultural resources (see Item 12b,d), increased demand for fire protection services (see Item 14a(ii)), increased demand for police services (see Item 14a(ii)), and contribution of school age children to the Davis Joint Unified School District (DJUSD) (see Item 14a(iii)); and

- incrementally contribute to, but not exceed, less-than-significant cumulative impacts identified in the 1994 LRDP EIR related to carbon monoxide emissions (see Item 6b,c), transport of hazardous materials (see Item 7a), water demand from the shallow/intermediate aquifer (see Item 9b), parks and recreation demand (see Items 14a(iv) and 15a), electricity and natural gas demand (See Item 16h), wastewater capacity (see Item 16a, b, e), and solid waste disposal capacity (see Item 16f).

ADEQUACY OF THE 1994 LRDP EIR THROUGH 2005-06

As presented in Appendix C of this document, the campus has updated projections for campus growth through 2005-06 based on information provided by the University regarding enrollment growth and based on reasonably foreseeable campus projects. As presented in Appendix C, the campus has concluded that, because development and the environmental effects associated with projected increases in the campus population through 2005-06 will be within the parameters assumed in the 1994 LRDP, the cumulative impacts of growth through 2005-06 have been adequately addressed in the 1994 LRDP EIR.

ENVIRONMENTAL EFFECTS THROUGH 2014-15

The University has recently determined that enrollment throughout the University system will increase by approximately 60,000 to 70,000 students within the next 10 to 15 years. This growth in enrollment is related to projected demographic changes that are expected to increase the demand for a college education in California. UC Davis is currently considering how it should plan to accommodate the campus' share of this enrollment growth. The campus' share of this growth could bring the three-quarter average on-campus student population to approximately 29,500 by 2014-15. The 1994 LRDP already assumed 26,000 of these students. This anticipated enrollment growth and associated increases in employees and facility construction for 2014-15 would surpass the assumptions identified in the 1994 LRDP for 2005-06 and evaluated in the 1994 LRDP EIR. The campus will prepare a new LRDP to identify the changes required to accommodate anticipated growth, and the campus will prepare an EIR to assess the environmental impacts of such changes. It is anticipated that The Regents will review and consider approval of the updated LRDP and its EIR in the fall of 2003.
To the extent that growth and physical development anticipated for 2014-15 were not considered in the 1994 LRDP EIR, additional environmental effects that were not previously identified may occur. However, it would be speculative to determine or analyze these effects now because most components of the next LRDP are not currently known. Nevertheless, the campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15.
V. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- Land Use/Planning
- Agriculture Resources
- Population/Housing
- Transportation/Traffic
- Noise
- Recreation
- Air Quality
- Hazards & Hazardous Materials
- Biological Resources
- Hydrology/Water Quality
- Geology/Soils
- Cultural Resources
- Aesthetics
- Public Services
- Utilities/Service Systems
- Mandatory Findings of Significance
- Mineral Resources

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 1994 LRDP EIR, as revised. This Tiered Initial Study has concluded that the project would incrementally contribute to, but not exceed, certain significant impacts previously identified in the 1994 LRDP EIR, and that for such impacts, no new mitigation measures, other than those previously identified in the 1994 LRDP EIR, are required. Therefore, preparation of a Negative Declaration is appropriate. The proposed Negative Declaration is presented in Appendix B of this document.
VI. DETERMINATION

Pursuant to Sections 15152 and 15168 of the CEQA Guidelines, this Draft Tiered Initial Study has been prepared to evaluate the potential environmental impacts of the proposed project in relation to the programmatic environmental analysis contained in the 1994 LRDP EIR. On the basis of the evaluation that follows, I find that:

___ The proposed project is exempt from CEQA pursuant to the general exemption (CEQA Guidelines, 15061(b)(3)), a statutory exemption, and/or a categorical exemption, and that if a categorical exemption, none of the exceptions to the exemption apply. A NOTICE OF EXEMPTION will be prepared.

___ Pursuant to Section 15168(c)(2) of the CEQA Guidelines, the proposed project may incrementally contribute to, but will not exceed, the significant environmental impacts previously identified in the 1994 LRDP EIR, and the project will otherwise result in no new significant environmental impacts. Further, having been avoided or mitigated pursuant to the 1994 LRDP EIR, no new mitigation measures, other than those previously identified in the 1994 LRDP EIR, are required. FINDINGS consistent with this determination will be prepared.

___ The proposed project may incrementally contribute to, but will not exceed, significant environmental impacts previously identified in the 1994 LRDP EIR. Further, the proposed project will result in no new significant impacts other than those previously identified in the 1994 LRDP EIR. However, the project will have environmental impacts not previously addressed in the 1994 LRDP EIR, but there is no substantial evidence that such impacts may have a significant impact on the environment. No new mitigation measures, other than those previously identified in the 1994 LRDP EIR, are required. A NEGATIVE DECLARATION will be prepared. (The proposed Negative Declaration is presented in Appendix B).

___ The proposed project may incrementally contribute to, but not exceed, certain significant cumulative impacts previously identified in the 1994 LRDP EIR, and that for such impacts, no new mitigation measures, other than those previously identified in the 1994 LRDP EIR, are required. In addition, the project may result in a potentially significant impact not previously identified in the 1994 LRDP EIR, but a proposed project specific mitigation measure would reduce the effect of such impact to a point that clearly no significant impact would occur. On the basis of the Tiered Initial Study and implementation of all proposed project specific mitigation measures, there is no substantial evidence that the project as mitigated may have a significant effect on the environment. A MITIGATED NEGATIVE DECLARATION will be prepared.

___ The proposed project may incrementally contribute to, but will not exceed, certain significant environmental impacts previously identified in the 1994 LRDP EIR. For such impacts, no new mitigation measures, other than those previously identified in the 1994 LRDP EIR, are required and are incorporated by reference. Further, there is substantial evidence that the project may result in a significant environmental impact that was not previously identified in the 1994 LRDP EIR, and/or will exacerbate a significant environmental impact previously identified in the 1994 LRDP EIR. An Environmental Impact Report will be prepared that addresses the new impacts not previously identified in the 1994 LRDP EIR and supplements the 1994 LRDP EIR.
VII. EVALUATION OF ENVIRONMENTAL IMPACTS

Introduction

The Environmental Checklist form is used to assist in evaluating the potential environmental impacts of the proposed project with respect to the 1994 LRDP EIR. The checklist identifies potential project effects as follows:

(1) **Potentially Significant Impact:** An effect that is substantial based on significance criteria. If there are one or more “Potentially Significant Impact” entries in the checklist form, an EIR is required.

(2) **Less than significant with Mitigation Incorporated:** An effect that, with the incorporation of mitigation measures, is reduced from a “Potentially Significant Impact” to a “Less Than Significant Impact.” The Tiered Initial Study includes mitigation measures and briefly explains how these measures reduce the associated effect to a less-than-significant level.

(3) **Impact for which LRDP/Program EIR is Sufficient:** An effect that was adequately addressed and mitigated to the extent feasible in the 1994 LRDP EIR (the Program EIR).

(4) **Less than Significant Impact:** No significant impacts, only less-than-significant impacts, will result.

(5) **No Impact:** The project does not create an impact in the category.

Environmental impacts of the proposed project that are determined in this Tiered Initial Study to have been adequately analyzed and mitigated in the 1994 LRDP EIR generally fall into one of two general categories: (1) impacts that were determined to be less-than-significant after the implementation of mitigation measures identified in the 1994 LRDP EIR, and (2) impacts considered significant and unavoidable in the 1994 LRDP EIR. No further analysis is required for impacts within the first category since the 1994 LRDP EIR and associated mitigation measures would reduce project-level impacts to a less-than-significant level. Impacts identified as significant and unavoidable in the 1994 LRDP EIR include: (a) impacts identified as significant for some projects, but which would not be significant in relation to the proposed project; and (b) impacts that are significant on a cumulative level but not at a project level, for which the 1994 LRDP EIR fully addresses the cumulative impacts. The following resource discussions provide specific reasons for concluding that the 1994 LRDP EIR adequately analyzes the impacts of the proposed project.

Substantiation and clarification for each checklist response is also provided in the following resource discussions. Included in each discussion is a summary of relevant setting information and 1994 LRDP EIR impacts and mitigation measures that apply to the proposed project.
1. LAND USE AND PLANNING

Background

The 5,300 acre UC Davis Campus, in general, is composed of four campus units: the Central Campus, the South Campus, the West Campus, and Russell Ranch (please see Figure 2 of this Initial Study and Figure 3-2, Regional and Local Setting, on page 3-5 of the 1994 LRDP DEIR). The 1994 LRDP land use designations include Academic and Administrative (High Density and Low Density), Support, Housing, Physical Education/Intercollegiate Athletics/Recreation, Teaching/Research, Open Space, Parking and Circulation, and Enterprise Reserve. The project area was designated for Academic and Administrative uses in the 1994 LRDP as revised, and will be built essentially as infill within similarly used areas within the existing footprint of the CNPRC. The following briefly summarizes uses associated with designations that are applicable to the proposed project at the CNPRC.

Academic and Administrative – High Density Academic and Administrative uses include classrooms; research laboratories and research support areas; faculty, student and staff offices; and libraries. Low Density Academic and Administrative uses are similar to those associated with High Density Academic and Administrative, but they are typically one story in height and include teaching and research support uses such as greenhouses, field support, laboratories, office, agricultural-related space, animal science facilities and animal housing. The proposed project would be situated on land designated Academic and Administrative.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to land use and planning to be significant if campus or regional growth would:

- propose uses which would conflict with locally adopted City or County planning policies; or
- propose uses which would be incompatible with adjacent uses and which would be considered a nuisance because the proposed use would (a) cause adjacent land uses to make extensive operational adjustments that would reduce the efficiency or effectiveness of the land uses, or (b) otherwise significantly adversely affect the efficiency, effectiveness, or productivity of the land use.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Impacts of campus growth through 2005-06 on land use and planning were evaluated in Section 4.1 (Land Use) of the 1994 LRDP Draft EIR. No significant land use and planning impacts were identified in the 1994 LRDP EIR. Land use impacts 4.1-1 and 4.1-5 in the 1994 LRDP EIR address the loss of prime farmland. Due to revisions to the CEQA guidelines since 1994, these impacts are currently addressed in the Environmental Checklist section titled “Agricultural Resources.” The 1994 LRDP EIR land use and planning analysis has been updated to reflect land use designation changes, as identified in the WWTP Replacement Project EIR (Chapter 4.6 of the Draft EIR), the 1997-98 Major Capital Improvement Projects SEIR (Sections 5.3, 6.3, and 7.3 of the Draft SEIR), the Center for the Arts
Performance Hall and South Entry Roadway and Parking Improvements Tiered Initial Study and Mitigated Negative Declaration (page 29 of the Initial Study), the USDA Western Human Nutrition Research Complex Tiered Initial Study and Mitigated Negative Declaration (pages 45-46 of the Initial Study), and the Segundo Housing Improvement Projects Tiered Initial Study and Mitigated Negative Declaration (pages 33 to 35 of the Initial Study), and the West Entry Parking Structure Tiered Initial Study and Mitigated Negative Declaration (pages 33-34 of the Tiered Initial Study). Appendix A of this Initial Study summarizes updates and revisions to the 1994 LRDP EIR. No new land use and planning impacts were identified as a result of these updates. The proposed project is within the scope of the land use and planning analyses presented in these documents. The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus’ potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 is not anticipated to introduce any new cumulative land use and planning impacts or require any new mitigation measures. However, the campus will reexamine potential cumulative land use and planning impacts and any new mitigation measures that may be required during the LRDP update process.

<table>
<thead>
<tr>
<th>LAND USE AND PLANNING</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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 LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>d) Conflict with any designated adjacent existing or future land uses on or off-campus?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>e) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
</tbody>
</table>
Discussion

a) The proposed project consists of minor additions to and upgrade of facilities within the CNPRC on the West Campus. Implementation of the project would not disrupt or divide the physical arrangement of an established community. No impact would occur.

b) The applicable land use plan is the 1994 UC Davis LRDP. The proposed facility upgrades would be located on land designated as Low Density Academic and Administrative under the 1994 LRDP. The proposed uses are consistent with this designation. Therefore, similar to the previously analyzed projects, which were consistent with the 1994 LRDP, the proposed uses are consistent with the 1994 LRDP and redesignation of 1994 LRDP land use would not be required. The proposed project would not result in impacts related to land use. No impact would occur.

The proposed project is located in the Davis Planning Area shown on the City of Davis General Plan. Although the University of California is exempt from local plans, policies, and zoning regulations, it is campus policy to cooperate with the general plans and land use policies of the City of Davis and Solano and Yolo Counties. The 1994 LRDP Draft EIR includes relevant policies and goals from the City of Davis and Counties of Solano and Yolo General Plans on pages 4.1-25 through 4.1-27. The 1987 City of Davis General Plan was updated in May 2001. The proposed project would not conflict with the updated City of Davis General Plan or the General Plans for the Counties of Solano and Yolo.

c) The proposed project site is not included in any conservation plan and therefore would not conflict with any applicable habitat conservation or natural community conservation plan. Hence, no impact is anticipated.

d) The proposed facility upgrades would be consistent with immediately adjacent existing academic and administrative land uses. The existing land use at the site includes buildings and cages used for laboratory research and housing and breeding of nonhuman primates. The CNPRC facility is surrounded by agricultural fields.

Grace Valley Christian Center (GVCC) is located in the southeastern quadrant of the Russell Boulevard and CR 98 intersection, northwest of the CNPRC. GVCC contains a school (kindergarten through 9th grade) that was established in 1998. The church and school have entrances on both Russell Boulevard and CR 98. The school is approximately 225 feet along CR 98 from the CNPRC fence line, about 900 feet from the nearest field corral, and about 1,600 feet from the nearest CNPRC laboratory building. To the north and east of the school, and further away from the CNPRC, are large-lot single family residences. The only other non-campus land use near the CNPRC is another single-family home on CR 98 about 1,000 feet to the south of the CNPRC entrance. The privately-owned lands adjacent to the CNPRC fall under the Yolo County zone A-1 for general agriculture uses. Therefore, implementation of the proposed project would not conflict with adjacent on or off campus existing and/or future uses. No impact would occur.

e) The standards of significance for land use and planning that were used in the preparation of the 1994 LRDP EIR are presented earlier in this section. These standards are consistent with the land use and planning questions in the current CEQA Environmental Checklist. Based on the discussion presented above, the proposed project would not exceed the standards of significance identified in the 1994 LRDP EIR. No impact would occur.
LAND USE AND PLANNING

Summary

The 1994 LRDP EIR did not identify any significant impacts that are currently categorized as land use and planning. The proposed project would not result in any significant land use and planning impacts.
2. AGRICULTURAL RESOURCES

Background

The campus includes land designated by the State Department of Conservation as Prime Farmland primarily in the West Campus, South Campus, Russell Ranch and a small portion of the Central Campus (see Figure 4.1-5 on page 4.1-30 of the 1994 LRDP DEIR).

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to agricultural resources to be significant if campus or regional growth would:

- propose uses which would convert or cause the conversion of Prime Farmland (as defined by the State Department of Conservation) to nonagricultural uses or cancel or cause the cancellation of Williamson Act contracts; or
- propose uses that would impair the agricultural productivity of prime agricultural land.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Impacts of campus growth through 2005-06 on agricultural resources were addressed in Section 4.1 (Land Use) of the 1994 LRDP Draft EIR. Cumulative impacts on agricultural resources were reevaluated in the WWTP Replacement Project EIR, and agricultural resource impacts were revised to account for the loss of additional prime farmland not previously assessed in the 1994 LRDP EIR (Appendix G of the Final EIR). Both the 1997-98 Major Capital Improvement Projects SEIR and the Center for the Arts Performance Hall and South Entry Roadway and Parking Improvements Tiered Initial Study and Mitigated Negative Declaration identified losses of prime farmland over the amount assessed in the 1994 LRDP. However, these projects included measures to mitigate the impact on agricultural resources (Appendix A of the Final SEIR, and pages 29-30 and 64 of the Initial Study). Appendix A of this document summarizes updates and revisions to the 1994 LRDP EIR. The proposed project is within the scope of the agricultural resource analysis presented in the 1994 LRDP EIR, as reevaluated and revised in subsequent documents.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would develop farmland that was not previously assumed for development under the 1994 LRDP. The cumulative impacts associated with cumulative loss of farmland are anticipated to remain significant and unavoidable. Campus growth through 2014-15 is not anticipated to introduce further cumulative agricultural resource impacts or require new mitigation. However, the campus will reexamine potential cumulative agricultural resource impacts and any new mitigation measures that may be required during the LRDP update process. There are no significant agricultural resources impacts relevant to the proposed project.
Agricultural Resources

<table>
<thead>
<tr>
<th>LRDP EIR Impact</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After/With Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1-1 Development allowed under the 1994 LRDP could result in the permanent loss of 180 acres for prime farmland from the State Department of Conservation's inventory.¹</td>
<td>SU</td>
<td>SU</td>
</tr>
</tbody>
</table>

SU = Significant and Unavoidable

¹As amended in Impact 8-9 of the 1997-98 Major Capital Improvement Projects SEIR.

No feasible mitigation measures were identified for impacts to agricultural lands identified in the 1994 LRDP EIR. These significant and unavoidable impacts were fully addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP EIR, as amended.

Agricultural Resources

<table>
<thead>
<tr>
<th>Would the project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>f) 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?</td>
</tr>
<tr>
<td>g) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
</tr>
<tr>
<td>h) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?</td>
</tr>
<tr>
<td>i) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
</tr>
</tbody>
</table>

Discussion

a) Figure 4.1-5 on page 4.1-29 of the 1994 LRDP DEIR, which is based on the 1992 State of California Department Yolo and Solano Counties Important Farmlands Map shows important farmlands at the CNPRC. The proposed project site is designated urban and built-up land, which is not important farmland. The CNPRC Facility Upgrade Project would be located within the developed area of the existing CNPRC complex on land designated under the 1994 LRDP as...
AGRICULTURAL RESOURCES

Low Density Academic and Administrative, and which is currently under academic and administrative uses. The CNPRC Facility Upgrade Project would not result in impacts on agricultural resources.

b, c) The proposed CNPRC Facility Upgrade Project would not occupy land that is under a Williamson Act contract. The proposed project would not involve any other changes that could result in the loss of farmland. No impact would occur.

d) Standards of significance for agriculture resources impacts that were used in preparation of the 1994 LRDP EIR are presented earlier in this section. These standards are consistent with the agricultural resources questions in the current CEQA Environmental Checklist. Based on the discussion presented above, the proposed project would not exceed the standards of significance identified in the 1994 LRDP EIR and would not result in new significant impacts related to agriculture resources that were not previously analyzed in the 1994 LRDP EIR and subsequent documents. Since the project would not result in the loss of farmland, no impact would occur.

Summary

No impacts to agricultural resources are anticipated to result from the proposed project.
3. POPULATION AND HOUSING

Background

The campus population is the average number of students, faculty, and staff that may be on campus at any given time. For campus planning purposes, the annual on-campus population is approximated based on an average campus population over three academic quarters (fall, winter, and spring). Current and projected campus population figures are presented in Table 2 of this Tiered Initial Study. Increased population growth on campus would also result in growth in the City of Davis. The increased population attributed to UC Davis is assumed to be included in the population projections adopted by the City of Davis General Plan. The campus maintains a policy to house all freshman who wish to live on Campus and the 1994 LRDP includes a goal to provide housing for 25 percent of enrollment. UC Davis also provides on-campus family housing (Solano Park, Orchard Park and Russell Park) and faculty housing (Aggie Villa).

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to population and housing to be significant if campus or regional growth would:

- induce substantial growth or concentration of population;
- displace a large number of people; or
- conflict with the housing and population projections and policies set forth in the City of Davis General Plan.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Impacts of campus growth through 2005-06 on population and housing issues were addressed in Section 4.2 of the 1994 LRDP Draft EIR. No significant population or housing impacts were identified in the 1994 LRDP EIR or subsequent documents. The proposed project is within the scope of the population and housing analysis presented in the 1994 LRDP EIR. The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2015-16. As discussed in the analysis, campus growth through 2015-16 would exceed campus population projections assumed under the 1994 LRDP. While this growth is not anticipated to result in any new cumulative population and housing impacts different in character from those already assessed in the 1994 LRDP EIR, the campus will reexamine potential cumulative population and housing impacts and any new mitigation measures that may be required during the LRDP update process.
POPULATION AND HOUSING

Would the project:

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>k) 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)?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
<td>?</td>
</tr>
<tr>
<td>l) Displace substantial numbers of people and/or existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
</tr>
<tr>
<td>m) Conflict with the population projections or housing policies set forth in the City of Davis General Plan?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
</tr>
</tbody>
</table>

Discussion

a) As discussed in Section IV and shown in Table 2, above, the recent population estimate (from 2001-02) for campus faculty, staff, and students is 36,370 (24,870 students and 11,500 faculty and staff). Projected buildout presented in the 1994 LRDP for year 2005-06 is 38,630 (26,000 students and 12,630 faculty and staff).

The project would contribute approximately ten new employees to the campus population. With proposed projects and recently approved projects, the total student population for the campus will be 26,850 and the total staff population for the campus would be 11,560. The campus total population of 38,410 would not exceed the total population of 38,630 projected in the 1994 LRDP through 2005-6. No impact would occur.

b) The proposed project would include development of facilities at the CNPRC site on the West Campus. Minor local extensions of existing infrastructure within the existing facility would be required to serve the proposed facilities. Proposed infrastructure would be sized only to serve the proposed project. Therefore, the proposed project would not directly or indirectly induce substantial population growth. No impact would occur.
POPULATION AND HOUSING

c) The project site is not currently designated for housing, and does not include any existing housing facilities. Therefore, the proposed project would not displace existing housing, and no impact would occur.

d) According to the 1994 LRDP EIR, buildout of the LRDP could add approximately 8,000 residents, including students, faculty and staff, and their dependents to the City of Davis by 2005. Buildout in the City of Davis planning area under the City of Davis General Plan is projected to reach 75,000 by 2010. As described on page 4.2-19 of the 1994 LRDP DEIR:

"Growth projections for the City of Davis are based upon a buildout of land uses designated in the City of Davis General Plan. Although these projections do not specifically account for additional growth from the Campus or other employers in the Davis area, the growth of the campus and the resultant indirect growth in the City of Davis is considered to be a portion of the 75,000 target population. Because the 1994 LRDP is not considered to expand the projected City of Davis Year 2010 population, the 1994 LRDP is not considered to conflict with the population projections and policies of the City of Davis General Plan."

Implementation of the CNPRC Facility Upgrade Project would add approximately ten new employees to the campus, which would contribute to the growth of the campus population. This increase in population is within the population projections in the 1994 LRDP (see discussion under Section III, Consistency with 1994 LRDP and LRDP EIR). The City of Davis adopted a new General Plan in May 2001 and identified a future population of 65,000 residents in the City of Davis. The proposed project would not exceed the population goals of the City of Davis.

Because the proposed project is consistent with growth projected under the 1994 LRDP, and the 1994 LRDP does not conflict with the population projections or housing policies of the City of Davis General Plan, the proposed project would not conflict with population projections or housing policies of the City of Davis General Plan. Therefore, no impact would occur.

e) The standards of significance for population and housing that were used in preparation of the 1994 LRDP EIR are presented at the beginning of this section of the Initial Study. These standards are consistent with the questions in the checklist for population and housing. Based on the discussion presented above, the proposed project would not exceed the standards of significance in the LRDP and would not result in any new impacts related to population and housing that were not previously analyzed in the 1994 LRDP EIR. No impact would occur.

Summary

The project would result in a less-than-significant growth-inducing impact because it would introduce a small number of new employees to the campus population and would require minor utility extensions within an existing facility. No mitigation is warranted.
4. TRANSPORTATION/CIRCULATION

Background

I-80 and SR 113 provide primary regional roadway access to the campus and the City of Davis. Access to the campus from the City of Davis is provided primarily from A Street, B Street, First Street, and Russell Boulevard. On campus, the major element of the central campus roadway system is the Loop Road System, which encircles academic and administrative uses. Inside the loop, general motor vehicle access is either prohibited or limited to specific destinations, with through traffic eliminated. The Loop Road System consists of Russell Boulevard, A Street, Old Davis Road, California Avenue, and La Rue Road. Hutchison Drive and Russell Boulevard provide primary access to and from the central campus and the west campus. Access to and from the central campus and the south campus is provided primarily by Old Davis Road. Russell Boulevard provides access to and from Russell Ranch.

Parking, bicycle paths and transit service are provided throughout the campus. Parking and bicycle paths are concentrated in the core of the Central Campus. See Figure 3-8 on page 3-18 of the 1994 LRDP DEIR for an illustration of major parking areas and roadways.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to transportation/circulation to be significant if campus or regional growth would:

- result in LOS for roadways within the city of Davis and the Central Campus of LOS “D” for existing roadways and LOS “C” for new roadways;
- result in LOS for County roadways of LOS “C”;
- result in LOS for I-80 of LOS “E”;
- result in LOS for State Route 113 of LOS “D”;
- result in disruption to existing patterns of pedestrian and bicycle circulation, including the effects of congestion and unsafe conditions, and/or result in new uses which would create demand for bicycle and pedestrian travel without appropriate facilities;
- result in disruption to the provision of transit services, including making transit safe, and/or result in demands for transit services which are not satisfied as part of the project or a known plan;
- result in an increase in winter parking utilization over 90 percent on the Central Campus, Medical Sciences Complex, and/or major facilities of the West and South Campuses;
- result in the elimination of existing parking and increases in the projected utilization rate over 85 percent without permitting adequate time (usually 24 months) to implement a parking solution (to Campus construction standards); or
- require additional parking and result in an increase in the utilization rate over 90 percent, unless decreases in projected Campus parking demand would substantially counteract this trend.
The 1994 LRDP EIR LOS standards are based, in part, on the City of Davis traffic standards that were current in 1994. In the City of Davis General Plan update adopted in May 2001, the City included the following new LOS standards:

- unless preempted by the County Congestion Management Plan, LOS “E” for automobiles is sufficient for arterials and collectors during peak traffic hours, and

- LOS “F” is acceptable in the Core Area (generally downtown area of the City).

Although the new City standards are less stringent than the 1994 LRDP standards, the campus continues to use the 1994 LRDP standards.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Impacts of campus growth through 2005-06 on transportation and circulation were evaluated in Section 4.3 of the 1994 LRDP Draft EIR. The 1997-98 Major Capital Improvements Projects SEIR updated the 1994 LRDP EIR traffic analysis and revised 1994 LRDP EIR Mitigation Measure 4.3-1 (Section 8 of the Draft SEIR). The Veterinary Medicine Laboratory and Equine Athletic Performance Laboratory Facilities Focused Tiered EIR further updated the 1994 LRDP EIR transportation and circulation analysis and included a project-specific mitigation measure to reduce an identified impact (identified as 1994 LRDP EIR Mitigation Measure 4.3-1 (b) (f)) (Section 3 of the Final Veterinary Medicine Laboratory and Equine Athletic Performance Laboratory Facilities Focused Tiered EIR). Appendix A in this Initial Study presents further information on revisions to the 1994 LRDP EIR. Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The levels of significance before and after application of mitigation measures identified in the 1994 LRDP EIR, the 1997-98 Major Capital Improvements Projects SEIR, and the Veterinary Medicine Laboratory and Equine Athletic Performance Laboratory Facilities Focused Tiered EIR are also presented. The proposed project is within the scope of the analysis presented in the 1994 LRDP EIR as updated in subsequent documents. Please note that 1994 LRDP Impact 4.3-1 includes mitigation measures to reduce the impact to a less-than-significant level. However, this impact was identified as significant and unavoidable because the University of California could not guarantee implementation of the mitigation measure because it falls within other jurisdictions to enforce and monitor.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would likely cause elements of the roadway system that were not previously addressed in the 1994 LRDP EIR to operate at levels that would exceed the campus' standards of significance. While growth through 2015-16 is not anticipated to result in any new cumulative transportation and circulation impacts different in character from those already assessed in the 1994 LRDP EIR, the campus will reexamine potential cumulative transportation and circulation impacts and any new mitigation measures that may be required during the LRDP update process.
## TRANSPORTATION/CIRCULATION

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After/With Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3-1 Increases in traffic volumes in relationship to the capacity of the future transportation network would result in LOS standard violations.</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>4.3-3 Growth in population levels in areas other than the core area of the Central Campus would result in increased pedestrian and bicycle traffic in areas which may not have adequate facilities for these modes of travel, causing potential safety problems and increased reliance on motorized modes.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.3-5 Growth in population associated with development allowed under the 1994 LRDP, as well as the campus TSM efforts, would increase demand for transit services.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.3-6 Growth in population associated with development allowed under the 1994 LRDP could increase parking demand, if corresponding improvements in mode share do not occur.</td>
<td>S</td>
<td>LS</td>
</tr>
</tbody>
</table>

SU = Significant and Unavoidable; S = Significant; LS = Less than Significant

Mitigation measures in the 1994 LRDP EIR, as updated by the 1997-98 Major Capital Improvement Projects SEIR (revised Mitigation Measure 4.3-1) and the Veterinary Medicine Laboratory and Equine Athletic Performance Laboratory Facilities Focused Tiered EIR (included a mitigation measure identified as 1994 LRDP EIR Mitigation Measure 4.3-1 (b) (f)), which are applicable to the proposed project and that will be required as part of project implementation include the following:

- **LRDP EIR Mitigation Measure 4.3-1(a)** - The Campus shall continue to actively pursue a program of Transportation System Management (TSM) strategies to reduce reliance on travel to and from Campus by private automobile, particularly single-occupant peak period travel. As described in the Setting section, the Campus currently has an extensive TSM program. TSM strategies include the development of a comprehensive bicycle circulation network, including a bicycle/pedestrian precinct in core area of Central Campus; increased parking fees; transit planning and subsidies; carpool and vanpool matching service, and development and incentive program; campus shuttle systems, including shuttles to UC Davis Medical Center in Sacramento and UC Berkeley, public awareness programs, park and ride lot identification, and telecommuting.

- **LRDP EIR Mitigation Measure 4.3-1(b)** - In cooperation with other responsible jurisdictions, the campus shall monitor a.m. and p.m. peak hour traffic operations at critical intersections in the campus vicinity on a regular basis (at least every three years). To the extent that TSM measures are successful, some roadway improvements may be avoided. Based upon the existing campus mode share and trip generation rates assumed in this analysis, the following physical improvements are intended to reduce the magnitude of this impact.
  
  (a) Realign Old Davis Road as shown on the LRDP and reconstruct the intersection of Old Davis and California Avenue. Provide separate right and left turn lanes on the California Avenue approach and a separate left turn lane on the eastbound Old Davis Road approach and install a traffic signal. The realignment will extend to the
intersection of Old Davis Road and A Street.

(b) At the intersection of I-80 Eastbound Ramps and Richards Boulevard, add an additional turn lane on the ramp approach to the intersection, to provide a left turn lane, combined right and left turn lane, and a right turn lane.

(c) Restripe the southbound Research Park Drive approach to the intersection with Richards Boulevard/Cowell Boulevard to provide a combined through/left turn lane and a separate exclusive right turn lane.

(d) Signalize the intersection of First and B Streets.

(e) Widen the eastbound Olive Drive approach to the intersection of Richards Boulevard and Olive Drive, to provide a right turn lane, combined right turn and through lane, and a left turn lane.

(f) The campus will monitor traffic volumes at the Hutchison Drive and Health Sciences Drive intersection every three years. If and when signalization is warranted based on traffic volumes, the campus will install a new traffic signal at this location.

- **LRDP EIR Mitigation Measure 4.3-3** - The Campus shall implement appropriate pedestrian and bicycle facilities as part of the development of specific projects on Campus under the 1994 LRDP. To aid in this effort, a pedestrian and bicycle facility phasing plan shall be developed to anticipate growth throughout the implementation of the LRDP. This plan will be regularly updated as specific projects proceed through the planning process. The Campus shall also develop minimum standards of pedestrian and bicycle access to remote facilities, including consideration of motorized vehicle volumes, operating speeds, and pedestrian and bicycle volumes.

- **LRDP EIR Mitigation Measure 4.3-5** - The campus shall continue to support public transportation services, and will work with the City and other agencies to implement increased transit services in response to evolving campus needs. Such increased services would include improved Unitrans terminal facilities to accommodate increased ridership, developing new Unitrans routes and schedules to more effectively serve travelers, and improved coordination with other transit providers and modes of travel.

- **LRDP EIR Mitigation Measure 4.3-6** - The Campus shall continue to actively pursue TSM strategies to reduce automobile travel and parking demand. The Campus shall review individual projects under the 1994 LRDP to determine the adequacy of available parking. Additional parking shall be provided if it is determined that:

  (a) the winter parking utilization rate is over 90 percent in the Central Campus, Medical Sciences Complex, or major facilities on the West and South Campus;

  (b) the project would eliminate existing parking and increase the projected utilization rate by more than 85 percent without permitting adequate time (usually 24 months) to implement a parking solution; or

  (c) the project would require additional parking due to projected population growth and increase the utilization rate over 90 percent, unless decreases in projected parking demand are expected to substantially counteract this trend.
Mitigation measures listed above are incorporated as appropriate into the proposed project, and the proposed project as mitigated is evaluated in the checklist below.

<table>
<thead>
<tr>
<th>TRANSPORTATION AND CIRCULATION</th>
<th>Potentially Significant Impact</th>
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<tr>
<td><strong>Would the project:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Cause an increase in traffic that 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)?</td>
<td>?</td>
<td>?</td>
<td>!</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>b) Exceed, either individually or cumulatively, a LOS standard established by the county congestion management agency for designated roads or highways?</td>
<td>?</td>
<td>?</td>
<td>!</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>f) Result in inadequate parking capacity?</td>
<td>?</td>
<td>?</td>
<td>!</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>g) Conflict with applicable policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td></td>
<td>!</td>
</tr>
<tr>
<td>h) Increase pedestrian and bicycle traffic in areas that may not have adequate facilities for these modes of travel?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td></td>
<td>!</td>
</tr>
</tbody>
</table>
TRANSPORTATION/CIRCULATION

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<th>No Impact</th>
</tr>
</thead>
</table>

Would the project:

i) Increased conflict between bicyclists, pedestrians, and transit vehicles, causing increased congestion and safety problems?  

?  ?  ?  ?  1

j) Increased demand for transit services?  

?  ?  ?  ?  1

k) Exceed an applicable LRDP or Program EIR Standard of Significance?  

?  ?  1  ?  ?

Discussion

a, b) The proposed improvements would add up to ten new employees at the CNPRC. Project population and facility activity would result in approximately four new peak-hour, and a total of approximately 28 trips daily. Therefore, the proposed improvements would result in a small increase in traffic on roadways leading to the CNPRC.

The principal intersections potentially affected by the additional trips associated with the proposed project would be the intersections of Hutchison and CR 98, CR 98 and Russell Boulevard, Hopkins Road and Hutchison Drive, and the northbound off-ramp intersection of SR-113 with Hutchinson Drive. CR 98, Hutchison Drive, and Russell Boulevard are used to access the CNPRC. CR 98 is a two-lane roadway that carries approximately 3,800 vehicles per day during the typical workday. Hutchison Drive is a two-lane roadway with lighter traffic than CR 98. Russell Boulevard is also a two-lane roadway that carries about 2,600 vehicles east of CR 98. According to the 1994 LRDP EIR, as amended by the 1999 Western Human Nutrition Research Center Initial Study, the intersection of CR 98 and Hutchison Drive currently operates at LOS A during the a.m. and p.m. peak hours. The Data Collection and Intersection Analysis for the UCD LRDP, Fall 2001 (Fehr & Peers 2002), documents that each of the above intersections was operating at an average Level of Service (LOS) of A in the AM and PM peak hours at the end of 2001. Other intersections and freeway ramps that would be directly affected by project-related traffic all operate at acceptable levels of service (LOS) under existing conditions and would continue to do so through 2005. The number of peak hour and daily trips added by the proposed project is too small to affect the operations of the intersection of CR 98 with Hutchison Drive and Russell Boulevard or other intersections. Recent analysis for other projects at the CNPRC (CRPRC Improvement Projects Draft Tiered Focused EIR, August, 2001) did not identify any significant impacts to the transportation system other than those previously identified in the 1994 LRDP EIR.

The cumulative transportation effects of refined 1994 LRDP growth projections indicate that the following six intersections are anticipated to exceed 1994 LRDP EIR LOS standards through 2005-06 (DKS 2001):
• Richards Boulevard and First Street,
• Richards Boulevard and Olive Drive,
• Richards Boulevard and I-80 Eastbound Ramp,
• Richards Boulevard and Research Park Drive,
• California Avenue and Realigned Old Davis Road, and
• Health Sciences Drive and Hutchison Drive.

Mitigation Measures 4.3-1(b) [a] and [f], proposed in the 1994 LRDP EIR, as revised, would reduce cumulative on-campus impacts (at California Avenue/Realigned Old Davis Road and at Health Sciences Drive/Hutchison Drive) to less-than-significant levels. However, 1994 LRDP EIR Impact 4.3-1 was considered significant and unavoidable because the University could not guarantee the feasibility and/or implementation of intersection improvements (identified in Mitigation Measure 4.3-1) that fall within other jurisdictions to implement.

Additional mitigation measures near Hutchison Drive east of SR 113 have recently been adopted as part of the West Entry Parking Structure and Office Building Project (WEPS)(State Clearinghouse #2002102083). The WEPS project mitigation measures are necessary to mitigate the project specific traffic impacts of the WEPS project and are not needed to mitigate the effects of the proposed CNPRC Facility Upgrade project. If the WEPS project does not proceed, the additional WEPS mitigation measures are not needed to mitigate the cumulative traffic impacts on or near campus.

At the CNPRC, the proposed project primarily would involve modular structures, the installation of which would generate only minimal construction traffic. Construction for some elements of the proposed facility upgrades could be simultaneous with construction of previously approved projects at the CNPRC, and would contribute only minimally to the less-than-significant traffic impacts upon adjacent land uses identified in the CRPRC Improvement Projects Tiered Focused EIR.

Operation of the proposed projects would increase the campus population by approximately ten employees to 11,560, which would be less than the total expected number of 12,630 employees that were anticipated in the 1994 LRDP. With the expected enrollment increase to 26,850, the number of on campus students would exceed the student projection of 26,000 in the 1994 LRDP EIR. However, the total campus population is projected to reach 38,410, which would be below the 1994 LRDP EIR projection of 38,630. The proposed project is consistent with the increased development projected in the 1994 LRDP, and therefore, the increased traffic generation caused by the proposed project is expected to be within the traffic analyses performed for the 1994 LRDP EIR and subsequent projects (most recently DKS 2001, and Fehr and Peers 2002).

Continued compliance with 1994 LRDP EIR Mitigation Measure 4.3-1(a) would ensure that no new impacts related to increased vehicle trips other than those previously analyzed in the 1994 LRDP EIR, as revised, would occur. However, 1994 LRDP EIR Impact 4.3-1 was considered significant and unavoidable because the University could not guarantee the feasibility and/or implementation of intersection improvements (identified in Mitigation Measure 4.3-1) that fall within other jurisdictions to implement. This impact was adequately analyzed in the 1994 LRDP EIR and fully addressed in the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP and its certification of the 1994 LRDP EIR. As discussed in Appendix C, this impact is anticipated to remain significant and unavoidable through 2014-15. Given growth through 2014-15, intersections not previously addressed in the
1994 LRDP EIR could experience LOS exceedance, and portions of Mitigation Measure 4.3-1 would be updated to reflect this. The availability of additional feasible mitigation measures will be investigated as part of the LRDP update process.

c) The proposed project would not result in a change to air traffic patterns or increase in air traffic levels. The UC Davis campus airport, located approximately 0.75 miles to the east, is the closest airport to the CNPRC area. The proposed project is not within the operations area of the airport and would not pose any restrictions to the existing operations of the airport. No impact would occur.

d) The proposed facility upgrades involve only small-scale installation and construction within the existing CNPRC facility and would not introduce any sharp curves, or incompatible traffic uses. No impact would occur.

e) The location and design of the proposed CNPRC Facility Upgrade Project would allow adequate emergency and general access. The buildings would not affect access to any existing uses. Fire and other emergency access would be designed to meet campus standards. Therefore, no impact would occur.

f) The 1994 LRDP EIR concluded that population growth on campus associated with development under the 1994 LRDP could increase parking demand if corresponding improvements in mode share do not occur (Impact 4.3-6). As a result, the 1994 LRDP DEIR required implementation of Mitigation Measure 4.3-6 to reduce this impact to a less-than-significant level. This measure requires that additional parking be provided if the winter parking utilization rate goes over 90 percent on a major West Campus facility (such as the CNPRC), or if the project would require additional parking due to projected population growth, which would increase the utilization rate over 90 percent.

The CNPRC currently is served by Parking Lot 31, with 279 spaces. Overflow parking may occur in spaces adjacent to the CNPRC facilities in open fields. Based on a parking utilization survey conducted in January 2003, the current 10:00 a.m. utilization rate of Parking Lot 31 is 65 percent (UC Davis 2003). Given that there is no transit service available to the site, all ten new employees associated with the project are expected to drive to the CNPRC. The addition of ten vehicles would increase the utilization of the lot to 68 percent. It is concluded that the proposed project would not result in insufficient parking capacity, and the project’s impact on campus parking inventory would be less than significant. No mitigation is required.

g) The Campus and City of Davis encourage bicycle travel through various programs and facilities. The campus and City have been cooperating in a joint TSM effort to maintain and improve the existing non-automotive mode share. Among the strategies being used to reduce single-occupancy automobile trips are the establishment of a comprehensive bicycle and pedestrian circulation network, implementation of parking fees, transit planning and subsidies, promotion of carpool, vanpool, park and ride, and rideshare programs and incentives, operation of shuttle bus systems, encouragement of telecommuting and institution of public awareness programs (UC Davis 1994). The proposed project would not conflict with any of these strategies or other applicable policies, plans, or programs supporting alternative transportation. The campus has received a grant to construct bicycle lanes from central campus to SR 98, which will further encourage safe bicycle travel in the CNPRC area.
h, i) The proposed project is located on the west campus, where pedestrian and bicycle traffic are low. New bicycle lanes, which will be completed in 2005 (Dulcich 2003) will facilitate bicycle access to the CNPRC. No public transit serves the CNPRC. Little pedestrian traffic is anticipated in this area. The proposed project would have no impact on these modes of travel.

j) The campus has implemented several measures to support public transportation services, such as discounted transit passes, subsidized services, expanded peak service, and additional buses on existing routes. The proposed project, which would add approximately 10 employees, would generate demand for transit service. Although no transit service is provided to the CNPRC, and the increased transit demand which would result from the proposed project would be small, the proposed project would contribute to cumulative demand for transit service on campus. The increased transit demand caused by cumulative growth from the 1994 LRDP was identified in the 1994 LRDP EIR as a significant impact (Impact 4.3-5). This impact would be mitigated to a less-than-significant level through continued implementation of Mitigation Measure 4.3-5, incorporated as part of this project, which provides for transit improvements to meet future demand for services.

k) Standards of significance for transportation/circulation impacts that were used in preparation of the 1994 LRDP EIR are presented earlier in this section. These standards are consistent with the transportation/traffic questions in the current Environmental Checklist. As discussed above, with the incorporation of relevant 1994 LRDP EIR Mitigation Measures, the proposed project would not exceed the standards of significance identified in the 1994 LRDP EIR and would not result in new significant impacts related to transportation/circulation that were not previously analyzed in the 1994 LRDP EIR.

Summary

Mitigation measures 4.3-1(a), 4.3-2(b), 4.3-3, 4.3-5 and 4.3-6 from the 1994 LRDP EIR, as updated and revised, are incorporated into the proposed project. The proposed project would not result in new or significant transportation and circulation impacts that have not already been adequately assessed in the 1994 LRDP EIR.
5. NOISE

Background

The primary sources of noise on and off campus are vehicle noise from roads and highways (I-80 and SR 113, and traffic on local and regional roads), and freight and Amtrak trains using the Union Pacific (former Southern Pacific) railroad line. Aviation traffic also adds to the ambient noise levels, originating in the local area from the University Airport and Yolo County Airport.

Modeled noise levels along local and regional roadways for the 1994 LRDP EIR show existing levels ranging from as low as 56 $L_{dn}$ along County Road 32 at Russell Ranch to 76 $L_{dn}$ at 100 feet from the centerline of I-80 between SR 113 and Russell Boulevard. Measurements of sound levels, taken from acoustical studies performed between 1987 and 1993 at and near the campus range from 43 A-weighted decibels (dBAs) to 66 dBA hourly average sound level ($L_{eq}$). The higher noise levels measured were generally near busy roadways or sports fields (while in use). Measurements performed for the 1994 LRDP EIR were consistent with this range, with the exception of a few measurements at relatively quiet locations (all away from roadways) that were below 40 dBA $L_{eq}$.

1994 LRDP EIR Standards of Significance

For the 1994 LRDP EIR, the State of California, Solano County, Yolo County, City of Davis, and the UC CEQA noise elements and/or guidelines were reviewed. The State of California and the UC CEQA noise guidelines do not have specific exterior noise levels, standards or laws. The only numerical guidance that exists is the State of California published general plan guidelines for counties and cities for the preparation of Noise Elements. In the absence of numerical guidance for determining significance, the State of California published general plan guidelines are used as the standards of significance for project impacts on the Campus, Solano County, Yolo County, and the City of Davis. General plan guidelines and ordinances are used as the standards of significance for project impacts within Solano County, Yolo County, and the City of Davis jurisdictions, respectively. The environmental analysis in the 1994 LRDP EIR considered a noise impact to be significant if campus or regional growth would:

- cause substantial construction-related short-term noise level increases on the campus, in Yolo County or in Solano County that would disturb or interfere with nearby noise-sensitive uses or exceed the City of Davis Noise Ordinance for receptors in the City of Davis. Such noise-sensitive uses include off-campus residences, campus housing, and high and low density academic and administrative facilities; or

- substantially increase the ambient noise levels for adjoining areas by 5 dBA during project operation, or cause noise levels to exceed normally acceptable levels as defined by the State of California general plan noise element guidelines for receptors on the campus, Solano County general plan guidelines for receptors off-campus within Solano County, Yolo County general plan guidelines for receptors off-campus within Yolo County, City of Davis general plan guidelines for receptors off-campus within Davis, or California Occupational Safety and Health (Cal OSHA) standards.

Generally, construction-related short-term noise level effects on less noise-sensitive uses, such as teaching/research fields, support services, athletic facilities, open space areas, parking lots, and commercial areas, were not considered significant because the noise is temporary and such activities can continue with only minimal disturbance.
1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant noise-related impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The level of significance before and after application of mitigation measures identified in the 1994 LRDP EIR is also presented in the table. Impacts of campus growth through year 2005-06 on noise were addressed in Section 4.4 of the 1994 LRDP EIR. Cumulative noise impacts were reevaluated in the 1997-98 Major Capital Improvement Projects SEIR but no changes were made to the 1994 LRDP EIR impacts or mitigation measures (Section 8 of the Draft Supplemental 1997-98 Major Capital Improvement Projects SEIR). The proposed project is within the scope of the analysis presented in the 1994 LRDP EIR as reevaluated in the 1997-98 SEIR. Please note that cumulative regional impact 4.4-4 included mitigation measures to reduce the impact to a less-than-significant level. However, this impact was identified as significant and unavoidable because the University of California could not guarantee implementation of 1994 LRDP EIR Mitigation Measure 4.4-4(c), which is not within the jurisdiction of the University to enforce and monitor.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would increase cumulative noise levels. While this growth is not anticipated to result in any new cumulative noise impacts different in character from those already assessed in the 1994 LRDP EIR, the campus will reexamine potential cumulative noise impacts and any new mitigation measures that may be required during the LRDP update process.

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4-1</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>Development allowed under the 1994 LRDP would cause temporary increases in indoor and outdoor noise levels due to demolition, earthmoving and general construction activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4-3</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>Occupants in structures developed under the 1994 LRDP could be exposed to significant noise levels from traffic, railroad, or other sources.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4-4</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>Development allowed under the 1994 LRDP, in conjunction with cumulative growth in the Davis area, would result in increased traffic and other noise sources that could expose people and structures on- and off-campus to significant cumulative noise levels.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SU = Significant and Unavoidable; S = Significant; LS = Less than Significant

Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that would be required as part of project implementation include the following:
• **LRDP EIR Mitigation Measure 4.4-1** - For projects determined to have the potential to significantly affect nearby sensitive receptors, the Campus shall include in all construction contracts one or more of the following noise reduction measures:

(a) Construction activities that would impact sensitive receptors in the City of Davis and Campus residences shall be limited to the hours between 7:00 A.M. and 7:00 P.M. on weekdays and 8:00 A.M. to 8:00 P.M. on weekends;

(b) Stationary equipment shall be placed to direct emitted noise away from sensitive noise receptors or placed within a noise attenuating structure;

(c) If feasible, stockpiling and vehicle staging areas shall be located at least 100 feet from occupied academic, administrative, and residential areas;

(d) The loudest construction activities, such as demolition, shall be scheduled, if feasible, during summer, Thanksgiving, winter, and spring breaks when fewer people would be disturbed by construction noise;

(e) Potentially affected academic, administrative, and residential areas shall be informed by letter a week before the start of each construction, demolition, or grading operation; and

(f) Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Significant noise-generating construction equipment shall be shielded by noise-attenuating buffers such as structures or truck trailers when within 100 feet of occupied academic, administrative, and residential areas.

• **LRDP EIR Mitigation Measure 4.4-3(a)** - Prior to final project approval, the Campus shall evaluate each project proposed under the 1994 LRDP for potential exposure to noise levels exceeding 60 $L_{dn}$.

and

• **LRDP EIR Mitigation Measure 4.4-3(b)** - If individual projects would be exposed to noise levels between 60 $L_{dn}$ and 70 $L_{dn}$, the Campus shall undertake, and implement the recommendations of, a detailed analysis of noise reduction features necessary to achieve an interior noise level of 45 $L_{dn}$. It is anticipated that conventional construction, but with closed windows and fresh air supply systems or air conditioning, would normally achieve the necessary noise attenuation.

or

• **LRDP EIR Mitigation Measure 4.4-3(c)** - If individual projects would be exposed to noise levels in excess of 70 $L_{dn}$, the Campus shall implement one or more of the following noise reduction measures:

(i) install setbacks, sound walls, berms and/or use noise-attenuating site design to reduce exterior noise levels to less than 60 $L_{dn}$ for residential and/or adjacent residential land uses on Campus;
(ii) install setbacks, sound walls, berms, and/or noise-attenuating site design to reduce exterior noise levels to less than 70 $L_{dn}$ for academic and administrative land uses and adjacent academic and administrative land uses on Campus; and/or

(iii) employ adequate construction noise attenuation materials or site design for residential areas on Campus so that the interior noise level is 45 $L_{dn}$ or less.

- **LRDP EIR Mitigation Measure 4.4-4(a)** - The Campus shall evaluate each project proposed under the 1994 LRDP for its potential to create, or contribute to, noise levels which would exceed State of California general plan guidelines on campus, Solano County general plan guidelines within Solano County, Yolo County general plan guidelines within Yolo County, City of Davis general plan guidelines within Davis, or Cal OSHA standards.

- **LRDP EIR Mitigation Measure 4.4-4(b)** - Implement Mitigation Measure 4.4-3 (a) through (c).

- **LRDP EIR Mitigation Measure 4.4-4(c)** -

  (i) The Noise Element of the City of Davis General Plan includes land use noise compatibility standards, as depicted in Figure 4.4-3. It is within the jurisdiction of the City of Davis to implement the policies and standards found in the Noise Element.

  (ii) The Noise Element of the Yolo County General Plan includes land use noise compatibility standards, as depicted in Figure 4.4-2. It is within the jurisdiction of Yolo County to implement the policies and standards found in the Noise Element.

  (iii) The Noise Element of the Solano County General Plan includes land use noise compatibility standards, as depicted in Figure 4.4-4. It is within the jurisdiction of Solano County to implement the policies and standards found in the Noise Element.

The mitigation measures listed above are incorporated into the proposed project, and the proposed project, as mitigated, is evaluated in the checklist below.
### NOISE

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>l) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>m) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>n) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>o) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>p) 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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>q) 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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>r) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

#### Discussion

a,c,d) According to the 1994 LRDP EIR, ambient noise levels for the West Campus range from approximately 38 to 66 dBAs. Noise measurements were collected at the CNPRC adjacent to the large open-air cage south of the parking lot in preparation for the 1994 LRDP, in 1994. For noise
levels monitored between 11:50 a.m. and 12:50 p.m., the Leq was 50 dBA. During the one-hour measurement, the dominant noise was trucks and general aviation aircraft.

The proposed upgrades would be located within the existing CNPRC site. Land uses within the site include Parking Lot 31, Low Density and High Density Academic and Administrative buildings, Support, and Teaching/Research Fields. Surrounding 1994 LRDP land use designations include Teaching/Research Fields. High and Low Density Academic and Administrative uses at the CNPRC comprise the noise-sensitive uses adjacent to the proposed improvement project within the CNPRC. Also in the vicinity are one residence located 1,000 feet south of the CR 98/Hutchison Drive intersection; and the Grace Valley Christian Center (GVCC) in the southeastern quadrant of the Russell Boulevard and CR 98 intersection, northeast of the CNPRC. GVCC contains a school (kindergarten through 9th grade) that was established in 1998. The school is approximately 225 feet along CR 98 from the CNPRC fence line along CR 98, and about 1,600 feet from the nearest CNPRC laboratory building. To the north and east of the school, and further away from the CNPRC, are large-lot single family residences. Potential noise impacts during construction and operation are discussed below.

Construction

As described on page 4.4-20 of the 1994 LRDP DEIR:

*Construction activities may cause noise levels to exceed 60 Community Noise Equivalent Level (CNEL) temporarily when conducted close to existing or planned sensitive areas. Construction equipment and operations would generate noise levels of about 80 to 85 dBA at a distance of 50 feet from one individual major noise source, decreasing by about 6 dBA for every doubling of the distance and also depending on the type of noise control on the construction equipment. For example, at a distance of 100 feet from three major noise sources (a tractor, backhoe, and truck) noise levels would be about 74 to 86 dBA, at 200 feet 68 to 80 dBA, at 400 feet 62 to 74 dBA, and at 800 feet 56 to 68 dBA. Noise levels would be lower for a receptor when there is not a direct line-of-sight between the noise source and the receptor. A large portion of construction activity would take place at distances greater than 800 feet from existing sensitive areas (buildings where teaching and research are conducted) and may not be heard above the ambient noise level. Interior noise levels would be 10 to 20 dBA lower depending on whether windows are open or closed and the acoustical properties of the buildings.*

Limited grading and trenching of a few day’s duration would be necessary to construct the proposed project. With the exception of the temporary building replacement, the proposed facilities are modular, and would involve only minimal construction activity. The proposed activities would result in less noise effect than the current annual field equipment operations that take place in the field between the CNPRC and the GVCC. However, some of this activity would take place in close proximity to existing facilities and could result in short-term increases in existing noise levels, which could adversely affect adjacent academic research uses. The GVCC and the residences to the north and south are sufficiently distant from potential noise sources that any noise increases from construction would be attenuated to less-than-significant levels.
Operation

The proposed project involves the operation of academic and administrative facilities, including occasional operation of a gas-powered emergency generator. As described on page 4.425 of the 1994 LRDP DEIR:

The proposed 1994 LRDP would result in various new stationary and operational noise sources. Proposed development could result in noise being produced by lawn maintenance equipment, air conditioners, recreational activities, agricultural operations, building mechanical systems, chillers, and compressors.

Resulting noise levels are anticipated to increase above ambient levels, but not enough to exceed significant levels on the Campus, in Yolo County, in Solano County, or in the City of Davis.

As stated in Impact 4.4-2 on page 4.4-25 of the 1994 LRDP DEIR, any increases in operational noise levels attributable to 1994 LRDP development were not anticipated to exceed significance levels established in the 1994 LRDP DEIR and were considered less than significant. Operation of the proposed project would result in no new noise impacts other than those previously identified in the 1994 LRDP EIR. Therefore operational noise impacts are less than significant and no mitigation is required.

The increase in vehicle traffic associated with operation of the CNPRC Facility Upgrade Project would be small (about 28 per day) and would not result in noise levels that would exceed those which are experienced as a result of the existing CNPRC operation. Compliance with 1994 LRDP EIR mitigation measure 4.4-3(b) would ensure that the proposed project would not result in any new or significant impacts relative to vehicle noise beyond those previously identified in the 1994 LRDP EIR. Therefore, no further mitigation is required.

The 1994 LRDP EIR concluded that cumulative growth under the 1994 LRDP would result in increased traffic and other noise sources that could expose people to significant noise levels (Impact 4.4-4). Although continued implementation of 1994 LRDP EIR Mitigation Measures 4.4-4 (a) through (c) would reduce the magnitude of this cumulative impact, the impact was considered significant and unavoidable because Mitigation Measure 4.4-4 (c) falls outside the University of California’s jurisdiction to enforce and monitor. Operation of the proposed project would contribute very little vehicular traffic because it would entail only ten new employees. The proposed project would contribute to, but not exceed, increased noise levels identified under the 1994 LRDP. This significant and unavoidable impact was adequately analyzed in the 1994 LRDP EIR and fully addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP and certification of the 1994 LRDP EIR. As discussed in Appendix C, this impact is anticipated to remain significant and unavoidable through 2014-15. The availability of additional feasible mitigation measures will be investigated as part of the LRDP update process.

b) Construction of the proposed project would not include pile driving or other construction activities that could result in groundborne vibration or noise. Therefore, no impact would occur.
The proposed project is located about 1.5 miles west of the campus airport, but is not located within the campus airport noise contours identified in the 1994 LRDP EIR. The project site is not in the vicinity of a private air strip. No impact would occur.

Standards of significance for noise impacts that were used in preparation of the 1994 LRDP EIR are presented earlier in this section. These standards are consistent with the noise questions in the current Environmental Checklist. As discussed above, with the implementation of 1994 LRDP EIR mitigation measures, the proposed project would not exceed the standards of significance identified in the 1994 LRDP EIR and would not result in new significant impacts related to noise that were not previously analyzed in the 1994 LRDP EIR.

Summary

1994 LRDP EIR Mitigation Measures 4.4-1, 4.4-3(a), and 4.4-4 (a) through (c) are incorporated as part of the proposed project. With these measures incorporated, the proposed project would not result in new or significant noise impacts that have not already been adequately assessed in the 1994 LRDP EIR.
6. AIR QUALITY

Background

The campus is located within the Yolo-Solano Air Quality Management District (YSAQMD), which is located within the boundaries of the Sacramento Valley Air Basin (SVAB). As described on pages 4.5-6 and 4.5-7 of the 1994 LRDP EIR, the YSAQMD is in nonattainment of the state and federal standards for ozone ($O_3$). Air quality within the YSAQMD also violates state standards for particulate matter 10 microns or less in diameter ($PM_{10}$), and is classified as nonattainment. YSAQMD is in attainment of the state and federal standards for carbon monoxide (CO), except for the City of West Sacramento.

Recently, the Environmental Protection Agency (EPA) added standards in recognition of increased concern over particulate matter 2.5 microns ($PM_{2.5}$) or less in diameter. According to information provided by EPA, designations for the new $PM_{2.5}$ standards by the EPA were to begin in the year 2002 with attainment plans due by 2005 for regions that violate the standards. $PM_{2.5}$ measurements have been conducted as of February 1999, but it is too soon to determine if the YSAQMD is in attainment under the new federal $PM_{2.5}$ standards. The California Air Resources Board (CARB) and local air districts in California have developed a $PM_{2.5}$ monitoring network plan, but to date, no data have been collected.

The YSAQMD and the CARB maintain several monitoring sites in Yolo County. Data from a monitoring site on the campus (gathered from 1995-97) showed violations of state ozone standards in each of the three years reported. Based on results of computer modeling of 10 congested intersections in the vicinity of the campus, seven of the intersections indicated CO concentrations above state standards.

Toxic Air Contaminants (TACs) are emitted from both stationary and mobile sources, and can cause short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects. Unlike criteria pollutants, there are no specific minimum levels of TACs below which exposure can be considered safe, and any exposure has the potential to have adverse health effects. Automobiles are considered the major source of TAC emissions, and local agricultural operations, and research and instructional laboratories also contribute to these emissions (see pages 4.5-11 and 4.5-14 of the 1994 LRDP EIR).

UC Davis conducted a campus-wide human health risk assessment (HRA) in 1994 to identify potential health risks associated with TACs due to development under the 1994 LRDP. The HRA analyzed the cumulative cancer and non-cancer health risk from a total of 32 sources throughout the campus. This analysis concluded that the 1994 LRDP would not result in any carcinogenic TAC emissions that would pose a potential human health hazard and would not cause a significant adverse acute or chronic non-carcinogenic TAC health effects (see Impact 4.5-5 on pages 4.5-24 through 4.5-28 of the 1994 LRDP DEIR). Subsequent updates of the HRA retained the set of sources analyzed in the 1994 HRA and added in additional new sources in other portions of the central campus, especially in the Health Sciences District. According to the 1999 HRA update, the overall cancer risk from all new campus sources is 0.4767 in one million. All assessments concluded that development of specific projects under the 1994 LRDP would not result in any carcinogenic TAC emissions that would pose a potential human health hazard, and would not cause significant adverse acute or chronic non-carcinogenic TAC health effects. Results of the 1999 HRA update are presented in Table 3, below (UC Davis 2001a).
TABLE 3
SUMMARY OF CUMULATIVE RISKS FOR THE 1994 LRDP

<table>
<thead>
<tr>
<th>Description</th>
<th>1994 LRDP as Updated in 1999</th>
<th>1994 LRDP Standards of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Hazard Index</td>
<td>$9.29 \times 10^{-3}$</td>
<td>$\geq 1.0$</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>$3.37 \times 10^{-3}$</td>
<td>$\geq 1.0$</td>
</tr>
<tr>
<td>Cancer Risks</td>
<td>$0.4755 \text{ per } 10^6$</td>
<td>$\geq 10 \text{ per } 10^6$</td>
</tr>
</tbody>
</table>

1 Cumulative risk values including anticipated development in the Health Sciences District.

UC Davis is a major source subject to the requirements of Title V due to emissions of nitrogen oxides ($\text{NO}_x$), sulfur oxides ($\text{SO}_x$), and volatile organic compounds (VOCs) in excess of EPA thresholds. A major source is a stationary source that has the potential to emit a regulated pollutant in quantities equal to or exceeding established thresholds. Major sources must submit a Title V permit application including a list of all equipment that emits regulated air pollutants, quantification of the potential to emit for the facility and each emissions unit, a list of applicable federal regulations, and a certificate of compliance with all applicable regulations.

The major odor emission source on campus is animal waste associated with confined animal facilities. Other sources in the Central Campus include the WWTP, motor vehicles, and the Campus landfill.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to air quality to be significant if campus or regional growth would:

- cause or contribute substantially to existing or projected violations of state or federal criteria air pollutant standards;
- result in exposure of sensitive receptors to substantial pollutant concentrations; or
- result in exposure of sensitive receptors to unpleasant odors.

For the purposes of the 1994 LRDP EIR, a "substantial contribution" to the regional pollutant load was defined as the new production of 550 pounds per day of CO, and/or 82 pounds per day of reactive organic gases (ROGs), $\text{NO}_x$, $\text{SO}_x$, and $\text{PM}_{10}$.

Since there are no ambient concentration standards for TACs, evaluation of impacts in the LRDP EIR was based upon health risk analysis. For carcinogenic TAC emissions, a cancer risk exceeding 10 in one million was considered significant. To evaluate non-carcinogenic (chronic and acute) health risks, a change in ground-level concentration of pollutants emitted from the Campus that exceed relevant noncancer effect criteria was considered significant. For the purposes of the 1994 LRDP EIR, the noncancer effect criterion was a hazard index greater than 1.0.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The level of significance before and after application of mitigation measures identified in the 1994 LRDP EIR is also presented in the table. Impact 4.5-1 would either be less than significant after mitigation or remain significant and unavoidable depending on the scale of the
AIR QUALITY

project and the project's proximity to other construction projects. Impacts of campus growth through 2005-06 on air quality were evaluated in Section 4.5 (Air Quality) of the 1994 LRDP Draft EIR. Cumulative air quality impacts were reevaluated in Section 4.2 of the WWTP Replacement Project Draft EIR and in Section 8 of the 1997-98 Major Capital Improvement Projects Draft SEIR. However, no changes were made to impacts or mitigation measures identified in the 1994 LRDP EIR. Appendix A of this Initial Study discusses revisions to the 1994 LRDP EIR in further detail. The proposed project is within the scope of the air quality analysis presented in the 1994 LRDP EIR and reevaluated in these subsequent documents. Please note that cumulative regional impact 4.5-6 included mitigation measures to reduce the impact to a less-than-significant level. However, this impact was identified as significant and unavoidable because the University of California cannot guarantee the implementation of the mitigation measures that fall within other jurisdictions to enforce and monitor.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would contribute to air quality impacts. However, this growth is not anticipated to result in any new cumulative air quality impacts different in character from those already assessed in the 1994 LRDP EIR. The validity of conclusions drawn regarding Toxic Air Contaminants will be reassessed during the LRDP update process. The campus will also reexamine other potential air quality impacts and any new mitigation measures that may be required during the LRDP update process.

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5-1 Construction activities as part of development allowed under the 1994 LRDP could result in short-term generation of dust (PM10).</td>
<td>SU</td>
<td>LS/SU</td>
</tr>
<tr>
<td>4.5-3 Development allowed under the 1994 LRDP would generate increased levels of CO, O3 precursors (ROCs and NOX), visibility reducing particles and PM10 emissions.</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>4.5-6 Development allowed under the 1994 LRDP, in conjunction with cumulative development in the region, would increase criteria pollutant emissions.</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>4.5-8 Development allowed under the 1994 LRDP, in conjunction with cumulative development in the Davis area, may generate unacceptable cumulative TAC health risks. Inadequate methods exist to assess the magnitude of this impact, and it is therefore considered too speculative to determine the precise level of significance.</td>
<td>SU</td>
<td>SU</td>
</tr>
</tbody>
</table>

SU = Significant and Unavoidable; S = Significant; LS = Less than Significant

Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

• **LRDP EIR Mitigation Measure 4.5-1** – The Campus shall include in all construction contracts the following measures to reduce fugitive dust impacts.
(a) All unpaved construction areas shall be sprinkled with water or other acceptable Yolo-Solano AQMD dust control agents during dust generating activities to reduce dust emissions. Additional watering or acceptable APCD [air pollution control district] dust control agents shall be applied during dry weather or windy days until dust emissions are not visible.

(b) Trucks hauling dirt and debris shall be covered to reduce wind blown dust and spills.

(c) On dry days, dirt or debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction related dirt in dry weather.

(d) On-site stockpiles of excavated material shall be covered or watered.

- **LRDP EIR Mitigation Measure 4.5-3(a)** – Implement Mitigation Measures 4.3-1 and 4.3-5. (Please see Transportation/Circulation for these mitigation measures.)

- **LRDP EIR Mitigation Measure 4.5-3(b)** – The Campus shall acquire permits for stationary and area sources as required by the Yolo-Solano Air Quality Management District.

- **LRDP EIR Mitigation Measure 4.5-6(a)** – Implement Mitigation Measures 4.5-3 (a) and (b).

- **LRDP EIR Mitigation Measure 4.5-6(b)** The Sacramento Air Basin includes a large number of jurisdictions, including the greater Sacramento metropolitan area. In the Basin, air quality is regulated by the Sacramento Metropolitan Air Quality Management District, YSAQMD, and a number of other Air Pollution Control Districts. Pursuant to rules, regulations, and policies of those AQMDs and APCDs, as well as adopted general plans throughout the Basin, it is within the jurisdiction of each local government or district to take actions to ensure compliance with the federal Clean Air Act and the California Clean Air Act.

The mitigation measures listed above are incorporated into the proposed project, and the proposed project, as mitigated, is evaluated in the checklist below.
AIR QUALITY

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

**Would the project:**

a) Conflict with or obstruct implementation of the applicable air quality plan?  

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?  

   During Construction:  

   During Operation:  

   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)?  

d) Expose sensitive receptors to substantial pollutant concentrations?  

e) Create objectionable odors affecting a substantial number of people?  

f) Exceed an applicable LRDP or Program EIR Standard of Significance?  

**Discussion**

a) As required by the California Clean Air Act, the YSAQMD has published an Air Quality Attainment Plan (AQAP). The AQAP is intended to bring the SVAB into compliance with federal and State ambient air quality standards. Because the SVAB is not in compliance with ozone standards, the AQAP addressed emissions of ozone precursors. Currently, AQAPs are not required to address PM$_{10}$, for which the YSAQMD is nonattainment of state standards (see pages 4.2-14 through 4.2-15 of the WWTP Replacement Project DEIR [UC Davis 1997]).

As discussed on page 4.5-7 of the 1994 LRDP DEIR, with updated information provided on page 5.7-3 of the 1997-98 Major Capital Improvement Projects DSEIR, a Sacramento Area Regional Ozone Attainment Plan was submitted to the EPA in November 1994 by the Sacramento Metropolitan Air Quality Management District (SMAQMD) on behalf of five air districts, including the YSAQMD. This plan was required to demonstrate that the federal ozone standard
would be achieved in the Sacramento region by 1999. Attainment could not be demonstrated for the Sacramento region, and a new plan to attain the standard by 2005 must be submitted in accordance with the federal Clean Air Act. This plan will not contain additional measures that would apply to the proposed project. The proposed project would not conflict with or obstruct implementation of the AQAP. No impact would occur.

Criteria and toxic air pollutants associated with the proposed project are evaluated in Items (b) and (c) below.

b, c) **Construction**

**Criteria Pollutants**

Construction of the proposed facility upgrades would consist primarily of modular installation, which would require a small amount of grading and trenching. As described on page 4.5-18 of the 1994 LRDP DEIR:

*Construction-related activities would generate "fugitive dust" from earthmoving, excavation, demolition, and grading. The term "fugitive dust" refers to particulate matter emitted from an open area (i.e., not through a stack or an exhaust vent), due to human activities or by the forces of wind acting on exposed material such as soil or storage piles. Particulate (dust) emissions would vary with the level and type of activity, silt content and moisture of the soil and prevailing weather.*

Fugitive dust generated by project-related construction activities could cause violations of the state and federal PM$_{10}$ standards at times, and would contribute to significant PM$_{10}$ emissions previously identified in the 1994 LRDP EIR (Impact 4.5-1). This construction impact would be temporary and short-term. As indicated by the 1994 LRDP EIR on page 4.5-18, the region is in non-attainment for PM$_{10}$, and the YSAQMD would therefore require the implementation of dust suppression techniques to minimize dust emissions during construction. Implementation of 1994 LRDP EIR Mitigation Measures 4.5-1 (a) through (d), included in the proposed project, would minimize project PM$_{10}$ emissions to a less-than-significant level and would ensure that construction activities associated with the proposed project would not result in new impacts relating to construction air quality beyond those previously identified in the 1994 LRDP EIR.

If multiple, simultaneous construction projects were to occur, cumulative dust impacts could be significant and unavoidable. Construction of the proposed project could occur simultaneously with other construction in the vicinity of the CNPRC, but would not be simultaneous with the construction of the storm water basins approved as one of the CRPRC Improvement Projects. The basins must be built before additional construction can occur at the CNPRC, and thus will be completed prior to any construction for the proposed project. Since the storm water project would be the principal potential source of criteria pollutants related to construction in the vicinity, and since the proposed project would not be constructed at the same time as the basin, the proposed project would incrementally contribute to, but would not exceed, cumulative criteria air pollutant impacts that were identified in the 1994 LRDP as significant and unavoidable. This impact was adequately analyzed in the LRDP EIR, and–addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP. As discussed in Appendix C, this impact is anticipated to remain significant and unavoidable through 2014-15. The availability of additional feasible mitigation measures will be investigated as part of the LRDP update process.
The 1994 LRDP DEIR (page 4.5-19) noted that construction-related emissions would also result in short-term emissions of ozone ($O_3$) precursors. These precursors specifically include reactive organic gases (ROGs) from paint and ROGs and nitrogen oxide ($NO_x$) exhaust emissions from powered construction equipment and motor vehicles. Although the SVAB, which includes the project site, is in nonattainment of both federal and state $O_3$ standards, the small number of construction vehicle trips generated by the proposed project would occur during a limited period of time and both the short term and the long-term impacts to air quality of the temporary increase in ROGs and $NO_x$ would be negligible. Furthermore, as stated on page 4.5-19 of the 1994 LRDP DEIR:

> Given the potential for construction under the 1994 LRDP and the fact that $O_3$ formation is dependent on a complex interaction of atmospheric and meteorological factors over a relatively large physical area (such as an air basin), short-term emissions of $O_3$ precursors would not be expected to lead to a violation of ambient air quality standards for $O_3$ in the Campus vicinity. While these emissions would contribute (temporarily) to the nonattainment status of Yolo County for $O_3$, they would likely represent less than the stationary source emission thresholds and, thus, are considered less-than-significant.

If multiple simultaneous construction projects were to occur, cumulative criteria pollutant impacts could be significant and unavoidable. However, as noted above, it is anticipated that construction of the proposed facilities would not occur simultaneously with other major construction projects in the vicinity of the project site. The proposed project would incrementally contribute to, but would not exceed, cumulative criteria air pollutant impacts that were identified in the 1994 LRDP EIR as significant and unavoidable. This significant and unavoidable impact was adequately analyzed in the LRDP EIR, and addressed in the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP. As discussed in Appendix C, this impact is anticipated to remain significant and unavoidable through 2014-15. The availability of additional feasible mitigation measures will be investigated as part of the LRDP update process.

In addition, the 1994 LRDP EIR concluded that development under the 1994 LRDP in conjunction with cumulative development in the region would increase CO concentrations at intersections. This impact was considered to be less-than-significant because CO is an attainment pollutant in the SVAB and future CO emissions would continue to be lower as a result of new regulations requiring the use of cleaner burning fuels and improved engine efficiencies. No mitigation was required. The proposed project would contribute to, but would not exceed, increased CO emissions identified under the 1994 LRDP because it is consistent with approved development. Therefore, this impact would remain less-than-significant. As discussed in Appendix C, this impact is anticipated to remain less-than-significant through 2014-15.

**Operation**

**Criteria Pollutants**

Operation of the proposed projects would increase the campus population by approximately ten employees to 11,560 employees. Expected enrollment increases on campus (independent of this project) would bring the student population to 26,850 student, which is within the total population growth evaluated in the 1994 LRDP EIR of 38,630 people by the year 2005-6. The traffic related to the proposed project would result in 1.60 pounds per day (lbs/day) of ROGs, 1.2/day of $NO_x$, 5.158 lbs/day of CO, and 0.15 lbs/day of particulate matter ($PM_{10}$). These
emissions would be below Yolo-Solano Air Quality Management District’s significance thresholds of 82 lbs/day for ROGs, NO\textsubscript{x}, and PM\textsubscript{10} and 550 lbs/day for CO.

**TABLE 4**

<table>
<thead>
<tr>
<th>Period</th>
<th>Trips</th>
<th>Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ROG</td>
</tr>
<tr>
<td>Peak Hour</td>
<td>4</td>
<td>lb/hr.</td>
</tr>
<tr>
<td>Daily</td>
<td>28</td>
<td>lb/day</td>
</tr>
</tbody>
</table>


Assumptions:
1. Emissions based on CARB's EMFAC7F (1.1).
2. Emissions are for a weighted fleet mix for the year 2000.
3. Average Trip Length: 10 miles, Speed: 30 MPH, Temperature: 75 F
4. Emission factors are average of winter time and summer time rates.
5. 60% cold start, 40% hot start.

A diesel-powered emergency generator is included in the proposed project as backup power for the project’s freezer modules. This generator would be added to the campus Title V permit. The generator would require an application for Authority to Construct (ATC) with the Yolo-Solano Air Quality Management District prior to installation. The ATC process would include a New Source Review and a review of Best Available Control Technologies (BACT). Once this ATC is granted and the equipment is installed, a Permit to Operate (PTO) would be obtained from YSAQMD. Emissions reduction credits are not required for equipment used only in emergencies. Emissions from the emergency generator were calculated using AP-42 emission factors for ROGs and CO published by the Environmental Protection Agency and emission factors for NO\textsubscript{x} and PM\textsubscript{10} from SJVAPCD BACT Guidelines. The analysis assumed operation of the emergency generator for one hour a day for purposes of testing and maintenance, and continuous 24 hours of operation in the event of a power failure that lasted a day. From routine testing and maintenance of the generator, estimated emissions would be 0.34 pounds per day (lbs/day) of ROGs, 2.04 lbs/day of NO\textsubscript{x}, 0.04 lbs/day of PM\textsubscript{10}, 0.9 lbs/day of CO, and 0.05 lbs/day of sulfur dioxide (SO\textsubscript{2}). From continuous operations over a 24-hour period, the emissions would be 8.10 lbs/day of ROGs, 48.96 lbs/day of NO\textsubscript{x}, 1.06 lbs/day of PM\textsubscript{10}, 21.48 lbs/day of CO, and 1.13 lbs/day of SO\textsubscript{2}.

The total emissions resulting from the proposed project, including the increased vehicular emissions related to the proposed project, and the estimated air emissions from the proposed emergency generator, would be 1.94 lbs/day of ROGs, 3.24 lbs/day of NO\textsubscript{x}, 0.19 lbs/day of PM\textsubscript{10}, 6.059 lbs/day of CO, and 0.05 lbs/day of SO\textsubscript{2}. These emissions would not exceed the 1994 LRDP significance thresholds for criteria pollutants and the impact would be less than significant.

The 1994 LRDP identified increased levels of CO, ozone precursors (NO\textsubscript{x}, ROC), visibility-reducing particles, and particulate matter resulting from development under the 1994 LRDP as a significant and unavoidable impact because established significance thresholds would be exceeded (Impact 4.5-3). The proposed project would incrementally contribute to, but would not exceed, this impact previously identified and adequately addressed in the 1994 LRDP EIR. Implementation of the 1994 LRDP EIR Mitigation Measure 4.5-3 (a) and (b), included in the proposed project, would reduce criteria pollutant emissions associated with increased vehicle trips, but due to limited data, the impact would remain significant and unavoidable. This significant and unavoidable impact was addressed in the Findings and Overriding Considerations.
adopted by The Regents in connection with its approval of the 1994 LRDP and certification of the 1994 LRDP EIR and no further mitigation is required. As discussed in Appendix C, this impact is anticipated to remain significant and unavoidable through 2014-15. The availability of additional feasible mitigation measures will be investigated as part of the LRDP update process.

The 1994 LRDP EIR recognized that criteria pollutant emissions of the 1994 LRDP, in conjunction with those of cumulative development in the region, would result in a significant and unavoidable impact (Impact 4.5-6). Although 1994 LRDP Mitigation Measures 4.5-6 (a) and (b) would be implemented as part of the proposed project to reduce the magnitude of this impact, this impact would remain significant and unavoidable because implementation of Mitigation Measure 4.5-6 (b) is not within the jurisdiction of the University to enforce and monitor. This impact was adequately analyzed in the 1994 LRDP EIR and fully addressed in the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP EIR and certification of the 1994 LRDP EIR. As discussed in Appendix C, this impact is anticipated to remain significant and unavoidable through 2014-15. The availability of additional feasible mitigation measures will be investigated as part of the LRDP update process.

In addition, the 1994 LRDP EIR concluded that development under the 1994 LRDP in conjunction with cumulative development in the region would increase CO concentrations at intersections. This impact was considered to be less-than-significant because CO is an attainment pollutant in the SVAB and future CO emissions would continue to be lower as a result of new regulations requiring the use of cleaner burning fuels and improved engine efficiencies. No mitigation was required. The proposed project would contribute to, but would not exceed, increased CO emissions identified under the 1994 LRDP because it is consistent with approved development. Therefore, this impact would remain less-than-significant. As discussed in Appendix C, this impact is anticipated to remain less-than-significant through 2014-15.

**Toxic Air Contaminants (TACs)**

The proposed CNPRC Facility Upgrade Project includes a small new laboratory space not accounted for in the updated LRDP health risk values presented in Table 3 (above). The proposed project would increase the area of existing lab space at the facility by 290 gross square feet (gsf), through the demolition of an existing building that includes 880 gsf of lab space and replacement with a building that includes 1,170 gsf of lab space. In December 2002, a screening-level health risk analysis was performed for the proposed additional lab space to examine the potential impacts on the current cumulative LRDP HRA. This analysis addressed a slightly smaller laboratory than now proposed (280 gsf rather than the currently proposed 290 gsf); however, the 10 square feet increase in space analyzed is not significant in the results of the analysis. Laboratory chemical emission factors from the 1994 HRA (expressed as grams per second (g/s) emissions per square foot (ft²) of laboratory floor space) were applied to the estimated new laboratory floor space. The 1994 HRA was based on the ISCST dispersion model, which takes actual meteorology into account. A screening-level assessment was performed for the new CNPRC laboratory space using the SCREEN3 dispersion model, which employs theoretical worst-case meteorological assumptions to arrive at a conservative estimate of worst-case one-hour ground-level concentrations. Annual-average concentrations were estimated by multiplying the maximum predicted one-hour concentrations by a persistence factor of 0.10, a screening-level assumption accepted by California air quality management agencies (CAPCOA 1987).

SCREEN3 was run in both the urban and rural dispersion modes. Given the open-space nature of the UC Davis west campus setting, the rural dispersion mode is likely more appropriate and
generally provides higher concentration predictions further away from the emission source. However, the urban mode can give higher concentration predictions closer to the emission source because of assumed increased air turbulence (i.e., developed land versus open space) which can draw the plume to the ground closer to the source (increasing ground-level concentrations), but then cause decreased concentrations further away due to the increased initial dispersion. In this case, the model was run both ways and the highest prediction from either mode used in the analysis (which turned out to be the urban mode closer to the source). The emission rate in these runs was set to 1 g/s (“unit emission rate”) for application in the health risk calculations with the actual chemical emission rates. The release height was assumed to be 20 feet above ground level (a 12-foot stack on top of a 10-foot roof). The vent stack parameters were consistent with those used in the 1994 LRDP: a 2-foot diameter and an exhaust velocity of 3,000 feet per minute.

Table 5 presents the results of the screening-level health risk assessment performed for the new laboratory space. Annual air concentrations were multiplied by cancer unit risk factors (URFs) and these products summed across all chemicals to arrive at an estimate of lifetime cancer risk. The URFs, taken from the 1994 HRA, assumed continuous exposure 24 hours per day, every day, for 70 years. These URFs were compared against an updated list of URFs recently published by the California Environmental Protection Agency (Cal-EPA 1999a), and were found to be equivalent for these chemicals. To estimate potential chronic non-cancer health effects, the annual concentration predictions were divided by acceptable chronic reference concentrations, and these ratios summed across all chemicals to calculate a chronic hazard index. The chronic reference concentrations from the 1994 HRA were compared to updated values approved by Cal-EPA (Cal-EPA 2000), and some were found to have changed. The revised chronic reference concentrations are indicated in Table 5 in bold font. The new values cause about a 5 percent increase in the chronic hazard index prediction, but as shown in Table 5, the chronic hazard index is still very small.
TABLE 5: ESTIMATED AIR TOXIC EMISSIONS AND SCREENING-LEVEL HEALTH RISK IMPACTS FROM PROPOSED TB 196 BUILDING REPLACEMENT

MATT --THIS TABLE IS A SEPARATE XLS FILE. I SENT YOU EXCELL AND JPG VERSIONS
As for acute non-cancer health effects, the maximum hourly concentration predictions were divided by acceptable acute reference concentrations and these ratios summed across all chemicals to calculate an acute hazard index. The acute reference concentrations from the 1994 HRA were compared to updated values published by Cal-EPA (Cal-EPA 1999b), and some were found to have changed. The revised acute reference concentrations are indicated in Table 5 in bold font. These new values cause a 297 percent increase in the acute hazard index prediction, but as shown in Table 5, the chronic hazard index is still very low.

Based on this analysis, the maximum predicted lifetime cancer risk (predicted about 574 feet away from the new lab space) is 0.00059 in a million. The maximum chronic hazard index is $1.90 \times 10^{-6}$ and the maximum acute hazard index is $1.99 \times 10^{-6}$. These maximum predictions are low, yet likely overstate the actual contribution to the existing cumulative health risks as they were calculated under conservative screening-level assumptions and are not collocated with the existing cumulative risks. This study concluded that the health risk associated with the new lab alone, as well as cumulatively with the projects analyzed under the 1994 LRDP, was very low and below the applicable significance criteria of $10 \times 10^{-6}$ (URS 2002). The project, in conjunction with other TAC sources included in the 1994 LRDP EIR (as amended), would not result in a significant health risk.

d) Sensitive receptors in the vicinity of the proposed project site include existing academic and administrative facilities of the CNPRC and, at a greater distance (1,600 from the closest laboratory building), the Grace Valley Community Church and school, and several residences (the closest 1,000 feet distant from the CNPRC). Although construction-related air quality impacts have the potential to be significant, the implementation of 1994 LRDP mitigation measure 4.5-1 would be required as part of the proposed project. As a result, although nearby receptors could be exposed to short-term elevated levels of PM$_{10}$, implementation of mitigation measures would reduce this impact to a less-than-significant level. Operational air quality impacts of the proposed project would be less than significant to sensitive receptors at and near the site.

e) There are currently several sources of odor at the site and its vicinity associated with animal waste at the existing cages of the CNPRC. Usually, odor emissions from those facilities would be dispersed over a short distance by dilution or mixing with air. When odors are strong or when a slight breeze exists, odors may be transmitted over longer distances. The proposed project includes the addition of indoor animal holding modules where primates would be confined. Animal wastes could constitute a source of odor at these facilities. However, routine cage cleaning is part of the proper maintenance and care of the animals at the CNPRC. Indoor animal cages are sanitized every two weeks at CNPRC’s cage washing facility. Therefore, odor mitigation is part of the routine CNPRC animal maintenance practice. In addition, the location of the CNPRC site is within the west campus, which is a low-density area. Therefore, any odor created by the proposed animal facilities would not affect a substantial number of people. All project-specific impacts would be less than significant. No mitigation is required.

f) Standards of significance for air quality impacts that were used in preparation of the 1994 LRDP EIR are presented earlier in this section. These standards are consistent with the air quality questions in the current Environmental Checklist. As discussed above, with the implementation of applicable 1994 LRDP EIR mitigation measures, the proposed project would not exceed the standards of significance identified in the 1994 LRDP EIR and would not result in new significant impacts related to noise that were not previously analyzed in the 1994 LRDP EIR.
AIR QUALITY

Summary

The proposed project would result in less-than-significant odor impacts that are further mitigated by waste handling and sanitizing protocol already in place. TAC emissions from a small increase in laboratory space at the facility present a very low and insignificant health risk, even cumulatively with all development under the LRDP. The proposed project would result in small contributions to cumulative air quality impacts analyzed under the 1994 LRDP EIR, and minimal and short term increases in fugitive dust as the result of construction and operation. The proposed project would incorporate 1994 LRDP EIR Mitigation Measures 4.5-1, 4.5-3 (a) and (b), and 4.5-6 (a) and (b). The project would not result in new or significant air quality impacts that have not already been adequately assessed in the 1994 LRDP EIR.
7. HAZARDS AND HAZARDOUS MATERIALS

Background

UC Davis uses many materials, some of which are considered hazardous, during the course of daily operations. Such hazardous materials include many chemical reagents, solvents, radioisotopes, fuels, paints, cleansers, pesticides, and biohazardous substances that are used in activities such as laboratory research; building and grounds maintenance; vehicle maintenance; agriculture applications; fine arts; and clinical veterinary medicine. Hazardous materials use on campus generates hazardous byproducts that must eventually be handled and disposed of as hazardous wastes. Because campus hazardous materials use is primarily associated with teaching and research laboratory activities, the 1994 LRDP EIR assumed that hazardous materials-related activities would increase in proportion to projected increases in instruction and research space, an increase of about 41 percent over the LRDP planning period. In addition, the campus uses animals for both teaching and research in veterinary medicine, agriculture, biological sciences, and other campus schools, colleges, and divisions. Use of laboratory animals may pose potential hazards. Animals present physical safety hazards such as bites, and infected animals can spread disease. In 1992, approximately 500 campus faculty members made some use of vertebrate animals in their research and teaching.

Since adoption of the 1994 LRDP EIR, the campus has implemented several mitigation measures identified to mitigate the use and generation of hazardous chemicals associated with campus growth. In conformance with 1994 LRDP EIR Mitigation Measures 4.6-2(b), 4.6-4(b), and 4.6-6(a), a new handling facility for campus hazardous wastes (the Environmental Services Facility) has been constructed and became fully operational in early 2000. The new facility currently operates at about 40 percent of its capacity. In conformance with Mitigation Measure 4.6-1 (a) (ii), Injury and Illness Prevention, Chemical Hygiene, and Emergency Action Plans have been developed for the campus since 1994. In conformance with Mitigation Measure 4.6 -1(b) and (c), the campus established a Certified Unified Program Agency Self-Audit Program in 1995, a Chemical Inventory System in 1998, and a system for independent health and safety audits in 1995. In conformance with Mitigation Measure 4.6-23, the campus entered into an Agreement for Hazardous Materials Automatic Aid with other jurisdictions in the region in 1995 that provides UC Davis and all participating agencies with adequate resources to respond to a Level A hazardous materials incident. The campus also conducts biennial audits by a third party to document the compliance status of campus departments and units in conformance with 1994 LRDP EIR mitigation measures 4.6-1(b) and (c).

Hazardous wastes are generated at campus locations where hazardous materials are used, including research and teaching laboratories, maintenance facilities, agricultural operations, art studios, and the health sciences and veterinary medicine complexes. Research and teaching activities produce most of the hazardous waste generated annually by the Campus.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to hazardous materials and/or public safety to be significant if campus or regional growth would:

- create a substantial potential health or safety hazard due to risk of upset (accidents);
- interfere with emergency response plans or emergency evacuation plans;
HAZARDS AND HAZARDOUS MATERIALS

- involve the use, production, or disposal of materials in a manner that poses a hazard to people, or to animal or plant populations in the area affected;
- expose employees to working situations that exceed health standards; or
- involve violating applicable laws intended to protect human health and safety.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The levels of significance before and after application of mitigation measures identified in the 1994 LRDP EIR are also presented. Impacts of campus growth through year 2005-06 related to hazardous materials are addressed in Section 4.6 (Hazardous Materials and Public Safety) of the 1994 LRDP Draft EIR. Cumulative hazardous materials and public safety impacts were reevaluated in the WWTP Replacement Project EIR (Chapter 4.3 of the WWTP Replacement Project Draft EIR), but no changes were made to the impacts, mitigation measures, or levels of significance identified in the 1994 LRDP EIR. Appendix A in this Initial Study summarizes updates and revisions to the 1994 LRDP EIR. The proposed project is within the scope of the hazardous materials and public safety analysis presented in the 1994 LRDP EIR, as reevaluated in the WWTP Replacement Project EIR. Please note that cumulative impacts 4.6-3, 4.6-4, and 4.6-23 include mitigation measures to reduce impacts to less-than-significant levels. However, these impacts were identified as significant and unavoidable because the University of California cannot guarantee implementation of mitigation measures that fall within other jurisdictions to enforce and monitor.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus’ potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would likely increase hazardous materials use beyond that anticipated under the 1994 LRDP. However, this growth is not anticipated to result in any new cumulative hazards and hazardous materials impacts different in character from those already assessed in the 1994 LRDP EIR. Hazards and hazardous materials mitigation measures identified in the 1994 LRDP EIR will be updated in the next LRDP EIR to reflect current waste management practices. The campus will also reexamine potential cumulative hazard and hazardous materials impacts and any new mitigation measures that may be required during the LRDP update process.

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.9-1 Implementation of the 1994 LRDP would lead to an increase in hazardous chemical use at UC Davis that could expose Campus occupants to potential health or safety risks.</td>
<td>PS</td>
<td>LS</td>
</tr>
<tr>
<td>4.6-2 Implementation of the 1994 LRDP could lead to an increase in the generation of hazardous chemical waste at UC Davis that could expose campus occupants to potential health or safety risks.</td>
<td>PS</td>
<td>LS</td>
</tr>
</tbody>
</table>
### HAZARDS AND HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6-3 Increased use of hazardous chemical materials related to cumulative development in the region would increase the number of people exposed to health hazards associated with such use.</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>4.6-4 Implementation of the 1994 LRDP, in conjunction with other development in the region that generates hazardous chemical waste, could place an additional load on hazardous waste management facilities.</td>
<td>SU</td>
<td>SU</td>
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<tr>
<td>4.6-5 Implementation of the 1994 LRDP could lead to an increase in radioactive material use at UC Davis, which could expose Campus occupants to potential health or safety risks.</td>
<td>PS</td>
<td>LS</td>
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<tr>
<td>4.6-6 Implementation of the 1994 LRDP would lead to an increase in the generation of radioactive waste at UC Davis that could expose campus occupants to potential health or safety risks.</td>
<td>PS</td>
<td>LS</td>
</tr>
<tr>
<td>4.6-7 Increased use of radioactive materials related to cumulative development in the region would increase the number of people exposed to health hazards associated with the use of radioisotopes.</td>
<td>SU</td>
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<tr>
<td>4.6-8 Implementation of the 1994 LRDP, in conjunction with other development in the region that generates radioactive waste, would place an additional load on radioactive waste management facilities.</td>
<td>SU</td>
<td>SU</td>
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<tr>
<td>4.6-9 Implementation of the 1994 LRDP could lead to an increase in biohazardous materials use at UC Davis that could expose Campus occupants to potential health or safety risks.</td>
<td>PS</td>
<td>LS</td>
</tr>
<tr>
<td>4.6-10 The LRDP would increase the use of laboratory animals at UC Davis, thereby increasing the risk of animal bites, escapes, and disease transmission.</td>
<td>PS</td>
<td>LS</td>
</tr>
<tr>
<td>4.6-12 Increased use of biohazardous materials and research animals related to cumulative development in the region would increase the number of people exposed to health hazards associated with such use.</td>
<td>SU</td>
<td>SU</td>
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<tr>
<td>4.6-16 Construction activities under the 1994 LRDP could expose campus occupants and construction workers to contaminated soil or groundwater.</td>
<td>PS</td>
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</tr>
<tr>
<td>4.6-22 Increased campus operations using hazardous materials resulting from development under the 1994 LRDP could exceed emergency response capabilities at UC Davis.</td>
<td>S</td>
<td>LS</td>
</tr>
</tbody>
</table>
HAZARDS AND HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6-23 The increased campus operations to be developed under the 1994 LRDP, in conjunction with anticipated growth in the City of Davis, could contribute to cumulative demand for emergency response capabilities in the Davis area.</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>4.6-24 Hazardous materials used at facilities developed under the 1994 LRDP may be inadvertently released to the sewer or disposed of with non-hazardous solid waste.</td>
<td>S</td>
<td>LS</td>
</tr>
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</table>

**SU = Significant and Unavoidable; S = Significant; LS = Less than Significant**

Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

- **1994 LRDP Mitigation Measure 4.6-1(a)** – The Campus shall strengthen programs to improve compliance with the laws and regulations applicable to the use of hazardous materials. Such efforts would include specific steps aimed at improving health and safety conditions by increasing the resources devoted to implementation of laws and regulations regarding the use of hazardous materials. This increase would support an improved, ongoing, satisfactory level of compliance. Specific actions would include, but would not be limited to, the following:

  1. Community Right-to-Know and Business Plan - Increasing the resources devoted to implementing Community Right-to-Know and Business Plan requirements, as needed, to supplement the existing program for the purpose of meeting current and future local, state, and federal data reporting requirements. This change would allow better tracking and reporting of non-radioactive chemical hazardous materials on campus, would provide critical information to on-campus and off-campus emergency response service providers in case of a chemical emergency, and would expand current safety training programs to minimize accident risks.

  2. Injury and Illness Prevention, Chemical Hygiene, and Emergency Actions Plans - Increasing the resources and improving the mechanisms needed (1) to finish developing these plans, and (2) to assure that these plans are adequately implemented and maintained, including training and emergency planning.

  3. Waste Minimization - Establish the position of Waste Minimization Coordinator to update the existing hazardous waste minimization plan, to implement the revised plan, and to evaluate the feasibility of other waste minimization programs such as waste minimization through treatment and recycling.

- **LRDP EIR Mitigation Measure 4.6-1(b)** – The Campus shall establish a self-audit mechanism and a reporting system to document the compliance status of campus departments and units.

- **LRDP EIR Mitigation Measure 4.6-1(c)** – Biennial health and safety audits shall be conducted by individuals independent of the Campus.
• LRDP EIR Mitigation Measure 4.6-3 – Implement Mitigation Measures 4.6-1(a) through (c).

• LRDP EIR Mitigation Measure 4.6-4(a) – The Campus Waste Minimization Coordinator (to be established as part of mitigation measure 4.6-1(a)), shall update and implement existing hazardous waste minimization plan. The updated plan shall address hazardous waste generated by 1994 LRDP projects and shall specify feasible administrative and technical approaches to reduce the amount of hazardous waste generated on campus.

• LRDP EIR Mitigation Measure 4.6-5(a) – The Campus shall strengthen its health physics program commensurately with changes in the hazards associated with campus radioactive materials use.

• LRDP EIR Mitigation Measure 4.6-5(b) – Implement Mitigation Measures 4.6-1(a) through (c).

• LRDP EIR Mitigation Measure 4.6-6(a) – The Campus shall complete and occupy the proposed Environmental Services Facility and close the current environmental services facility.

• LRDP EIR Mitigation Measure 4.6-6(d) – The Campus shall prepare and implement a campus-wide radioactive waste minimization plan that shall specify feasible programs to reduce generation of low-level radioactive wastes and mixed wastes. To ensure the plan shall be implemented, the Campus shall provide the resources required by the plan.

• LRDP EIR Mitigation Measure 4.6-7 – Prior to occupying the first project approved following adoption of the 1994 LRDP that involves the use of radioactive materials implement Mitigation Measures 4.6-1(a) through (c) and 4.6-5(a).

• LRDP EIR Mitigation Measure 4.6-8 – Implement Mitigation Measures 4.6-1(a) and 4.6-6(a) through (d).

• LRDP EIR Mitigation Measure 4.6-9 – Implement Mitigation Measures 4.6-1(a) through (c). Injury and Illness Prevention plans identified in elements of Mitigation Measure 4.6-1(a)(ii) would specifically focus on: minimizing skin penetration incidents and other exposure to biohazardous materials; proper disposal of biohazardous materials in the lab including proper use of sharps containers; and proper operation of autoclaves. Waste minimization plans identified in Mitigation Measure 4.6-1(a)(iii) would include elements to minimize generation of biohazardous (medical) waste. Self-audits and biennial independent audits identified in Mitigation Measures 4.6-1(b) and (c) will include audits of the use and handling of biohazardous materials.

• LRDP EIR Mitigation Measure 4.6-10 – Implement Mitigation Measures 4.6-1(a) though (c). Elements of these Injury and Illness Prevention Plans identified Mitigation Measure 4.6-1(a)(ii) specifically focused on minimizing the risk of animal bites and disease transmission.

• LRDP EIR Mitigation Measure 4.6-11(a) – Implement Mitigation Measure 4.6-9.

• LRDP EIR Mitigation Measure 4.6-11(b) – Prior to occupying any building approved under the LRDP where medical waste may be generated, the Campus will provide a building-specific plan for disposal of medical waste, including description of waste treatment, and otherwise comply with requirements of the California Medical Waste Management Act applicable to the facility.
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- LRDP EIR Mitigation Measure 4.6-11(c) – The Campus will continue its efforts to comply with all applicable provisions of the California Medical Waste Management Act, and will work closely with DHS [California Department of Health and Safety] to ensure satisfactory compliance.

- LRDP EIR Mitigation Measure 4.6-12 – Implement Mitigation Measure 4.6-9 and 4.6-10.

- LRDP EIR Mitigation Measure 4.6-14 – Implement Mitigation Measures 4.6-1(a) through (c).

- LRDP EIR Mitigation Measure 4.6-15 – Implement Mitigation Measures 4.6-1(a) through (c).

- LRDP EIR Mitigation Measure 4.6-16(a) – During the site selection process for each site to be developed under the 1994 LRDP, the Campus shall determine the need to have the site and adjacent areas investigated for the presence of hazardous materials or wastes by completing a "due diligence checklist."

If further investigation is warranted, the investigation shall be carried out by a Registered Environmental Assessor (i.e., a professional environmental scientist or engineer registered in California) or a registered engineer. The investigations shall be environmental audits, which shall include, at minimum, site inspections for hazardous materials, examination of historic records for evidence of hazardous materials use, interviews with campus personnel, and review of campus records for evidence of contamination.

For each site audit, the qualified person shall prepare a report detailing the results of the inspection and submit it to appropriate Campus offices. The report preparer shall certify that the site is free of hazards, recommend further investigations, or recommend preparing a site mitigation plan. After reviewing and accepting the report, reviewing offices shall submit it to the Office of Resource Management and Planning (the office responsible for site selection and environmental review on campus) with their recommendations. The Campus shall ensure that inspection reports are completed prior to excavation or construction at the development site.

- LRDP EIR Mitigation Measure 4.6-16(b) – In the event that site inspections find evidence of chemical or radioactive contamination, waste discharges, underground storage tanks, abandoned drums, or other environmental impairment at locations to be developed or in the project area, the Campus shall prepare a site remediation plan that shall (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards and (2) certify that the proposed remediation measures would clean up the contaminants, dispose of the wastes, and protect public health in accordance with federal, state, and local requirements. Commencement of work in the areas of potential hazard shall not proceed until the site remediation plan has been completed. Depending on the nature of any contamination, appropriate agencies shall be notified (e.g., the CVRWQCB [Central Valley Regional Water Quality Control Board] for groundwater contamination and the DTSC [California Department of Toxic Substances Control] for soil contamination [or the appropriate County Environmental Health Department]). Provisions of the site remediation plan would be adopted by the Campus as part of future projects.

- LRDP EIR Mitigation Measure 4.6-16(c) – A site health and safety plan, in compliance with Cal/OSHA requirements, shall be developed by the Campus and in place prior to commencing work on any contaminated sites.

- LRDP EIR Mitigation Measure 4.6-18(a) – During the site selection process for each site to be
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developed under the 1994 LRDP, the Campus shall determine the need to have existing buildings on each site investigated for the presence of hazardous materials or wastes by completing a "due diligence checklist.

If further investigation is warranted, the investigation shall be carried out by a Registered Environmental Assessor (i.e., a professional environmental scientist or engineer registered in California) or a registered engineer. The investigations shall be environmental audits, which shall include, at minimum, site inspections for hazardous materials, examination of historic records for evidence of hazardous materials use, interviews with campus personnel, and review of campus records for evidence of contamination.

For each site audit, the qualified person shall prepare a report detailing the results of the inspection and submit it to appropriate Campus offices. The report preparer shall either certify that the site is free of hazards, recommend further investigations, or recommend preparing a site mitigation plan. After reviewing and accepting the report, reviewing offices shall submit it to the Planning and Budget Office (the office responsible for site selection and environmental review on campus) with their recommendations. The Campus shall ensure that inspection reports are completed prior to excavation or construction at the development site.

- LRDP EIR Mitigation Measure 4.6-18 (b) – In the event that site inspections find evidence of chemical or radioactive contamination in buildings at sites to be developed, the Campus shall prepare a site remediation plan that shall (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards and (2) certify that the proposed remediation measures would clean up the contaminants, dispose of the wastes, and protect public health in accordance with federal, state, and local requirements. Commencement of work in the areas of potential hazard shall not proceed until the site remediation plan has been completed. Depending on the nature of any contamination, appropriate governmental agencies shall be notified. Provisions of the site remediation plan would be adopted by the Campus as part of future projects.

- LRDP EIR Mitigation Measure 4.6-18 (c) – A site health and safety plan, in compliance with OSHA requirements, shall be developed by the Campus and in place prior to commencing work on any contaminated sites.

- LRDP EIR Mitigation Measure 4.6-20 (a) – When transporting unwanted hazardous material generated at new on-campus and off-campus facilities to the Campus Environmental Services Facility, the Campus shall use containers approved by the Department of Transportation or in unbreakable secondary containment containers with lids that seal to prevent a release if tipped over.

- LRDP EIR Mitigation Measure 4.6-20 (b) – The campus shall reseal all containers opened at Environmental Health and Safety or Central Stores prior to transporting them to campus users.

- LRDP EIR Mitigation Measure 4.6-22(a) – The Campus emergency response team shall be adequately trained and equipped to respond to hazardous materials emergencies prior to occupancy of the first 1994 LRDP project approved that could require hazardous materials emergency response capabilities. The Campus shall provide sufficient resources to respond to a Level A hazardous materials incident (the most hazardous level), in coordination with the City of Davis if necessary.

- LRDP EIR Mitigation Measure 4.6-22(b) – The Campus shall prepare (or update) safety planning documents in accordance with applicable laws, regulations, and campus policies prior to occupying
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facilities constructed under the 1994 LRDP. The Campus shall implement safety-training programs upon occupying each new building.

- **LRDP EIR Mitigation Measure 4.6-22(c)** – Departments and Principal Investigators shall prepare Injury and Illness Prevention Plans, Laboratory Chemical Hygiene Plans, and Emergency Action Plans for all new buildings, as necessary. These plans would be reviewed and approved by the Campus for each department and each Principal Investigator or Laboratory Director to be located at any particular new building before the department or laboratory would be permitted to occupy the new space.

- **LRDP EIR Mitigation Measure 4.6-22(d)** – The Campus shall address emergency planning and safety training for the occupants of new buildings constructed under the 1994 LRDP by assigning a Building Safety Coordinator for each building. These staff would coordinate emergency response planning and implementation efforts for the building and implement required Cal/OSHA regulations related to developing an evacuation plan. For example, emergency drills would be coordinated such that all of the building's occupants would participate at the same time, regardless of their departmental affiliation. The evacuation plan and emergency response plans would provide general guidelines and procedures to be followed during emergencies and disasters. The plans would address the removal of occupants and the establishment of temporary meeting areas in the event of an emergency. As part of implementing the plans, project occupants would be adequately trained to implement the plans as well as all other required safety procedures.

- **LRDP EIR Mitigation Measure 4.6-22(e)** – Implement Mitigation Measures 4.6-1(a) through (c).

- **LRDP EIR Mitigation Measure 4.6-23** – Implement Mitigation Measure 4.6-22(a).

- **LRDP EIR Mitigation Measure 4.6-24(a)** – The Campus shall comply with the revised Waste Discharge Requirements, particularly the requirement to establish a Pretreatment Program.

- **LRDP EIR Mitigation Measure 4.6-24(b)** – The Campus shall provide the resources needed for implementing a waste exclusion program.

The mitigation measures listed above are incorporated into the proposed project, and the proposed project, as mitigated, is evaluated in the checklist below.

<table>
<thead>
<tr>
<th>HAZARDS AND HAZARDOUS MATERIALS</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
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</table>

Would the project:

a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?

    ?    ?    ?    ?
## HAZARDS AND HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>Would the project:</th>
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<tbody>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td>?</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
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<td>i) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
<td>?</td>
<td>?</td>
<td>!</td>
<td>?</td>
<td>?</td>
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</table>

Discussion

a, b) Research activities conducted by programs located at the CNPRC routinely utilize hazardous materials (i.e., chemicals and radioactive substances) and biological agents and generate hazardous wastes. Such research use would increase slightly as a result of the proposed project due to the slight increase in laboratory space associated with the proposed project. In addition, transportation of hazardous materials and biological agents to and from the CNPRC could increase slightly from that which currently takes place.

**Hazardous Chemicals and Waste**

Construction of the proposed facilities would involve the use of various products that could contain materials classified as hazardous. Fuels such as gasoline and diesel would also be used in the emergency generator, and in heavy equipment and other construction vehicles. The use and storage of such products are subject to applicable hazardous materials regulations, as discussed on pages 4.6-4 through 4.6-7 and Appendix E of the 1994 LRDP DEIR. Contractor specifications would include specific provisions regarding the use of these products and compliance with applicable regulations and standards. Use of temporary impermeable surfaces to be placed under construction staging areas to protect soil and groundwater from contamination from inadvertent spills and or leaks would be required as part of the contract specifications. Because applicable hazardous materials regulations and contract specifications would be adhered to as standard procedures for the proposed project, the impact of construction-related hazardous chemical usage and storage would be less than significant.

The 1994 LRDP EIR identified increased use and generation of hazardous chemicals as potentially significant impact (see pages 4.6-40 through 4.6-45 of the 1994 LRDP DEIR). Operation of the proposed additional laboratory space at the CNPRC would contribute to, but not exceed, the potentially significant impacts identified in the 1994 LRDP EIR. Impacts due to the increased use and generation of hazardous chemicals, thus, have been sufficiently addressed by the 1994 LRDP EIR.

TB 196, constructed in 1972, likely contains lead-based paint and possibly asbestos. The demolition of this building poses a potential risk to construction workers and nearby receptors, should these materials be released into the environment. The 1994 LRDP EIR identified that the demolition or renovation of buildings under the 1994 LRDP could expose campus occupants and construction workers to contaminated building materials, a potentially significant impact (Impact 4.6-18). The campus lead and asbestos coordinator will ensure compliance with assessment,
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remediation, and worker protection standards for lead and asbestos contamination during the demolition project. The campus Environmental Health and Safety Division will oversee disposal of any lead or asbestos contaminated waste from the demolition project. In addition, the campus will obtain necessary demolition permits from the Yolo-Solano Air Quality Management District prior to conducting demolition activity in TB 196. The risk from CNPRC project activity would be reduced to a less-than-significant level by incorporation in the proposed project of 1994 LRDP mitigation measure 4.6-18, which ensures that workers are protected and hazardous materials are controlled. The 1994 LRDP EIR considered the cumulative effect of demolition or renovation of buildings in the region a less-than-significant impact because of the stringent regulation of materials that could cause health and safety risks during demolition or renovation of buildings. As discussed in Appendix C, this impact is anticipated to remain less-than-significant through 2014-15, but will be reexamined during the LRDP update process.

Although the proposed project would contribute to cumulative significant unavoidable impacts related to biohazardous materials and wastes, radioactive materials and wastes, and hazardous chemicals and wastes analyzed in the LRDP EIR, it would not exceed these impacts. At the project level, the enlarged laboratory in the replacement for TB 196 and the demolition of TB 196 would contribute to these cumulative impacts but would not exceed the previously analyzed cumulative impacts.

Use of Animals
Although new animal holding buildings are included in the proposed facility upgrades, the project does not include an increase in the number of animals at the CNPRC; that number is governed by the birth rate among mature animals already present in the field corrals. Animals present physical safety hazards, such as bites, and animals can spread disease (UC Davis 1994). While the proposed project would not increase the number of animals held at the facility, it would increase the number of animals held indoors. Therefore, the risks associated with animal population generally would not increase as a result of the proposed project, but there could be an increased risk associated with increased indoor handling of animals. The current CNPRC facilities already utilize these types of animals, and no new animals would be introduced by the proposed project. Construction of the proposed facilities would not expand the animal holding capacity, but would allow animals from the field corrals to be moved indoors, to ensure that controls necessary for research are maintained. The pattern of endemic disease in the animal population would remain the same as currently experienced. This is discussed in detail in the CRPRC Focused Tiered EIR (UC Davis 2002).

The CNPRC takes precautions against transmission of disease into its research and breeding colonies. A pest control program is carried out at the CNPRC in conjunction with the Campus and County Animal Control Departments. Measures to minimize the primate/wildlife contact in the outdoor cages include physical barriers such as fencing, cage covers, and maintenance of cage integrity. Control methods used to prevent transmission among CNPRC primates and between primates and wildlife are protective of workers and the community as well. The primary concern of transmission of disease from primates to humans is related to transmission of the Herpes B virus by skin penetration from needle sticks, bites, scratches, and cuts on contaminated sharp edges.

The major increased risk is to employees from research viruses via contact with open wounds, from skin punctures due to monkey bites, and scratches or cuts and lacerations with contaminated cages or sharp edges. The potential for exposure to contaminated aerosols and splashes could occur because of increased laboratory research and washing of contaminated cages. However,
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staff is required to wear respiratory protection when research protocols involve readily aerosolized agents, such as measles or TB. Therefore, exposure to aerosols and splashes is not considered a normal means of disease transmission with agents studied at the CNPRC unless these droplets settle and survive on surfaces that are contacted by an open wound (UC Davis 1993).

In addition to the hazards they pose to workers and researchers, the animals could also escape from their cages and possibly spread infectious diseases to the community. However, there is no increased risk associated with the proposed project, since no increase in the number of animals is included in the proposed project. There could be an increase in the incidence of handling of infected animals, as animals are moved indoors and potentially become research subjects. This, in turn, would result in a potential for an increase in biohazardous wastes at the facility. The presence or absence of virus and/or bacteria in animal care wastes depends on the organism’s survivability through the routine disinfection of animal cages. A quaternary ammonium-based detergent/disinfectant is used for daily cleaning of cages. Any contaminated materials and wastes from experimental animals are autoclaved prior to disposal. With the continued implementation and enforcement of disposal procedures described above, the ongoing treatment of effluent, and the dilution of effluent from the CNPRC resulting from mixing with other wastewater streams, the public health risk of transmission of viruses from treated effluent from the facility is virtually non-existent.

Upset or Accident Conditions

CNPRC investigators currently use a variety of materials considered to be hazardous by State and/or Federal governments. Campus research activities that use hazardous materials similar to those used at the CNPRC currently take place throughout the UC Davis campus. Activities related to the routine use of hazardous materials take place inside the existing CNPRC buildings and at other campus buildings. The potential release sources for hazardous materials to the immediate outside environment involve inadvertent disposal to the sewage system, transportation accidents, accidents in the outdoor walkways, and air emissions from fume hoods and other building vents.

The new building that would replace Temporary Building TB 196 would provide research laboratory space slightly larger than the existing lab at TB 196, surgery support space, animal testing space and animal housing space. Due to the small increase in overall lab space and increased research due to the availability for research of animals bred in the CNPRC field corrals, the project would result in a slight increase, over present conditions, in transportation of chemical, radioactive, and biohazardous materials that could expose people to potential health risks in the event of an accidental release. The 1994 LRDP EIR identified this impact as less than significant (see pages 4.6-68 through 4.6-71), since inbound and outbound hazardous materials shipments would be packaged according to strict Department of Transportation and US Postal Service specifications which would minimize the consequences of accidents. In addition, on-campus hazardous material transport would be conducted in secondary containment to minimize the potential effects of accidental breakage or leakage during transport. The 1994 LRDP EIR identified mitigation measure 4.6-20(a) and 4.6-20(b) to further reduce this less-than-significant impact.

The proposed project would incrementally contribute to, but not exceed, cumulative hazardous materials transportation impacts leading to an increase in the cumulative risk of exposure of people to health risks due to an accidental release. Cumulative hazardous materials
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Transportation impacts were considered to be less than significant in the 1994 LRDP EIR (Impact 4.6-21 on pages 4.6-71 and 4.6-72 of the 1994 LRDP DEIR) and no mitigation is required.

c) The proposed project site is located within the CNPRC on the west campus of the University of California, Davis. The CNPRC is within one-quarter mile of the Grace Valley Christian Church, which includes a school for grades kindergarten through 9. Potential effects to the University are addressed in the 1994 LRDP. The Health Risk Analysis presented in the Air Quality section of this Initial Study, above, indicates that health risk from chemicals associated with CNPRC labs is minimal and less-than-significant, even cumulatively with other new CNPRC and campus facilities. Although no new animals would be introduced at the facility as a result of the proposed project, animal escapes related to animal handling at indoor facilities does carry the potential for exposure of the neighboring community to endemic biological agents, through animal bites or escapes of infected animals. Possible escapes would continue to be inhibited through proper animal handling protocols, and a variety of physical controls and design features. With the ongoing implementation of control programs, the risk to CNPRC staff, University community and the nearby public, including the GVCC school, would be minimized, and the impact would be less than significant. With the continued implementation of LRDP Mitigation 4.6-10 and CNPRC's control programs for housing both infected and non-infected indoor animals, no additional mitigation would be required.

d) An investigation in Fall 1999 by the UC Davis Office of Environmental Health and Safety did not identify any hazardous materials or contaminated locations within the CNPRC. None of the proposed facility upgrades would be located on sites that are included on any lists of hazardous materials sites. No impact would occur.

e) The proposed project is located approximately three-quarters of a mile west of the University Airport and is not in the direct vicinity of the University Airport. No impacts due to safety hazards related to the airport are anticipated to occur as a result of the proposed project.

f) There is no private airstrip in the vicinity of the proposed project, hence, no impacts would occur.

g) No existing streets or access points are planned for temporary or permanent alteration in relation to the proposed project. Therefore, neither on-site staging of construction equipment, nor travel between sources of construction material and the project site would result in interference with an emergency plan or emergency evacuation plan. No impact would occur.

The project would involve a small increase in lab space potentially containing hazardous materials. Because the proposed project could slightly increase the use of hazardous materials because of its introduction of 290 square feet of new lab space at the CNPRC, the number of future campus incidents could rise slightly as the result of implementation of the proposed project. Thus, implementation of the proposed project may slightly increase the likelihood of an accident requiring hazardous emergency response services. The 1994 LRDP EIR concluded (Impact 4.6-22) that increased campus operations using hazardous materials, resulting from development under the 1994 LRDP, could exceed emergency response capabilities at UC Davis. This was considered to be a significant impact.

In order to reduce this impact to a less than significant level, the 1994 LRDP EIR recommended Mitigation Measures 4.6-22 (a) through (e) to be implemented prior to occupancy of the first project approved following adoption of the 1994 LRDP that involves the use of hazardous
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materials. Implementation of 1994 LRDP EIR Mitigation Measures 4.6-22 (a) through (e) would limit impacts relating to emergency response capabilities to those previously identified and adequately analyzed in the 1994 LRDP DEIR. Therefore, significant impacts to emergency response capabilities would be reduced to a less-than-significant level and no further mitigation is required.

The 1994 LRDP EIR identified that increased campus operations allowed under the 1994 LRDP, in conjunction with anticipated growth in the City of Davis, could contribute to cumulative demand for emergency response capabilities in the Davis area (Impact 4.6-23). Although 1994 LRDP EIR Mitigation Measure 4.6-23 was identified to reduce the significance of this cumulative impact, the 1994 LRDP EIR identified this impact as significant and unavoidable because the University could not guarantee that other jurisdictions in the region would reach a Mutual Aid Agreement with UC Davis to provide adequate emergency response. However, in compliance with Mitigation Measure 4.6-23, the campus entered into an Agreement for Hazardous Materials Automatic Aid with other agencies in the region in 1995 to provide UC Davis and all participating agencies with adequate response capabilities to respond to a Level A hazardous materials incident. Therefore, this cumulative impact has been reduced to a less-than-significant level and no further mitigation is required.

h) Implementation of the proposed project would not increase existing wildland fire hazards in the west campus. The CNPRC vicinity is disturbed agricultural land and does not contain large quantities of flammable brush, grass or trees. Areas immediately surrounding existing CNPRC structures are mowed regularly to control weeds and disked to reduce potential fire fuel. Implementation of the proposed project would not increase the existing wildland fire hazard over that which currently exists; therefore, no impact would occur.

i) Standards of significance for hazards and hazardous materials impacts that were used in preparation of the 1994 LRDP EIR are presented earlier in this section. These standards are consistent with the hazards and hazardous materials questions in the current Environmental Checklist. As discussed above, with the incorporation of relevant 1994 LRDP EIR mitigation measures, the proposed project would not exceed the standards of significance identified in the 1994 LRDP EIR and would not result in new significant impacts related to hazards and hazardous materials that were not previously analyzed in the 1994 LRDP EIR.

Summary

The proposed project would have the potential to result in significant impacts through the routine transportation, use and disposal of hazardous materials associated with slightly increased laboratory space; through exposure to hazardous materials as the result of building demolition; through potentially increased animal contact; as the result of accident or upset conditions; and through a potential increase in the need for emergency response. 1994 LRDP EIR Mitigation Measures 4.6-1 (a) through (c); 4.6-3; 4.6-4 (a); 4.6-5 (a) and (b); 4.6-6 (a) and (d); 4.6-7; 4.6-8; 4.6-9; 4.6-10; 4.6-11 (a) through (c); 4.6-12; 4.6-14; 4.6-15; 4.6-16 (a) through (c); 4.6-18 (a) through (c); 4.6-20 (a) and (b); 4.6-22 (a) through (d); 4.6-23; and 4.6-24 (a) and (b) would be implemented as part of the proposed project. The proposed project would not result in new or significant hazards and hazardous materials impacts that have not already been adequately assessed in the 1994 LRDP EIR.
8. BIOLOGICAL RESOURCES

Background

The campus is located in a region composed primarily of agricultural lands that include remnant riparian (streamside) and urban areas. Habitat types found on the campus are discussed in the 1994 LRDP DEIR on pages 4.7-2 to 4.7-8 and illustrated in Figure 4.7-1 on page 4.7-3. The proposed project site consists entirely of urban landscaping habitat.

Urban habitat, consisting of landscaped areas (trees, shrubs, and maintained grassy areas), is distributed throughout the central campus and all outlying areas of development, including the CNPRC. These landscaped areas provide wildlife food and cover. Resident and migratory hawks, owls, songbirds, and woodpeckers are known to use landscaped areas on the campus for nesting, food, and cover.

A number of special status plant and animal species are present in the UC Davis campus vicinity. Special status species, which include state- and federally-listed rare, threatened or endangered species, are discussed in the 1994 LRDP EIR on pages 4.7-8 through 4-7-18. Potential special status species that might be found on the campus are listed in Tables 4.7-1 and 4.7-2 of the 1994 LRDP EIR.

As reported in the CRPRC Improvement Projects Draft Tiered Focused EIR, surveys for special status species and potential habitat that were conducted in 1998 included the CNPRC. It was concluded that no native vegetation remains on the project site, and existing habitat does not support special status plant species. No burrowing owl sites were identified. The built-up area on which the proposed facilities would be built does not include suitable burrowing owl habitat. No trees suitable for Swainson’s hawk nesting are present on or adjacent to the CNPRC. No Swainson’s hawk nesting sites were identified within one-half mile of the project site during the last survey in the vicinity, although it is possible that nests have been established in the half-mile radius since the last survey. The project site is not good foraging habitat for Swainson’s hawk or other raptors because it does not include ruderal grasslands or agricultural fields, but is within a built-up area, and the landscaping on the site is too minimal to offer much potential for food or cover. No elderberry shrubs that could host Valley Elderberry Longhorn Beetle were observed at the project site when it was assessed for the CRPRC Improvement Projects Draft Tiered Focused EIR in 2000, and because the proposed facilities are within the maintained area of the CNPRC, it is highly unlikely that bushes have been established since the last survey.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to biological resources to be significant if campus or regional growth would:

- result in substantial, or potentially substantial, adverse change in the native flora or fauna, including candidate species and CDFG "Species of Special Concern" from conversion of existing habitat to urban uses or disturbance of areas currently supporting such species;

- 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 the substantial reduction in acres of habitat (including wetlands) of native fish, wildlife, or plants;
BIOLOGICAL RESOURCES

- interfere substantially (creation of barriers to the free movement between habitats both locally and regionally) with the movement of any resident or migratory fish or wildlife species; or
- be in conflict with existing state or federal natural resource protection laws, policies, or guidelines.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The level of significance before and after application of mitigation measures identified in the 1994 LRDP EIR, as amended, is also presented in the table. Cumulative impacts on biological resources, of campus growth through 2005-06, are addressed in Section 4.7 of the 1994 LRDP EIR; in Section 4.4 of the 1997 WWTP Replacement Project EIR; Chapter 8 of the 1997-98 Major Capital Improvement Projects Draft SEIR; and Appendix A of the 1997-98 Major Capital Improvement Projects Final SEIR; Item 7 of the Center for the Arts Tiered Initial Study and Mitigated Negative Declaration; and Item 8 of the USDA Western Human Nutrition Research Center Tiered Initial Study and Negative Declaration. Appendix A of this document discusses revisions to the 1994 LRDP EIR in further detail. The proposed project is within the scope of the analysis in the 1994 LRDP EIR as updated in these subsequent documents, and there are no changed circumstances since the preparation of these documents that require reanalysis of the cumulative impacts. Note that the LRDP EIR included mitigation measures to reduce the cumulative regional Impacts 4.7-9 and 4.7-10 to a less-than-significant level. However, these impacts were identified as significant and unavoidable because the University of California could not guarantee implementation of the mitigation measures because they fell within other jurisdictions to enforce and monitor.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would likely develop additional lands identified as habitat that was not previously anticipated under the 1994 LRDP. However, this development is not anticipated to result in any new cumulative biological resources impacts different in character from those already assessed in the 1994 LRDP EIR. The campus will reexamine potential cumulative biological resources impacts and the availability of additional feasible mitigation measures during the LRDP update process.

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.7-6 Development allowed under the 1994 LRDP could result in the potential failure of Swainson's hawk nesting efforts.</td>
<td>PS</td>
<td>LS</td>
</tr>
</tbody>
</table>

PS = Potentially Significant; LS = Less than Significant

Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

- **LRDP EIR Mitigation Measure 4.7-4(b)** – The Campus shall continue to conduct annual surveys to determine the location of nesting Swainson's hawks on the Campus. If nesting Swainson's hawks are found during the survey at a previously unknown location within one-half mile of a project site and not within 100 yards of a previously documented site, the Campus shall, prior to project
construction, contact the California Department of Fish and Game to determine the potential for disturbance to nesting Swainson's hawks and will implement feasible changes in the construction schedule or other appropriate adjustments to the project in response to the specific circumstances.

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.

- **LRDP EIR Mitigation Measure 4.7-6(a)** – The Campus shall conduct a pre-construction breeding season survey of the proposed project site, and within a one-half-mile radius of the site, to determine the presence or absence of any nesting Swainson's hawks.

  If any Swainson's hawks are nesting within a one-half-mile radius of the project site, the Campus shall, in consultation with CDFG, determine the potential for disturbance to nesting Swainson's hawks and will implement feasible changes in the construction schedule or other appropriate adjustments to the project in response to the specific circumstances.

- **LRDP EIR Mitigation Measure 4.7-6(b)** – The Campus shall continue to conduct annual surveys to determine the location of nesting Swainson's hawks on and within ½-mile of the Campus. If nesting Swainson's hawks are found during the survey at a previously unknown location within one-half mile of a project site and not within 100 yards of a previously documented site, the University shall, prior to project construction, contact the California Department of Fish and Game to determine the potential for disturbance to nesting Swainson's hawks and will implement feasible changes in the construction schedule or other appropriate adjustments to the project in response to the specific circumstances.

  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.

The mitigation measures listed above are incorporated into the proposed project, and the proposed project, as mitigated, is evaluated in the checklist below.
### BIOLOGICAL RESOURCES

<table>
<thead>
<tr>
<th>Would the project:</th>
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<tbody>
<tr>
<td>a) Have a substantial adverse effect, either directly or through habitat</td>
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<td>modifications, on any species identified as a candidate, sensitive, or</td>
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<tr>
<td>special status species in local or regional plans, policies, or regulations,</td>
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<td>or by the California Department of Fish and Game or U.S. Fish and Wildlife</td>
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<tr>
<td>Service?</td>
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<tr>
<td>Potentially Significant Impact</td>
</tr>
</tbody>
</table>

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Impact for which LRDP/Program EIR is Sufficient | Less Than Significant Impact | No Impact |

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?

Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Impact for which LRDP/Program EIR is Sufficient | Less Than Significant Impact | No Impact |

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?

Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Impact for which LRDP/Program EIR is Sufficient | Less Than Significant Impact | No Impact |

e) Conflict with any local applicable policies protecting biological resources?

Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Impact for which LRDP/Program EIR is Sufficient | Less Than Significant Impact | No Impact |

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?

Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Impact for which LRDP/Program EIR is Sufficient | Less Than Significant Impact | No Impact |

g) Exceed an applicable LRDP or Program EIR Standard of

Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Impact for which LRDP/Program EIR is Sufficient | Less Than Significant Impact | No Impact |
BIOLOGICAL RESOURCES

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significance?</th>
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<tr>
<td>Potentially</td>
<td>Impact for which \ LRDP/ Program EIR is Sufficient</td>
</tr>
<tr>
<td>Significant Impact</td>
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Discussion

a) The CNPRC Facility Upgrade Project is located on property that was originally part of the George W. Pierce Ranch. By 1937 the land had been converted to either pasture or cropland, eliminating nearly all natural habitat. UC Davis acquired the property in 1962. Subsequent development of the CNPRC has eliminated potential remnant habitat areas within the CNPRC footprint, such that only landscape plantings remain on the project site. The project site consists only of level areas closely surrounded by buildings and other built-out facilities. Landscape plantings consist of ornamental, usually non-native plants, including trees, shrubs, and lawns. Wildlife in this cover type is usually restricted to songbirds and small rodents.

Based on the special-status plant survey conducted for the CRPRC Improvement Projects Draft Tiered Focused EIR, no special-status plant species occur at the project site that could be affected by project construction and operation. No special-status wildlife species are known to nest or breed at the project sites. Because of the level of human activity within the CNPRC in the project site area, and the absence of suitable habitat for burrowing owls within this area, burrowing owls would not be present, and there would be no impact.

The project site does not provide foraging habitat for the Swainson’s hawk and other avian species, and there are no mature trees that might be used for nesting or perching on or adjacent to the project site. No nests have been identified within a half-mile of the project site. However, it is possible that such a nest might become established prior to project construction. If a nest were present, project construction activity during the breeding season could result in impacts to Swainson’s hawk breeding. With the implementation of LRDP EIR Mitigation Measures 4.7-6(a) and 4.7-6(b), no impacts would occur, or impacts would be less than significant.

b) The proposed project would have no effects on any riparian habitat or other sensitive natural communities. No impact would occur.

c) There are no wetlands present at the project sites that could be affected by the proposed project; therefore, no impact would occur.

d) The project site does not include good migratory bird foraging habitat, although the agricultural fields adjacent, which would not be affected by the project, could provide foraging habitat. The proposed project would not in any manner impede movement of the species and there would be no impact. No habitat for migratory fish exists at the project site; therefore, no impact would occur.

e) The proposed project would not involve the removal of any mature trees and would not conflict with any local applicable policies protecting biological resources; therefore, no impact would occur.
BIOLOGICAL RESOURCES

f) The proposed project does not present a potential for conflicts with an existing Habitat Conservation Plan, Natural Community Conservation Plan or other applicable conservation plan. No impact would occur.

g) Standards of significance for biological resources impacts that were used in preparation of the 1994 LRDP EIR are presented earlier in this section. These standards are consistent with the biological resources questions in the current Environmental Checklist. As discussed above, with the incorporation of 1994 LRDP EIR mitigation measures, the proposed project would not exceed the standards of significance identified in the 1994 LRDP EIR.

Summary

Mitigation Measures 4.7 (b) and 4.7-6 (a) and (b) will be incorporated as part of the proposed project. The proposed project would not result in new or significant biological resources impacts that have not already been adequately assessed in the 1994 LRDP EIR.
9. HYDROLOGY AND WATER QUALITY

Background

Putah Creek and the South Fork of Putah Creek form the southern boundary of the campus (see Figure 4.8-1 on page 4.8-2 of the 1994 LRDP DEIR). The 100-year flood plain on the campus is generally located along the Putah Creek channels (including the North and South Forks). A portion of the west campus (along CR 98) is subject to inundation during a 100-year storm event and is designated as a flood hazard zone by the Federal Emergency Management Agency (FEMA) (see Figure 4.8-2 on page 4.8-4 of the 1994 LRDP DEIR).

The campus is underlain by the Lower Cache-Putah Basin, which is divided by relatively impervious soil layers into shallow/intermediate and deep aquifers. Domestic and fire water for the campus is drawn from wells in the deep aquifer (up to 1,500 feet below ground surface). Utility water is used primarily for landscape irrigation and is drawn from wells in the shallow/intermediate aquifer (200 to 600 feet below ground surface). Groundwater underlying the campus is considered to be of good quality for agricultural use and of adequate quality for municipal use with some exceptions. Generally, groundwater quality is characterized as being high in mineral content.

The majority of the west campus is used as Teaching and Research Fields, and is not drained by a storm drainage system. Runoff from the CNPRC agricultural fields flows into the City of Davis’ Covell Drain, at Russell Boulevard. The Covell Drain conducts flows to the Sacramento River via the Yolo Bypass. During large storm events, the Covell Drain can reach capacity and cause ponding. Storm water drainage improvements at the CNPRC (approved under the CRPRC Improvement Projects EIR in 2002 and not included as part of the present project), when implemented, will improve storm drainage capacity in this area. Storm water from agricultural fields around the CNPRC will drain to a new retention pond near Russell Road, where it can be released gradually to the Covell Drain. This will alleviate demand impacts at Covell Drain identified as LRDP Impact 4.8-7. Storm drainage from the CNPRC including the project site will be retained on-site in a retention pond and will not be released to Covell Drain. These drainage improvements will be completed prior to the construction of the proposed project.

Wastewater flows from CNPRC building interiors drain to the sanitary sewer system to the Campus WWTP. The South Fork of Putah Creek receives storm water and secondary treated effluent discharge from the new Campus WWTP that became operational in 2000. The new plant is more reliable to operate than the outdated treatment system.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to hydrology and water quality to be significant if campus or regional growth would:

- expose faculty, staff, students or visitors to flood hazards by being located within the 100-year flood plain as defined by FEMA;

- result in substantial changes in absorption rates, drainage patterns, or the rate and amount of surface runoff which cause existing drainage capacity to be exceeded;

- substantially interfere with groundwater recharge; or
HYDROLOGY AND WATER QUALITY

- substantially degrade surface and/or groundwater quality due to increases in sediments, erosion and contaminants generated by construction and/or implementation of the 1994 LRDP.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The levels of significance before and after application of mitigation measures identified in the 1994 LRDP EIR are also presented. Impacts of campus growth through year 2005-06 on hydrology and water quality were addressed in Sections 4.8 (Hydrology and Water Quality) and 4.14 (Utilities and Infrastructure) of the 1994 LRDP Draft EIR. Cumulative hydrology and water quality impacts were reevaluated in the WWTP Replacement Project EIR, but no changes were made to 1994 LRDP EIR impacts, mitigation measures, or levels of significance. Updates and revisions to the 1994 LRDP EIR are summarized in Appendix A of this document. The proposed project is within the scope of the analysis presented in the 1994 LRDP EIR as reevaluated in the WWTP Replacement Project EIR. Please note that cumulative regional impacts 4.8-8 and 4.8-9 include mitigation measures to reduce the impacts to less-than-significant levels. However, these impacts are identified as significant and unavoidable because the University of California cannot guarantee implementation of a mitigation measure that is not within its jurisdiction to enforce and monitor. Impacts 4.14-1 and 4.14-11 also include measures to reduce the magnitude of the impacts. However, due to the unknown significance of these impacts, the impacts remain significant and unavoidable.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, that serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would likely increase water use and sources of water pollution beyond levels previously anticipated under the 1994 LRDP. However, campus growth through 2014-15 is not anticipated to result in any new cumulative hydrology and water quality resource impacts different in character from those already assessed in the 1994 LRDP EIR. The campus will reexamine potential cumulative hydrology and water quality impacts and the availability of additional feasible mitigation measures during the LRDP update process.

<table>
<thead>
<tr>
<th>LRDP IMPACT</th>
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<th>Level of Significance after/with Mitigation</th>
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<tbody>
<tr>
<td>4.8-2 New impervious surfaces associated with development allowed under the 1994 LRDP would increase surface runoff, and could exceed existing drainage capacity and result in localized flooding.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.8-3 New impervious surface associated with development allowed under the 1994 LRDP could reduce the potential for groundwater recharge.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.8-4 Increased siltation and sedimentation generated during construction activities associated with development allowed under the 1994 LRDP could adversely affect receiving water quality.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.8-5 Increased runoff from additional impervious surfaces</td>
<td>S</td>
<td>LS</td>
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</tbody>
</table>
Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

- **LRDP Mitigation Measure 4.8-2(a)** – Prior to approval of final project design, the Campus shall prepare a detailed drainage study to evaluate each specific development project under the 1994 LRDP to determine if project runoff would exceed the capacity of the existing campus storm drainage system.

- **LRDP Mitigation Measure 4.8-2(b)** – If it is determined that existing drainage capacity would be exceeded, as part of final project design the Campus shall design and implement necessary and feasible improvements to minimize the occurrence of localized flooding. Such improvements could include, but would not be limited to the following:
HYDROLOGY AND WATER QUALITY

(i) The expansion or modification of the existing storm drainage system. Site runoff could be controlled by upgrading the existing facilities, such as the expansion, or installation of additional storm drain lines, or pumps.

(ii) Single-project detention or retention basins. Single-project peak surface runoff flows could be limited in several ways, including small onsite detention 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.

- **LRDP Mitigation Measure 4.8-3** – The Campus shall incorporate where feasible as part of project design the following measures, or equally effective measures, to maximize percolation and infiltration of precipitation into the underlying groundwater aquifers:

  (a) the use of pervious paving material; or

  (b) preservation and utilization of natural drainage areas.

- **LRDP Mitigation Measure 4.8-4(a)** – If project construction includes the disturbance of five acres or more of land, the Campus shall include in all construction contracts a requirement that Campus contractors file a Notice of Intent for coverage under the State General Construction Activity Storm water Permit. The contractor shall comply with applicable permit requirements.

  The 1994 LRDP EIR further states: Compliance with the Permit would require the implementation of Best Management Practices (BMPs). BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollution (i.e. straw bale dikes, silt fences, sediment traps, or similar methods).

- **LRDP EIR Mitigation Measure 4.8-4(b)** – For construction operations which would disturb less than five acres of land, the Campus shall include in all construction contracts a requirement that Campus contractors prepare and retain on the site an erosion control plan which would include a description of the construction site, erosion and sediment controls to be used, means of waste disposal, control of post-construction sediment and erosion control measures and maintenance responsibilities, and non-stormwater management controls.

  Best Management Practices (BMPs), which could be implemented as part of an erosion control plan could include, but would not be limited to:

  (i) Reduction of the area and length of time that the site is cleared and graded;

  (ii) Revegetation/stabilization of cleared areas as soon as possible;

  (iii) Implementation of comprehensive erosion, dust and sediment controls;
(iv) Implementation of a program to control potential construction activity pollutants such as cement mortar, paints and solvents, fuel and lubricating oils, pesticides and herbicides;

(v) Implementation of a hazardous material spill prevention, control and cleanup program.

**LRDP Mitigation Measure 4.8-5(a)** – The Campus shall ensure that project design includes a combination of the following Best Management Practice (BMPs), or equally effective measures:

(i) Oil and grease separators shall be used to control roadway and parking lot contaminants

(ii) Parking lots shall be cleaned and swept on a regular basis

(iii) Peak flow reduction and infiltration practices, such as grass swales, infiltration trenches and grass filter strips shall be incorporated.

(iv) Storm drain inlets shall be labeled to educate the public of the adverse impacts associated with dumping in receiving waters (i.e. “Don’t dump! Drains to creek”).

(v) Landscape areas, including borders shall use warm season grasses and drought tolerant vegetation wherever feasible to reduce demand for irrigation and thereby reducing irrigation runoff.

(vi) Efficient irrigation shall be installed in landscaped areas to minimize runoff and evaporation and maximize the water that will reach the plant roots. Such irrigation systems include drip irrigation, soil moisture sensors, and automatic irrigation systems.

**LRDP Mitigation Measure 4.8-5(b)** – The Campus shall ensure that confined animal facilities (including pens and corrals) are designed to prohibit discharge of stormwater runoff into the storm drainage systems. All facilities shall be designed to include on-site retention with a hook-up to the sanitary sewer, where feasible. The hook-up to the sanitary sewer shall be designed to pump to the campus Waste Water Treatment Plant during non-peak hours. When sewer hook-up is not feasible, then on-site retention shall be provided with a hook-up to a septic system. All animal facility drainage systems shall be designed in compliance with California Code of Regulations Title 23 Article 6.

**LRDP Mitigation Measure 4.8-6(a)** – The Campus shall continue to monitor effluent discharge, in compliance with WDR Order No. 92-040, from the wastewater treatment plant to identify any exceedance of established WDR effluent limits.¹

¹ In 1997, WDR Order No. 90-040 was superceded by WDR Order No. 97-236.
HYDROLOGY AND WATER QUALITY

- **LRDP Mitigation Measure 4.8-6(b)** – If the effluent limits established in WDR Order No. 92-040 are exceeded, and action is required by the CVRWQCB, the Campus shall make modifications to the pretreatment program to ensure compliance with established effluent limits.

- **LRDP Mitigation Measure 4.8-6(c)** – The Campus shall apply for and comply with any requirements of a NPDES WDRs for the proposed new wastewater treatment plant prior to plant operation.

- **LRDP Mitigation Measure 4.8-7** – Campus development west of County Road 98 shall incorporate single- or multi-purpose retention basins as part of final project design in order to eliminate any drainage flows, resulting from project implementation, to the Covell Drain.

- **LRDP Mitigation Measure 4.8-8(a)** – Implement Mitigation Measures 4.8-4(a) and (b), 4.8-5(a) and (b) and 4.8-6(a) through (c).

- **LRDP Mitigation Measure 4.8-8(b)** – When the EPA adopts NPDES Municipal Stormwater Permit requirements for small municipalities, local jurisdictions in the Putah Creek Watershed would apply for, obtain, and implement a NPDES Municipal Stormwater Permit in accordance with EPA requirements.

- **LRDP Mitigation Measure 4.8-8(c)** – Comprehensive Stormwater Pollution Prevention Plans and monitoring programs would be implemented by all stormwater dischargers associated with specified industrial and construction activities, in compliance with the State’s General Permits. Such plans shall include Best Management Practices or equally effective measures.

- **LRDP Mitigation Measure 4.8-9(a)** – Implement Mitigation Measure 4.8-3(a) and (b).

- **LRDP Mitigation Measure 4.8-9(b)** – Jurisdictions in the Lower-Cache Putah Creek Groundwater Basin should encourage development to be accomplished in a manner that would maximize percolation and infiltration of precipitation into the underlying groundwater aquifers through the use of pervious paving materials, cluster development, retention of natural drainage areas, and identification and retention of flood plains and areas of high recharge potential.

- **LRDP Mitigation Measure 4.14-1(a)** – The Campus shall ensure that each project is designed to include the following domestic water conservation measures.

  (i) **Low-flow showerheads (2.0 gpm or less)** shall be installed in all new showers.

  (ii) **Toilets with low-water-use flush devices** (with average savings of 1 gallon per flush) shall be installed in all new facilities and existing facilities should be retrofitted at a pace at least equal to new development.

- **LRDP Mitigation Measure 4.14-3(a)** – The Campus shall ensure that each project is designed to include the following utility water conservation measures:

  (i) **landscape, where appropriate, with native, drought-resistant plants, drip irrigation systems;**
apply heavy applications of mulch to landscaped areas to reduce evaporation; and

use treated wastewater for landscape irrigation where feasible.

• **LRDP Mitigation Measure 4.14-3(b)** – The Campus shall continue to monitor the groundwater elevations at its existing wells to ascertain whether any long-term storage depletion of the shallow/intermediate aquifer is due to UC Davis activities.

• **LRDP Mitigation Measure 4.14-11** – Implement Mitigation Measures 4.14-1(a) and (b).

The mitigation measures listed above are incorporated into the proposed project, and the proposed project, as mitigated, is evaluated in the checklist below.

<table>
<thead>
<tr>
<th>HYDROLOGY AND WATER QUALITY</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
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<td><strong>Would the project:</strong></td>
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<td>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)?</td>
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<td>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 that would result in substantial erosion or siltation on- or off-site?</td>
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## HYDROLOGY AND WATER QUALITY

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<td>Would the project:</td>
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<tr>
<td>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 that would result in flooding on or off site?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td>?</td>
</tr>
<tr>
<td>e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td>?</td>
</tr>
<tr>
<td>f) Otherwise substantially degrade water quality?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td>?</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td>?</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>j) Inundation by seiche, tsunami, or mudflow?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>k) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
<td>?</td>
<td>?</td>
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<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

### Discussion

a, c) **Construction**

Construction of the proposed projects would include minor and temporary earth disturbing
activities that could result in increased rates of soil erosion. While this could lead to increased sediment loads in stormwater runoff, which would adversely affect receiving water quality, the total construction area is just 1 acre. Further, site soils are characterized as having minimum erosion potential. Thus, the potential for water quality impacts is slight.

Construction activity associated with the proposed project would be covered under a National Pollutant Discharge Elimination System (NPDES) state-wide General Permit for Discharge of Storm Water Associated with Construction Activity. As part of a recent agreement with the Central Valley Regional Water Quality Control Board, the campus has filed for coverage under the General Permit for the entire Davis campus. As part of this permit, UC Davis would ensure the implementation of a project-specific stormwater pollution prevention plan for construction activities associated with the proposed project. This would further reduce less-than-significant potential construction-related surface water quality impacts.

The impact associated with the proposed project incrementally contributes to construction-related water quality impacts on the receiving waters, as previously identified in the 1994 LRDP EIR. The 1994 LRDP EIR identified mitigation measure 4.8-4(b) to reduce this impact to a less-than-significant level. Implementation of LRDP EIR mitigation measure 4.8-4(b), which would be required as part of the project, will reduce the impact to a less-than-significant level, and no further mitigation is required.

**Operation**

All wastewater flows from the interior of facilities included in the proposed project would drain to the sanitary sewer system. A total of approximately 1.0 acre of new impervious surfaces would be created by the proposed project. This would slightly increase the volume of stormwater runoff from the CNPRC. The stormwater system would collect runoff from these new impervious surfaces and retain them on site.

The proposed project would result in a slight increase in vehicle traffic to and from the CNPRC, but would not involve the creation of new parking or driveways. Thus, the projects would result in a very small increase in oil, grease, heavy metals and sediments in runoff.

The proposed project would not alter drainage patterns at the site. The proposed project would not increase the amount of landscaped area at the facility sites. The proposed projects would not directly or indirectly result in any discharges that would violate water quality standards.

The 1994 LRDP EIR concluded that cumulative effects of urban and agricultural development in the region could reduce the receiving water quality of Putah Creek (LRDP Impact 4.8-8). LRDP mitigation measures 4.8-8(a) through (c) were identified to reduce this impact to a less-than-significant level, but the impact was considered significant and unavoidable because the University of California could not guarantee implementation of mitigation measures that fell within other jurisdictions to enforce and monitor. The proposed project would contribute to, but not exceed, the increase in urban development identified under the 1994 LRDP. Furthermore, this significant and unavoidable impact was adequately analyzed in the LRDP EIR, and addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP EIR, as amended. As discussed in Appendix C, this impact is anticipated to remain significant and unavoidable through 2014-15. The availability of additional feasible mitigation measures will be investigated as part of the LRDP update process.
HYDROLOGY AND WATER QUALITY

b) The campus is underlain by the Lower Cache-Putah Basin, which is divided by relatively impervious soil layers into shallow/intermediate and deep aquifers. Both aquifers are used regionally for domestic, municipal, agricultural and industrial uses with wells being sunk to a depth from 50 to 1,500 feet below the ground surface.

Groundwater Recharge
As described above, the proposed projects would increase impervious surfaces by approximately 1.0 acre. This small addition would not lead to a measurable reduction in aquifer recharge. Thus the proposed projects would not have a significant impact on groundwater recharge. The increase in impervious surface cover attributed to the proposed projects would not result in a significant loss of groundwater recharge capability over that evaluated in the 1994 LRDP EIR. The LRDP EIR concluded that there will be no significant and unavoidable impacts on a cumulative level due to campus development and, based on that conclusion, the Initial Study concludes that the project will not result in impacts that are cumulatively significant.

The 1994 LRDP EIR, as amended, concluded on page 4.8-26 that urban development under the 1994 LRDP, in conjunction with other regional development in the Lower Cache-Putah Creek Groundwater Basin, would increase the amount of impervious surface coverage and reduce groundwater recharge. This cumulative impact was considered significant and unavoidable because the University of California could not guarantee implementation of mitigation measure that fell within the jurisdiction of others to enforce and monitor. The proposed project would contribute to, but not exceed the increase in impervious surface cover identified under the 1994 LRDP. Furthermore, this significant and unavoidable impact was adequately analyzed in the LRDP EIR, and addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP EIR, as amended.

Deep Aquifer
The campus obtains its domestic water from the domestic/fire water system, which uses wells that draw from the deep aquifer. The CNPRC Facility Upgrade Project would contribute incrementally to the increased demand for domestic water by increasing the space for housing animals. The incremental contribution of the proposed project to these cumulative impacts is so small that it does not change the conclusions of the previous analysis. The proposed project would result in an increase in campus building space and a subsequent increase in domestic water demand. As described on page 4.14-11 of the 1994 LRDP EIR, increased development would result in an estimated increased demand for water from the deep aquifer of 223 million gallons per year (mg/y), for a total campus demand of approximately 1,115 mg/y by the end of the LRDP planning period in 2005-06. Of this total demand, the proposed project would require approximately 2.96 mg/y. The demand factor used (140 gallon/ASF/year) is an overall average that takes into consideration uses that typically result in higher demands than those likely to be associated with the proposed project uses, and thus the stated demand probably is overestimated.

The 1994 LRDP EIR concluded that impact on the supply of the deep aquifer could be reduced in magnitude but the impact would remain significant and unavoidable because the total volume of the deep aquifer is unknown, and the aquifer does not readily recharge. Implementation of the proposed project would incrementally contribute to, but not exceed, this impact to the deep aquifer that was identified in the 1994 LRDP EIR as significant and unavoidable. This was adequately analyzed in the LRDP EIR, and addressed in the Findings and Overriding Consideration adopted by The Regents in connection with its approval of the 1994 LRDP.
The 1994 LRDP EIR, as amended, concluded that cumulative growth under the 1994 LRDP would result in an increase in demand for water from the deep aquifer. The cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed domestic water demand from the deep aquifer identified under the 1994 LRDP. Furthermore, this significant impact was adequately analyzed in the 1997-98 Major Capital Improvement Projects SEIR, and addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1997-98 Major Capital Improvement Projects SEIR.

As discussed in Appendix C, campus growth through 2014-15 is anticipated to increase the campus’ demand for water from the deep aquifer beyond that assumed under the 1994 LRDP. Cumulative impacts 4.14-1 and 4.14-11 are anticipated to remain significant and unavoidable through 2014-15, however, these impacts and the availability of additional feasible mitigation measures will be reexamined as part of the LRDP update process.

**Shallow/Intermediate Aquifer**

The proposed project would not include a significant increase in landscaping that would require irrigation. The campus uses water from the shallow/intermediate aquifer for landscape irrigation on the central campus, but does not do so on the west campus. Project operations would have no impact on the shallow/intermediate aquifer.

d, h) The proposed project would not alter drainage patterns at the project site. Storm flows at the site would be retained in the on site retention basin approved as part of the CRPRC Improvement Projects EIR and scheduled for construction in 2004, and would not increase flows into the Covell Drain, consistent with LRDP EIR mitigation measure 4.8-7. A portion of the proposed project site is located within a 100-year floodplain as defined by FEMA (please see Figure 4.8-2, 100-Year Flood Plain, on page 4.8-4 of the 1994 LRDP EIR). Storm drainage improvements approved for the site, when implemented, will redirect flows, and prevent portions of the CNPRC area from flooding during a 100-year storm event. Since a portion of the project site is located within the 100-year flood zone, proposed facilities could obstruct or redirect flood flows. However, the area would be protected by the field berms as part of approved storm drainage improvements, and thus would not be subject to flooding. The localized redirection of flood flows would not result in flooding off-site and is therefore considered a less-than-significant impact.

e, f) With the implementation of the CRPRC Improvements Project, stormwater from the project site will drain to a retention pond with 8.5 acre-feet of capacity, located on the CNPRC site. This pond, which will be constructed prior to implementation of the proposed project, will be sufficient to hold stormwater runoff from the CNPRC that would result from a 100-year event. The proposed project would not result in significant erosion or siltation off site, as described in Item (a) of this section. The project would add about 1 acre of impervious surface to the site, which potentially would contribute additional sources of polluted runoff. The contribution would be minimal, however, because of the very small area, and the activities involved. The impact to stormwater is less than significant and no mitigation is required.

g) The proposed project does not involve construction of housing. Consequently, it would not expose people or property to water-related hazards associated with the 100-year flood plain.

i) The proposed project site is not located near a levee or dam and would not be subject to a significant risk of flooding due to failure of one of these structures. The campus is located...
approximately 23 miles downstream of Monticello Dam (Lake Berryessa) and the Putah Diversion Dam. An inundation map prepared by the U.S. Bureau of Reclamation shows that flooding due to failure of Monticello Dam would not be significantly greater than the designated 100-year flood plain (City of Davis 1987 in UC Davis 1999a). Because the proposed project would include drainage improvements to prevent flooding associated with 100-year storm events, CNPRC animal holding and academic and administrative structures would not be exposed to inundation as a result of dam failure. No impact would occur.

j) The project site is not located in an area subject to seiche, tsunami or mudflow. The project site is flat and is not located in close proximity to any large water bodies. Therefore, no impact would occur.

k) Standards of significance for hydrology and water quality impacts that were used in preparation of the 1994 LRDP EIR are presented earlier in this section. These standards are consistent with the hydrology and water quality questions in the current Environmental Checklist. As discussed above, with the incorporation of relevant 1994 LRDP EIR mitigation measures, the proposed project would not exceed the standards of significance identified in the 1994 LRDP EIR and would not result in new significant impacts related to hydrology and water quality that were not previously analyzed in the 1994 LRDP EIR.

Summary

1994 LRDP EIR Mitigation Measures 4.8-2 (a) and (b), 4.8-4 (a), 4.8-5 (a), 4.8-6 (a) and (b), 4.8-8 (a) through (c), 4.14-1 (a), 4.14-3(a) and (b), and 4.14-11 would be incorporated as part of the project. The proposed project would not result in new or significant hydrology and water quality impacts that have not already been adequately assessed in the 1994 LRDP EIR.
10. GEOLOGY, SOILS AND SEISMICITY

Background

There are a number of fault zones located within 100 miles of the Campus; however, neither the campus nor the City of Davis is located within an Alquist-Priolo Special Study Zone. The East Valley fault, approximately located beneath Russell Ranch, is a subsurface, inferred fault that has not created any surface rupture. No other known faults traverse the campus. According to the Preliminary Map of Maximum Expectable Earthquake Intensity in California, the campus is located in a "moderate" severity zone. The University of California has adopted a Seismic Safety Policy, which requires the identification and correction of potential earthquake hazards in existing structures and requires designs for new building structures that avoid seismic hazards.

Some soil conditions on the campus include dense subsurface soils, low groundwater levels and flat topography, suggesting that secondary seismic effects, such as liquefaction, are unlikely. Moderate to high shrink-swell potential is found in all underlying soils and can cause damage to foundations and other structures. Soils underlying the campus are shown in Figure 4.9-1 on page 4.9-6 of the 1994 LRDP DEIR. Soil disruption and constraints are described on pages 4.9-5 through 4.9-6 of the LRDP DEIR.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered a geotechnical impact to be significant if campus or regional growth would:

- expose people, structures or property to major seismic hazards such as ground shaking or liquefaction; or
- expose people, structures or property to damage from soil hazards such as shrink-swell potential or low soil strength.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The level of significance before and after application of mitigation measures identified in the 1994 LRDP EIR is also presented in the table. The proposed project is within the scope of the geotechnical analysis in the 1994 LRDP EIR as updated in these subsequent documents, and there are no changed circumstances since the preparation of these documents that require reanalysis of the cumulative impacts. Please note that cumulative regional Impact 4.9-3 included mitigation measures to reduce the impact to a less-than-significant level. However, the impact was identified as significant and unavoidable because the University of California could not guarantee implementation of the mitigation measures because they fell within other jurisdictions to enforce and monitor.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would likely increase the number of people and structures exposed to potential geology and soils hazards. However, campus growth through 2014-15 is not anticipated to result in any new cumulative geology and soils impacts different in character from those already assessed in the 1994 LRDP EIR. The campus will reexamine potential cumulative hydrology and water
quality impacts and the availability of additional feasible mitigation measures during the LRDP update process.

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.9-1 Development allowed under the 1994 LRDP could expose people, structures and property to strong ground shaking and secondary seismic effects from earthquakes in local or regional faults.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.9-3 Cumulative development, in conjunction with development allowed under the 1994 LRDP, would increase the cumulative number of people living and working in the Davis area who would be exposed to strong ground motion and other potential seismic effects from earthquakes in local or regional faults.</td>
<td>SU</td>
<td>SU</td>
</tr>
</tbody>
</table>

SU = Significant and Unavoidable; S = Significant; LS = Less than Significant

Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

- **LRDP EIR Mitigation Measure 4.9-1(a)** – Prior to final design, the Campus shall review and approve all building plans for compliance with the Uniform Building Code and Title 24

- **LRDP EIR Mitigation Measure 4.9-1(b)** – Prior to occupancy, the Campus shall review and approve final building designs for appropriate seismic safety provisions. Appropriate seismic safety provisions shall include anchoring, bracing or restraining nonstructural elements such as furniture, shelving or equipment.

- **LRDP EIR Mitigation Measure 4.9-1(c)** – Each department required to maintain an Injury and Illness Prevention Plan (IIPP) shall incorporate appropriate seismic safety policies. As part of each Department’s IIPP, earthquake preparedness drills shall be performed annually by building occupants.

- **LRDP EIR Mitigation Measure 4.9-3(a)** – Implementation of Mitigation Measures 4.9-1 (a) through (e).

- **LRDP EIR Mitigation Measure 4.9-3(b)** – City of Davis General Plan implementing and guiding policies for seismic safety recommend that the City:
  
  (i) continue to monitor studies of seismic activity in the region, and take appropriate action if significant seismic hazards, including earthquake faults, are discovered in the planning area; and
  
  (ii) continue to update and enforce Building Code requirements for seismic and geologic safety.
• **LRDP EIR Mitigation Measure 4.9-3(c)** – City of Davis General Plan implementing and guiding policies regarding expansive soils recommend that the City

(i) investigate and mitigate geologic soils hazards, or locate development away from such hazards in order to preserve life and protect property;

(ii) require submission of a soils report for development sites where soils conditions are not well known;

(iii) require as a condition of approval of development, mitigation of any soils hazards identified; and

(iv) require that areas of highly unstable soils, on which construction cannot feasibly be made safe, be used for open space, including greenbelts and parks. Require that site plans for development delineate the hazardous areas, and show the proposed use of those areas as greenbelts or parks.

The mitigation measures listed above are incorporated into the proposed project, and the proposed project, as mitigated, is evaluated in the checklist below.

<table>
<thead>
<tr>
<th>GEOLOGY, SOILS AND SEISMICITY</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project:</td>
<td></td>
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</tr>
<tr>
<td>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
<td>?</td>
<td>?</td>
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<td>?</td>
<td>?</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
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</tr>
<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
<td>?</td>
<td>?</td>
<td>?</td>
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<td>?</td>
</tr>
<tr>
<td>b) Result in substantial soil erosion or the loss of topsoil?</td>
<td>?</td>
<td>?</td>
<td>?</td>
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<td>?</td>
</tr>
</tbody>
</table>
GEOLOGY, SOILS AND SEISMICITY

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
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<td>1</td>
<td>?</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td>?</td>
</tr>
<tr>
<td>e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>f) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
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<td>?</td>
<td>1</td>
<td>?</td>
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</tbody>
</table>

Discussion

a-i) There are a number of fault zones located within 100 miles of the UC Davis campus. However, the project site is not located within an Alquist-Priolo Earthquake Fault Zone. The closest known fault is the Dunnigan Hills fault located approximately 12 miles northwest of the main campus. An unnamed fault is located approximately 10 miles west of the campus. The closest branches of the San Andreas fault system are the Green Valley and the Rodgers Creek faults, located 32 miles southwest and 47 miles southwest of the main campus, respectively. The San Andreas Fault is located approximately 67 miles to the southwest of the main campus. Therefore, the proposed CNPRC Facility Upgrade Project would not be exposed to risks associated with fault rupture, and no impact would occur.

a-ii, iii) The CNPRC is located in an area subject to moderate ground shaking during an earthquake event. This issue is addressed in the LRDP DEIR, page 4.9-2, which states:

According to the Preliminary Map of Maximum Expectable Earthquake Intensity in California, the Campus is located in a “moderate” severity zone, representing a probable maximum earthquake intensity of VII or VIII on the Modified Mercalli Scale, which corresponds to an earthquake measuring 6.0 to 6.9 on the Richter Scale… Effects of ground shaking during such an event could include...
The proposed project would entail the installation primarily of modular buildings. All facilities would be single-story. Cages inside the animal holding buildings would be similar to existing metal cages at the CNPRC, which have proven capable of withstanding seismic event. The potential for releases of animals as a result of seismic events is negligible. Employees in the proposed modular buildings and replacement building could be exposed to groundshaking and secondary seismic effects of earthquakes. Implementation of LRDP EIR mitigation measure 4.9-1(a) would ensure that modular buildings and the building replacing TB 196 would be designed and installed in compliance with applicable California Uniform Building Code (CUBC) Zone 4 and Title 24 standards. Implementation of LRDP EIR mitigation measure 4.9-1(a) through (c) would mitigate impacts relating to seismically induced ground shaking or ground failure. Therefore, significant seismically induced ground shaking and ground failure impacts for the proposed facilities would be reduced to a less-than-significant level and no further mitigation would be required.

The 1994 LRDP EIR concluded that development under the LRDP along with cumulative development would increase the cumulative number of people living and working in the Davis area who would be exposed to strong ground motion and other potential seismic effects from earthquakes in local or regional faults. This impact was considered to be a significant and unavoidable impact. The proposed project would contribute to, but not exceed, this increase in population recognized under the 1994 LRDP. Furthermore, this significant and unavoidable impact was adequately analyzed in the LRDP EIR, and addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP EIR, as amended.

The proposed project would be located in an area of flat topography and, therefore, would not be subject to landslides. No impact would occur.

b) Soils under the sites of the proposed facility upgrades belong to the Capay series (see Figure 4.9-1 on page 4.9-6 of the 1994 LRDP EIR). These soils are characterized by slow permeability, very slow runoff, minimal hazard of erosion, and high shrink-swell potential. Construction of the proposed project would require minimal grading and excavation activities in construction of building foundations and infrastructure. Earth-disturbing activities could result in increased rates of erosion during construction. However, as described above, soils in the project area are characterized as having minimal erosion hazard, therefore, this effect would be negligible. The proposed project would be designed to ensure that potential adverse effects related to soil constraints would be minimized to the maximum extent feasible in accordance with applicable CUBC requirements. This impact would be less than significant and no additional mitigation is required.

c) Lateral spreading, liquefaction, or other unstable soil conditions have not been identified as development constraints on the West Campus. The CNPRC Facility Upgrade Project is not located on unstable soil or strata. The 1994 LRDP EIR did not identify impacts associated with subsidence. Although no significant adverse geologic or soil conditions are anticipated, as noted on page 4.9-10 of the 1994 LRDP, CUBC requires that geotechnical studies be prepared by a registered geologist or engineering geologist to identify appropriate recommendations for site development prior to building design (as noted on page 4.9-10 in the 1994 LRDP DEIR). Recommendations presented in the geotechnical study would be implemented in the design and
construction of the proposed project to account for any identified hazards. Therefore, the proposed project is not anticipated to result in any new or significant impacts that have not already been evaluated in the 1994 LRDP EIR. This impact is considered to be less than significant, and no additional mitigation is required.

d) As described above, soils underlying the CNPRC site exhibit high shrink-swell potential, which could result in structural damage. The 1994 LRDP EIR concluded that impacts related to development on expansive soils would be less than significant because, as stated on page 4.9-10 of the 1994 LRDP EIR, all project construction would be required to comply with applicable CUBC requirements. The proposed CNPRC Facility Upgrade Project would also implement 1994 LRDP EIR mitigation measure 4.9-1(a), which requires review of facility design to ensure compliance with CUBC requirements. Therefore, the impact of the proposed project would be less than significant and no additional mitigation is required.

e) The CNPRC is connected to the existing wastewater treatment facilities, which would be used by the proposed project. The CNPRC Facility Upgrade Project does not include construction of septic tanks or alternative systems. Therefore, no impact would occur.

f) The standards of significance for geology and soils that were used in preparation of the 1994 LRDP EIR are presented at the beginning of this section of the Initial Study. These standards are consistent with the questions in the checklist for geology and soils. Based on the discussion presented above, the proposed project would not exceed the standards of significance in the LRDP EIR. They would not result in any new project-level or cumulative impacts related to geology and soils that were not previously analyzed in the 1994 LRDP EIR.

Summary

1994 LRDP EIR Mitigation Measures 4.9-1 (a) through (c) and 4.9-3 (a) through (c) would be incorporated as part of the project. The proposed project would not result in new or significant geology and soils impacts that have not already been adequately assessed in the 1994 LRDP EIR.
11. MINERAL RESOURCES

Mineral resources are briefly discussed in Section 4.9 of the 1994 LRDP EIR. Natural gas has been found on the main campus and at the Russell Ranch. Natural gas extraction techniques allow wells to be placed at considerable distances from the deposits. No other known or potential mineral resources have been identified on the UC Davis campus. As such, the 1994 LRDP EIR did not identify any impacts to mineral resources.

Mineral resources are briefly addressed in Section 4.9 (Geotechnical Factors) of the 1994 LRDP Draft EIR. The 1994 LRDP EIR did not identify impacts of campus development through 2005-06 on mineral resources. As discussed in the Cumulative Impacts Analysis presented as Appendix C of this document, campus growth through 2014-15 is not expected to introduce any new cumulative mineral resource impacts or require new mitigation measures.

### MINERAL RESOURCES

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
</tr>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
</tr>
<tr>
<td>c) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
</tr>
</tbody>
</table>

**Discussion**

a) The CNPRC Facility Upgrade Project would not affect any mineral resources. Therefore, no impact would occur.

b) The proposed project would not 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.

c) The LRDP EIR does not contain standards of significance for mineral resources. The proposed project would not result in any new impacts related to mineral resources that were not previously analyzed in the 1994 LRDP EIR.
GEOLOGY, SOILS AND SEISMICITY

Summary

No impacts would occur.
12. CULTURAL RESOURCES

Background

The 1994 LRDP EIR describes known cultural (prehistoric and historic) resources on the campus. Prehistoric resources are those sites and artifacts associated with the indigenous, non-Euroamerican population, generally prior to contact with people of European descent. Historical resources include structures, features, artifacts and sites that date from Euroamerican settlement of the region.

Prehistoric Resources – At the time of first European contact the campus was within the territory of the Patwin. The Patwin controlled a 90-mile section of land running from Suisun Bay to Princeton on the Sacramento River, and from Long Valley-San Pablo Bay on the west to the Sacramento River on the east. Record searches were conducted for the Central Campus, West Campus, South Campus, Russell Ranch and the South Davis Research Park. Extensive areas of the campus have been surveyed both on the surface and below the surface as part of the site work for future campus projects. Prehistoric Native American sites have been identified at several sites on the Central Campus including two with burials.

Historic Resources – 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, and several are considered significant historical significant historical resources. There are more than fifty structures on campus that are over 45 years old. Most of these have not been evaluated for historical significance. Future analysis will be required under CEQA and the National Historic Preservation Act for any buildings over 45 years old that could be damaged or destroyed.

The campus has extensive landscaping, some of it dating to early periods in the campus' history (early 1900s). Staff of the Campus Arboretum mapped the campus' historic landscape features in 1989, and identified twelve landscaping districts that correlate to specific periods in the campus' history. Criteria for placement on the inventory included the designer's fame, the period, and the design's rarity and quality. Some landscapes were selected because of the architectural period in which they were designed. None of the landscapes placed on the inventory are near the project site.

1994 LRDP EIR Standards of Significance

An impact was considered significant in the 1994 LRDP EIR if campus or regional growth would:

- result in the damage or destruction of prehistoric sites or artifacts that would meet CEQA and/or federal criteria for significance; or

- result in the damage or destruction of historical structures, features, artifacts, landscaping or sites that would meet CEQA, federal or campus criteria for significance.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The level of significance before and after the application of mitigation measures identified in the 1994 LRDP EIR is also presented in the table. Impacts to cultural resources were reviewed in the WWTP Replacement Project EIR and in the 1997-98 Major Capital Improvement Projects SEIR; no new impacts were identified and no additional mitigation measures were adopted that apply to the proposed project. The proposed project are within the scope of the analysis in the 1994
CULTURAL RESOURCES

LRDP EIR, as updated in these subsequent documents, and there are no changed circumstances since the preparation of these documents that require reanalysis of the cumulative impacts. The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus’ potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would increase development beyond that anticipated under the 1994 LRDP and could contribute to the cumulative damage or destruction of cultural resources. However, campus growth through 2014-15 is not anticipated to result in any new cumulative cultural resources impacts different in character from those already assessed in the 1994 LRDP EIR. The campus will reexamine potential cumulative cultural resources impacts and the availability of additional feasible mitigation measures during the LRDP update process. Please note that the LRDP EIR included mitigation measures to reduce cumulative regional Impact 4.10-4 to a less-than-significant level. However, this impact was identified as significant and unavoidable because the University of California could not guarantee implementation of the mitigation measures because they fell within other jurisdictions to enforce and monitor.

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.10-1 Excavation, grading and construction activities could damage or destroy</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>buried cultural (prehistoric or historic) resources.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.10-2 Development allowed under the 1994 LRDP could damage or destroy</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>historical structures during construction and/or renovation activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.10-3 Development allowed under the 1994 LRDP could damage or destroy</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>significant landscape features by excavation, grading and construction activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.10-4 Development allowed under the 1994 LRDP could contribute to a cumulative</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>loss of prehistoric and historic resources in Yolo and Solano Counties.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SU = Significant and Unavoidable; S = Significant; LS = Less than Significant

Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

- **LRDP EIR Mitigation Measure 4.10-1(a)** – Prior to project approval, the Campus shall determine the level of archaeological investigation that is appropriate for the project site. The levels are:

  Minimum: in areas of known archaeological sensitivity (i.e. known sites) excavation less than 18” deep and in a relatively small area (e.g. routine maintenance and operations such as repairing broken facilities, a short trench for lawn irrigation, tree planting, etc.); in other areas, excavation less than 36” deep and in a relatively small area.
Moderate: excavation below 36” 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.

Intensive: excavation below 18” and/or over a large area on any site that is within 800’ of the historic alignment of Putah Creek (prior to 1880) or that is adjacent to a recorded archaeological site.

- **LRDP EIR Mitigation Measure 4.10-1(b)** – For sites requiring minimum investigation, the following steps will be taken.

  (i) 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 anything is found. In addition, campus employees whose work involves routinely disturbing the soil shall be trained to recognize evidence of potential archaeological sites and artifacts.

  (ii) If resources are discovered during activities, all soil disturbing work within 100’ of the find shall cease. The resources shall be evaluated by a qualified archaeologist who will determine and advise the Campus on the potential for the activity to affect a significant archaeological resource.

  (iii) If the activity might affect a significant archaeological resource, consistent with CEQA and Appendix K of the CEQA Guidelines addressing archaeological impacts a plan for surveying the remainder of the site and conducting appropriate data recovery and other mitigation shall be prepared and implemented using the services of a qualified archaeologist.

  (iv) If human remains are found, the County coroner shall be contacted. The coroner shall contact the Native American Heritage Commission, which shall notify the appropriate descendant. The Campus shall coordinate re-interment of Native American remains with the NAHC [Native American Heritage Commission] and the designated descendant.

- **LRDP EIR Mitigation Measure 4.10-1(c)** - For sites requiring moderate level of investigation, the following steps shall be taken.

  (i) A surface survey shall be conducted by a qualified archaeologist prior to project approval.

  (ii) If evidence of archeological resources is found, a qualified archaeologist shall prepare and implement a plan for subsurface investigation of the site. The archaeologist shall determine and advise the Campus on the potential for the project to affect a significant archaeological resource. If the project might affect a significant archaeological resource, the campus shall adopt an appropriate mitigation plan at the time of project approval. If feasible, the Campus shall consider avoidance at significant archaeological sites as the preferred mitigation. At a minimum, data recovery at significant archaeological sites will be implemented.
(iii) If evidence of archaeological resources is not found during the surface survey, a qualified archaeologist shall be present during excavation and grading, as deemed necessary by the archaeologist.

(iv) Steps (i) through (iv) of item (b) shall be implemented.

- **LRDP EIR Mitigation Measure 4.10-1(d)** - For sites requiring intensive investigation, the following steps shall be taken.

  (i) A subsurface investigation shall be conducted by a qualified archaeologist, prior to project approval. The archaeologist shall determine and advise the Campus on the potential for the project to affect a significant archaeological resource. If the project might affect a significant archaeological resource, the campus shall adopt an appropriate mitigation plan at the time of project approval. If feasible, the Campus shall consider avoidance at significant archaeological sites as the preferred mitigation. At a minimum, data recovery at significant archaeological sites will be implemented.

  (ii) A qualified archaeologist shall be present during grading and excavation, as deemed appropriate.

  (iii) Steps (i) through (iv) of item (b) shall be implemented.

- **LRDP EIR Mitigation Measure 4.10-4(b)** - The Yolo and Solano County General Plans and the City of Davis General Plan contain policies which address the preservation of cultural resources. It is within the jurisdiction of these agencies to implement the General Plan policies that encourage the protection and restoration of cultural resources.

The mitigation measures listed above are incorporated into the proposed project, and the proposed project, as mitigated, is evaluated in the checklist below.

<table>
<thead>
<tr>
<th>CULTURAL RESOURCES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

**Would the project:**

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

|  | ? | ? | ? | ? | 1 |

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

|  | ? | ? | 1 | ? | ? |
CULTURAL RESOURCES

Would the project:

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
<td></td>
<td></td>
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<td>?</td>
<td>?</td>
</tr>
<tr>
<td>d) Disturb any human remains, including those interred outside of formal cemeteries?</td>
<td></td>
<td></td>
<td></td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td>e) Cause a substantial adverse change in the significance of a historic landscape feature?</td>
<td></td>
<td></td>
<td></td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>f) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
<td></td>
<td></td>
<td></td>
<td>?</td>
<td>1</td>
</tr>
</tbody>
</table>

Discussion

a) One existing structure, TB 196, would be removed as a result of the proposed project. This building is less than 45 years old and has no outstanding architectural characteristics or associations, and is not therefore eligible for consideration as a historic resource. No impact would occur.

b) Archaeological survey and testing for the CRPRC Improvement Projects, which encompassed the CNPRC Facility Upgrade locations, was carried out between February and August 1999 (Pacific Legacy 1999). Pedestrian survey of the site revealed Native American tool materials, a quartz core and three quartzite flakes on the surface. In addition, subsurface archaeological testing was conducted. A tractor-mounted mechanical auger took subsurface samples from throughout the project site. The auger cores were screened and examined for evidence of prehistoric human occupation or use, such as prehistoric midden soils, charcoal, flaked stone, bone, shell, and for historic materials such as glass, porcelain, and iron fragments. Thirty auger probes were excavated. No subsurface cultural material was identified in any of the probes. Therefore, there is no evidence to suggest the presence of subsurface cultural deposits in the area. However, because the initial surface survey located prehistoric artifacts on the surface, additional undiscovered prehistoric material could be present, and the proposed project potentially could result in significant impacts on archaeological resources. This potentially significant impact would be reduced to a less-than-significant level through the implementation of LRDP EIR mitigation measure 4.10-1(c)(iii).

c) The site does not include unique geologic features or paleontological resources; therefore, no impact would occur.
CULTURAL RESOURCES

d) Human remains are not known to be present in the project area; therefore, no impact is anticipated. If human remains were uncovered during construction, LRDP EIR mitigation measure 4.10-3 would be applied to mitigate the impact to a less-than-significant level.

e) The proposed CNPRC project site includes only recent landscaping. Since no significant landscape features would be involved, no impact would occur.

f) The standards of significance for cultural resources that were used in preparation of the 1994 LRDP EIR are presented at the beginning of this section of the Initial Study. These standards are consistent with the questions in the checklist for cultural resources. Based on the discussion presented above, the proposed project would not exceed the standards of significance in the LRDP EIR. They would not result in any new project-level or cumulative impacts related to cultural resources that were not previously analyzed in the 1994 LRDP EIR.

Summary

The project has the potential for impacts to archaeological resources, and possibly to undiscovered human remains, should they be uncovered during construction. These impacts are mitigated to less-than-significant levels by the implementation of LRDP mitigation measure 4.10-1, and 4.10-3, in the event of discoveries. The project would not result in impacts to historic resources, historic buildings or landscapes, or geological or paleontological resources.
13. AESTHETICS

Background

To the south and west, the UC Davis campus is bordered by orchards, tilled fields and pastures interspersed with rural homes and agricultural structures. The City of Davis is adjacent to the eastern and northern boundaries of the Campus. The City is primarily composed of one and two-story homes and businesses. The downtown area retains the atmosphere of a small college town. The campus is organized into four distinct components or units. Each of the major components of the campus has a distinct visual character. The west campus, which is the unit relevant to the proposed project, is described below.

The west campus consists primarily of open agricultural research fields interrupted by low-density agricultural research buildings. Many of the campus' field-based research functions are housed on the west campus, including the beef and sheep barns, the CNPRC, and numerous plant and animal laboratories. The University Airport and campus landfill are also located in the west campus.

The 1994 LRDP identifies features of the visual environment that are valued by the campus community and should be preserved. The "open character of the working agricultural landscape" and views of the English Hills and Vaca Mountains are identified as valued visual quality for West and South Campuses. The 1994 LRDP would preserve the open, agricultural character of the West and South Campuses and Russell Ranch by retaining agricultural uses and research in those areas, and allowing structures that are only one or two stories high.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to aesthetics to be significant if campus or regional growth would:

- allow incompatible development in or near areas with high visual quality, such as Putah Creek and the Arboretum Waterway, or substantially affect the valued elements of the visual landscape identified in the LRDP.
- result in structures that would disrupt views of surrounding agricultural lands, the Coast Range, or the Sierra Nevada; or
- create substantial new sources of artificial light and/or glare.

1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The level of significance before and after application of mitigation measures identified in the 1994 LRDP EIR is also presented in the table. Aesthetic impacts were reviewed in the WWTP Replacement Project EIR and in the 1997-98 Major Capital Improvement Projects SEIR; and the CRPRC Improvement Projects Draft Tiered Focused EIR. No new impacts were identified and no additional mitigation measures were adopted that apply to the proposed project. The proposed project are within the scope of the analysis in the 1994 LRDP EIR as updated in these subsequent documents, and there are no changed circumstances since the preparation of these documents that require reanalysis of the cumulative impacts. Please note that the LRDP EIR included mitigation measures to reduce cumulative regional Impact 4.11-5 to a less-than-significant level. However, this
impact was identified as significant and unavoidable because the University of California could not guarantee the implementation of the 1994 LRDP EIR mitigation measure 4.11-5(a) and (b) because it fell within other jurisdictions to enforce and monitor.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would increase development beyond that anticipated under the 1994 LRDP and could contribute to the cumulative degradation of aesthetic resources. However, campus growth through 2014-15 is not anticipated to result in any new cumulative aesthetic resource impacts different in character from those analyzed in the 1994 LRDP EIR. The campus will reexamine potential cumulative aesthetic resource impacts and the availability of additional feasible mitigation measures during the LRDP update process.

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance after/with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.11-2 Structures built under the 1994 LRDP could be incompatible with the existing rural agricultural character of the South and West Campuses and Russell Ranch.</td>
<td>PS</td>
<td>LS</td>
</tr>
<tr>
<td>4.11-4 Structures built under the LRDP could create glare, artificial light, heat and shade, making the immediate area uncomfortable for people.</td>
<td>PS</td>
<td>LS</td>
</tr>
</tbody>
</table>

SU = Significant and Unavoidable; S = Significant; LS = Less than Significant

Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

- **LRDP EIR Mitigation Measure 4.11-2** – The Campus Design Review Board shall review proposed structures on the South and West Campuses and Russell Ranch to ensure that the design, setbacks, screening and landscaping will achieve compatibility with the surrounding environment.

- **LRDP EIR Mitigation Measure 4.11-4(a)** – Prior to design approval of the first structure approved following adoption of the 1994 LRDP, the Campus shall develop guidelines to minimize discomfort from light, heat, and glare.

  The guidelines could include, but would not be limited to, building surfaces, landscaping, orientation and exposure, and lighting.

- **LRDP EIR Mitigation Measure 4.11-4(b)** – Prior to design approval of any building, the Campus Design Review Board shall assess the building design for compliance with the guidelines developed under Mitigation Measure 4.11-4(a).

- **LRDP EIR Mitigation Measure 4.11-5(a)** – Implement Mitigation Measure 4.11-2 and 4.11-4(a) and (b).
• **LRDP EIR Mitigation Measure 4.11-5(b)** – The City of Davis General Plan, Yolo County General Plan, and Solano County General Plan contain policies that address the preservation and protection of agricultural land. It is within the jurisdiction of these agencies to implement the General Plan policies, which support the conservation of agricultural land, and the prohibition of new development in designated agricultural areas.

The mitigation measures listed above are incorporated into the proposed project, and the proposed project, as mitigated, is evaluated in the checklist below.

<table>
<thead>
<tr>
<th>AESTHETICS</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
</tr>
<tr>
<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
</tr>
<tr>
<td>d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>!</td>
<td>?</td>
</tr>
<tr>
<td>f) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
<td>?</td>
<td>?</td>
<td>!</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

**Discussion**

a) The proposed project would be within the developed area of the existing CNPRC, would be similar in design to other existing modular buildings and structures in the area, and would not be higher than other structures with similar uses at the CNPRC. The new and upgraded facilities would have no impact on scenic vistas, and would have minimal visibility from outside the CNPRC because they would be screened by existing buildings.

b, c, e) The proposed project site is located in the southern portion of the Sacramento Valley. The project area is situated on an alluvial plain that is drained by Putah Creek, a tributary of the
Sacramento River. The area immediately surrounding the project site has been developed for agricultural production and research. The CNPRC includes low-lying, one-story modular research structures, open corrals, and a two-story administration building. The proposed project would not modify the visual character of the CNPRC nor have an adverse effect on the surrounding landscape. The new structures would be similar in design to existing buildings and structures, and would not be higher than other structures with similar uses at the CNPRC. The project would not affect any valued elements of the visual landscape.

d) Glare is caused by light reflections from pavement, vehicles and building materials such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. At night, artificial light can cause glare. The project would not create a new source of substantial daylight glare. Night lighting currently exists at the surrounding CNPRC facilities, and the new facilities would include night lighting for security and nighttime functions. The 1994 LRDP EIR mitigation measures 4.11-4(a) and (b) have been proposed to reduce light and glare to less-than-significant levels. In compliance with LRDP EIR mitigation measure 4.11-4(a), the campus has developed guidelines to minimize potential discomfort from light, heat and glare. All lighting associated with the upgraded facilities would be installed in accordance to campus Facilities Design Standards including cut-off lighting in buildings to reduce glare. In addition, the lighting standards of UC Davis’ Architects and Engineers would also be implemented. With implementation of these guidelines, potential light and glare impact associated with the project would be reduced to a less-than-significant level.

f) The standards of significance for aesthetics that were used in preparation of the 1994 LRDP EIR are presented at the beginning of this section of the Initial Study. These standards are consistent with the questions in the checklist for aesthetics. Based on the discussion presented above, the proposed project would not exceed the standards of significance in the LRDP EIR. They would not result in any new project-level or cumulative impacts related to aesthetics that were not previously analyzed in the 1994 LRDP EIR.

Summary

The proposed project potentially could result in nighttime light impacts. These are reduced to less-than-significant levels by the implementation of LRDP EIR design measures.
14. PUBLIC SERVICES

Background

Fire protection – The UC Davis Fire Department provides fire protection, hazardous materials incident response, and emergency medical service to the campus. In 2003, the Campus Fire Department was staffed with 19 career firefighting personnel (six assigned to each of three shifts to maintain minimum staffing of five), between 9 and 15 resident-student firefighters, five fire prevention staff, and five administrative and support personnel. Fire protection service demand is based on a ratio of personnel to square footage (3.5 fire fighters per 1,000,000 gsf). The Campus Fire Department entered into two automatic aid agreements in 1994 with the City of Davis to maintain this ratio and to ensure adequate response times.

Police protection – The Campus Police Department provides police protection service for all buildings and facilities either owned or leased by UC Davis. The Department is authorized for a staff of 50 sworn officers, although it is currently staffed with 29.5 sworn officers plus non-sworn personnel, including dispatchers and support staff. Police protection service demand is based on a ratio of personnel to population (0.72 officers per 1,000 population in 2003).

Schools – The DJUSD serves the City of Davis and portions of Yolo and Solano Counties. With the exception of one elementary school, all DJUSD facilities are within City of Davis boundaries.

Other public facilities – The campus currently has four libraries located in the Central Campus serving both the campus population and the general public: Shields Library; Physical Sciences Library; Law Library; and the Health Sciences Library. The Davis Library, a branch of the Yolo County Library, is located in the City of Davis.

The City of Davis maintains adequate parks and recreation uses to accommodate buildout of the City. In addition, the campus provides parks and open spaces available to the general public.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to fire protection, police protection, schools, parks and other public facilities (libraries) to be significant if campus or regional growth would:

- substantially diminish the current level of fire protection service (i.e., response time, level of investigative services);
- substantially diminish the current level of police protection service (i.e., response time, level of investigative services);
- require expansion or realignment of the existing school system;
- require an expansion of library facilities or the library system.
1994 LRDP EIR Significant Impacts and Mitigation Measures

Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. The level of significance before and after application of mitigation measures identified in these documents is also presented in this table. The proposed project is within the scope of the analysis in the 1994 LRDP EIR as updated in subsequent documents, and there are no changed circumstances since the preparation of these documents that require reanalysis of the cumulative impacts. Please note that the LRDP EIR includes mitigation measures to reduce Cumulative Impacts 4.12-4, 4.12-5, and 4.13-5 to a less-than-significant level. However, these impacts were identified as significant and unavoidable because the University of California could not guarantee implementation of the mitigation measures because the measures fell within other jurisdictions to enforce and monitor.

The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would increase cumulative demand for public services. However, campus growth through 2014-15 is not anticipated to result in any new cumulative impacts on public services that differ in character from those analyzed in the 1994 LRDP EIR. The campus will reexamine potential cumulative public service impacts and the availability of additional feasible mitigation measures during the LRDP update process.

<table>
<thead>
<tr>
<th>LRDP EIR IMPACT</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After/With Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.12-1 Development allowed under the 1994 LRDP could result in a reduction of the level of fire protection service provided by the UC Davis Fire Department.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.12-2 Development allowed under the 1994 LRDP would result in new buildings and facilities in areas where water pressure may be low.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.12-3 Development allowed under the 1994 LRDP could result in a reduction of the level of police protection service provided by the UC Davis Police Department.</td>
<td>S</td>
<td>LS</td>
</tr>
<tr>
<td>4.12-4 Cumulative development allowed under the 1994 LRDP could result in decreased level of service from City of Davis fire protection services.</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>4.12-5 Cumulative development allowed under the 1994 LRDP could result in decreased level of service from the City of Davis police protection services.</td>
<td>SU</td>
<td>SU</td>
</tr>
<tr>
<td>4.13-5 Cumulative development of the Davis area would generate an increase in the number of school age students in the DJUSD.</td>
<td>SU</td>
<td>SU</td>
</tr>
</tbody>
</table>

SU = Significant and Unavoidable; S = Significant; LS = Less than Significant
Mitigation measures in the 1994 LRDP EIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

- **LRDP EIR Mitigation Measure 4.12-1** - The Campus shall implement one or more of the following measures in order to maintain current level of fire protection services:
  
  (a) hire additional firefighters and support staff as necessary to maintain the existing ratio of 3.5 firefighters per 1,000,000 square feet of building area on the UC Davis Campus;
  
  (b) add additional equipment or improve techniques to meet needs of fire protection needs; or
  
  (c) expand mutual aid assistance from adjacent jurisdictions.

- **LRDP EIR Mitigation Measure 4.12-2** - Prior to the construction of new buildings or facilities, the Campus shall determine the water pressure of the domestic/fire water system serving the site. If the pressure is determined to be below the industry standard set for fire water flows, then the Campus shall upgrade the domestic/fire water system to provide the appropriate water pressure and flow to the proposed building or facility site.

- **LRDP EIR Mitigation Measure 4.12-3** - The Campus shall implement one or more of the following measures in order to maintain current level of police protection services:
  
  (a) hire additional sworn-officers and support staff as necessary to maintain the existing ratio of 0.72 sworn-officers per 1,000 daily population;
  
  (b) add additional equipment or improve techniques to meet needs of police protection; or
  
  (c) expand mutual aid assistance from adjacent jurisdictions.


- **LRDP EIR Mitigation Measure 4.12-4(b)** - The General Plan describes how City of Davis ordinances and assessment districts can ensure that the needed additional fire services and facilities are provided in coordination with development. Furthermore, City of Davis policy does not allow construction in new development areas until all necessary public services (including water, fire hydrants, and roads meeting the Fire Department's specifications) are in place. It is in the jurisdiction of the City of Davis to construct and staff fire stations, or increase efficiency as necessary to provide all portions of the fire department's service area with five-minute response capability as is indicated in the Davis General Plan.

- **LRDP EIR Mitigation Measure 4.12-5(a)** - Implement Mitigation Measure 4.12-3.

- **LRDP EIR Mitigation Measure 4.12-5(b)** - The Fiscal Analysis section of the Technical Supplement to the City of Davis General Plan indicates how needed capital improvements and additional police personnel may be funded. Funds to expand police services may be obtained through construction taxes.
and assessment fees imposed upon new residential and commercial development in the City. In this way the financial burden for increased service would be placed on new residents, including incoming campus employees buying new homes in Davis, and students living off-campus in newly constructed rental units. It is within the jurisdiction of the City of Davis to hire additional police officers and support staff, or increase efficiency, as needed to maintain the existing level of service to the community as identified in the Davis General Plan.

**LRDP EIR Mitigation Measure 4.13-5** - The Fiscal Analysis section of the Technical Supplement to the City of Davis General Plan describes the City’s existing plans to construct schools needed in the future and illustrates how additional facilities could be funded. It is within the jurisdiction of the City of Davis and DJUSD to plan and construct new school facilities in the Davis Planning Area, as indicated in the Davis General Plan. As new areas of housing are developed in the Davis Planning Area, the City of Davis would address resulting impacts to DJUSD schools.

Mitigation measures listed above are incorporated into the proposed project. The proposed project as mitigated is evaluated in the checklist below.

<table>
<thead>
<tr>
<th>PUBLIC SERVICES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>Would the project:</td>
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<tr>
<td>a)</td>
<td>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:</td>
<td>?</td>
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<tr>
<td>b) Exceed an applicable LRDP or Program EIR Standard of Significant?</td>
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</table>
Discussion

a, ii) Fire Protection
The UC Davis Fire Department provides fire protection for the West Campus area. The Campus Fire Department is currently staffed with 19 career firefighting personnel (six assigned to each of three shifts to maintain minimum staffing of five), 9 to 15 resident-student firefighters, five fire prevention staff, and five administrative and support personnel. Fire protection service demand is based on a ratio of personnel to increased square footage (3.5 firefighters per 1,000,000 gsf). The Campus Fire Department entered into two automatic aid agreements in 1994 with the City of Davis to maintain this ratio and to ensure adequate response times. In addition, all design and construction of the proposed project would conform to all applicable building codes and fire/life safety codes.

The proposed project includes construction of new facilities on campus and would be considered additional space to be protected by the Campus Fire Department. The addition of 30,865 gsf of building space would require an additional 0.1 firefighters to maintain current level of service. Because implementation of the proposed project would increase the need for firefighters, the project would be required to comply with the campus' level of service policy. However, as discussed in Section 3 of this Initial Study, Consistency with the 1994 LRDP EIR, the proposed total gsf is within the amount of development approved under the 1994 LRDP. Therefore, the proposed project would incrementally contribute to, but would not exceed, the need for increased fire protection service identified in the 1994 LRDP EIR. Continued compliance with LRDP EIR mitigation measure 4.12-1 would mitigate project impacts to campus fire protection services. No further mitigation is required.

As described on pages 4.3-3 and 4.3-4 of the 1997-98 Major Capital Improvements Project DSEIR, development under the 1994 LRDP is projected to increase the daily maximum peak domestic/fire water demand to a total demand of approximately 7,500 gallon per minute (gpm) at buildout. Current capacity of the existing wells and reservoir is 6,670 gpm. In addition, 2,140 gpm of standby capacity exists provided by interconnections to Utility Wells 5 and 6A for a total capacity of 8,810 gpm available in the system. Peak demand for fire flows would be substantially higher than peak domestic water demand. Therefore, campus domestic/fire water system distribution lines are sized to meet peak fire flows. The demand associated with project development would not exceed the projected demand for the 1994 LRDP. Implementation of 1994 LRDP EIR mitigation measure 4.12-2 will ensure that the proposed project would result in no new impacts relating to water pressure other than those previously identified in the 1994 LRDP EIR. Therefore, significant water pressure impacts have been mitigated to a less-than-significant level through incorporation of mitigation measures adopted as part of the 1994 LRDP EIR and no further mitigation is required.

The 1994 LRDP EIR concluded that cumulative growth under the 1994 LRDP could result in a decreased level of service from City of Davis fire protection services (Impact 4.12-4). Although implementation of 1994 LRDP EIR Mitigation Measures 4.12-4 (a) and (b), incorporated as part of the project, would reduce the magnitude of this impact, this cumulative impact is considered significant and unavoidable because implementation of Mitigation Measure 4.12-4 (b) is not within the University’s jurisdiction to enforce and monitor. The proposed project would contribute to, but not exceed, the increase in development and associated demand on City of Davis fire protection identified in the 1994 LRDP. This significant and unavoidable impact was adequately analyzed in the 1994 LRDP EIR and fully addressed by the Findings and Overriding
Considerations adopted by The Regents in connection with its approval of the 1994 LRDP and certification of the 1994 LRDP EIR. As discussed in Appendix C, campus growth through 2014-15 would contribute to the cumulative demand for fire protection in the region. This cumulative impact is anticipated to remain significant and unavoidable through 2014-15. This impact and the availability of additional feasible mitigation measures will be reexamined as part of the LRDP update process.

**Police Protection**

(a) The Campus Police Department provides service to the project area. The Department is authorized to have a staff of up to 50 sworn officers. Currently, it is staffed with 45 sworn officers and 34 to 35 non-sworn personnel, including dispatchers and support staff. Police protection service demand is based on a ratio of personnel to increased population (0.72 officers per 1,000 population). The 1994 LRDP DEIR (Impact 4.12-3 on pages 4.12-6 through 4.12-7 of the 1994 LRDP EIR) concluded that development under the 1994 LRDP would result in a significant impact on police services. Continued implementation of 1994 LRDP EIR Mitigation Measures 4.12-3 (a) through (c), incorporated as part of the proposed project, would reduce the project’s impact to police protection services to a less-than-significant level.

In 1998-1999, the campus population was 32,982 (Table 1). Thus, the ratio of officers was 0.99:1,000, which exceeded the campus standard. In accordance with LRDP EIR mitigation measure 4.12-3, the Campus Police Department has also updated its communications center with the addition of a state-of-the-art radio system. In addition, the Campus has Mutual Aid Agreements with law enforcement agencies from the City of Davis, Yolo County and the State to ensure that adequate campus police protection services and response times are provided.

It is not anticipated that operation of the proposed CNPRC new facilities and the addition of up to ten employees would result in a significant increase in demand over that which currently exists, nor affect the ability of the Campus Police Department to provide adequate service. Therefore, continued compliance with 1994 LRDP EIR mitigation measure 4.12-3 will ensure that the proposed project would result in no new impacts relating to police protection other than those previously identified in the 1994 LRDP EIR.

The 1994 LRDP EIR, as amended, concluded that cumulative growth under the 1994 LRDP could result in a decreased level of service from City of Davis police protection services. This cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed the impact identified under the 1994 LRDP. Furthermore, this significant and unavoidable impact was fully addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP EIR, as amended.

As discussed in Appendix C, campus growth through 2014-15 would contribute to the cumulative demand for police protection in the region. This cumulative impact is anticipated to remain significant and unavoidable through 2014-15. This impact and the availability of additional feasible mitigation measures will be reexamined as part of the LRDP update process.

a-iii,iv) The increase in permanent campus population of up to ten people is within the population projections evaluated in the 1994 LRDP EIR for schools and parks (see Section 3.0, Consistency with 1994 LRDP EIR). These impacts were determined to be less than significant in the 1994 LRDP EIR. Therefore, the addition of ten new campus employees would be a less-than-significant impact and no mitigation is required.
The 1994 LRDP EIR, as amended, concluded that cumulative development in the Davis area would generate an increased number of school age students in the DJUSD. This cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed population projections identified under the 1994 LRDP and for the City of Davis, which could contribute to over-enrollment in School District schools. Furthermore, this significant and unavoidable impact was fully addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP EIR, as amended.

In addition, the 1994 LRDP EIR, as amended, concluded that cumulative buildout in the Davis area would increase demand for parks and recreational facilities. These cumulative impacts were considered less than significant because the City maintains adequate park and recreation uses to accommodate buildout of the City. The campus provides parks and open space available to the general public. The proposed project would contribute to, but not exceed demand for parks and recreational facilities associated with buildout of the 1994 LRDP because the project is consistent with approved development. As discussed in Appendix C, the campus anticipates that this impact will remain less-than-significant through 2014-15.

a-v) The proposed project would not result in a need for new or altered public services over that identified in the 1994 LRDP EIR because both population and gsf of the proposed facilities are within the projections of the 1994 LRDP. The impact would be considered less than significant and no mitigation is required. As discussed in Appendix C, the campus anticipates that this impact will remain less-than-significant through 2014-15.

b) The standards of significance for public services that were used in preparation of the 1994 LRDP EIR are presented at the beginning of this section of the Initial Study. These standards are consistent with the questions in the checklist for public services. Based on the discussion presented above, the proposed project would not exceed the standards of significance in the LRDP EIR. They would not result in any new project-level or cumulative impacts related to public services that were not previously analyzed in the 1994 LRDP EIR.

Summary

1994 LRDP EIR Mitigation Measures 4.12-1, 4.12-2, 4.12-3 (a) through (c), 4.12-4 (a) and (b), 4.12-5 (a) and (b), and 4.13-5 are incorporated as part of the proposed project. The proposed project would not result in new or significant public services impacts that have not already been adequately assessed in the 1994 LRDP EIR.
15. RECREATION

Background

The campus contains many park-like areas including: landscaped open space between buildings; the Quad and Arboretum Waterway in the Central Campus; and the Putah Creek Reserve in the West Campus. Recreational facilities on campus include structures and fields used for physical education, intercollegiate athletics, intramural sports, sports clubs, and general recreation.

1994 LRDP EIR Standards of Significance

The environmental analysis in the 1994 LRDP EIR considered an impact to recreation to be significant if campus or regional growth would:

- affect or require the designation of substantial additional parkland to remain in conformance with locally acceptable or adopted park standards.

1994 LRDP EIR Significant Impacts and Mitigation Measures

No significant recreation impacts were identified in the 1994 LRDP EIR, or in subsequent documents. The proposed project is within the scope of the analysis in the 1994 LRDP EIR as updated in these subsequent documents, and there are no changed circumstances since the preparation of these documents that require reanalysis of the cumulative reports. The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would contribute to cumulative demand for recreational resources. However, campus growth through 2014-15 is not anticipated to result in any new cumulative impacts on recreational resources that would differ in character from those analyzed in the 1994 LRDP EIR. The campus will reexamine potential cumulative recreational resource impacts and the availability of additional feasible mitigation measures during the LRDP update process.

<table>
<thead>
<tr>
<th>RECREATION</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>Would the project:</td>
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<tr>
<td>a) 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?</td>
<td>?</td>
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<tr>
<td>b) Include recreational facilities, or require construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?</td>
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</table>
RECREATION

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<tr>
<th>Would the project:</th>
<th>Potentially Significant Impact</th>
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<tbody>
<tr>
<td>c) Exceed an applicable LRDP or Program EIR Standard of Significance?</td>
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</table>

Discussion

a, b) The small increase in employee population associated with the proposed project would not contribute to an impact on recreational facilities previously identified in the 1994 LRDP EIR. The proposed improvements do not include or require the construction of recreational facilities that could potentially impact the environment.

The 1994 LRDP EIR, as amended, concluded that cumulative buildout in the Davis area would increase demand for parks and recreational facilities. These cumulative impacts were considered less than significant because the City maintains adequate park and recreation uses to accommodate buildout of the City. In addition, the campus provides parks and open space available to the general public. The proposed project would contribute to, but not exceed, the demand for parks and recreational facilities associated with buildout of the 1994 LRDP because it is consistent with approved development.

b) The proposed CNPRC Facility Upgrade Project does not include recreational facilities and would not require the construction of new recreational facilities. Because no recreational facilities would be constructed, no impact would occur.

c) The standards of significance for recreation that were used in preparation of the 1994 LRDP EIR are presented at the beginning of this section of the Initial Study. These standards are consistent with the questions in the checklist for recreation. Based on the discussion presented above, the proposed project would not exceed the standards of significance in the LRDP and would not result in any new impacts related to recreation that were not previously analyzed in the 1994 LRDP EIR.

Summary

No impacts with respect to recreation would occur.
16. UTILITIES AND SERVICE SYSTEMS

Background

Campus utilities and service systems include electricity, natural gas, telecommunications, wastewater, storm drainage, domestic and utility water, chilled water and steam, and solid waste which are summarized below.

Electricity
To accommodate demand for electricity from buildout of the 1994 LRDP, the campus completed the Electrical Improvements Phase 2B project in 2002. This project included improvements to the existing network, to improve system reliability and provide sufficient capacity to meet the electrical needs of recently completed facilities and anticipated new campus development. Phase 2B included installation of a new power transformer, circuit switch, circuit breaker switchgear, duct bank, and feeder cables to increase capacity; recabling of overhead power distribution lines and installation of underground feeder cables to improve distribution; and removal of an obsolete substation (UC Davis 2002).

Natural gas
Natural gas is purchased from outside vendors and provided to the campus through Pacific Gas and Electric (PG&E) pipelines. PG&E purchases gas from sources in Canada, California, Colorado, Texas, and New Mexico. Natural gas is provided to four locations on campus: the Central Plant, the Primate Plant, the Co-generation Plant, and the Master Meter #1.

Telecommunications
The campus installed its current telecommunications system in 1987. The main switching facility is located in the Telecommunications Building, east of the Central Heating and Cooling Plant. All voice and data switching equipment and network infrastructure facilities are owned and operated by the campus (UC Davis Communications Resources Service). As new buildings are constructed, Communications Resources coordinates with the UC Davis Office of Architects and Engineers to design and direct the installation of intra- and inter-building telecommunications facilities in accordance with established standards.

Wastewater
The existing campus wastewater system is operated by the campus and is not connected to any regional facility. Major system elements include collectors, sanitary sewer mains, eight lift stations, a treatment plant, and an effluent outfall to the South Fork of Putah Creek near Old Davis Road. A new Campus WWTP with a permitted capacity of 2.7 mgd became operational in 2000.

Storm drainage
Please see the discussion under Item 9 of this checklist titled Hydrology and Water Quality.

Domestic and utility water
Domestic water is supplied by the campus domestic/fire water system for which the deep aquifer is the source. Utility water used for landscape irrigation, is supplied by the shallow/intermediate aquifer. See the discussion under Item 9 of this checklist titled Hydrology and Water Quality for a description of the deep and shallow/intermediate aquifers. The current capacity of the campus domestic water supply reservoir and wells is 8,810 gpm. Total demand at buildout of the 1994 LRDP is estimated to be 8,000 gpm. The current capacity of the campus utility water distribution system is approximately 5,045 gpm. Total demand at buildout of the 1994 LRDP is estimated to be 5,700 gpm.
**Chilled water and steam**
The CNPRC is served by its own heating and cooling plant, which includes two boilers and two chillers.

**Solid waste**
UC Davis operates a Class III sanitary landfill and provides solid waste collection and disposal services for the campus. Currently, the campus generates approximately 40 to 50 tons per day of solid waste. Solid waste is disposed of at the Campus Landfill Waste Management Unit 2. The landfill has a daily permitted capacity of 500 tons per day, and an anticipated life to 2030.

**1994 LRDP EIR Standards of Significance**
The environmental analysis in the 1994 LRDP EIR, as amended by the 1997-98 Major Capital Improvement Projects SEIR, considered an impact to utilities and service systems to be significant if campus or regional growth would:

- result in a significant increase in the consumption of potable water and require substantial expansion of water supply treatment or distribution;
- result in the need for increased chilled water or steam generation capacity or major distribution improvements;
- require substantial expansion of wastewater treatment and distribution capacity;
- exceed available landfill capacity;
- require substantial expansion of the telecommunication service and distribution system;
- create an energy demand in excess of supply or major infrastructure; or
- require the development of new sources of energy.

**1994 LRDP EIR Significant Impacts and Mitigation Measures**
Significant impacts identified in the 1994 LRDP EIR that are relevant to the proposed project are presented in the following table. Potential impacts to the deep and shallow/intermediate aquifer are addressed under Item 9 of this checklist titled Hydrology and Water Quality. The level of significance before and after application of mitigation measures identified in these documents is also presented in this table. The proposed project is within the scope of the analysis in the 1994 LRDP EIR as updated in subsequent documents, and there are no changed circumstances since the preparation of these documents that require reanalysis of the cumulative impacts. The campus has prepared a Cumulative Impacts Analysis, presented as Appendix C of this document, which serves to inform the public concerning all that is currently known about the campus' potential growth through 2014-15. As discussed in the analysis, campus growth through 2014-15 would contribute to the cumulative demand on utilities and service systems. However, campus growth through 2014-15 is not anticipated to result in any new cumulative impacts on utilities and service systems. Potential impacts to the deep and shallow/intermediate aquifer are addressed in the Hydrology and Water Quality section of this checklist.
Mitigation measures in the 1994 LRDP EIR and the 1997-98 Major Capital Improvement Projects SEIR that are applicable to the proposed project and that will be required as part of project implementation include the following:

- **LRDP EIR Mitigation Measure 4.14-2(a)** - Prior to final project design, the Campus shall review each project to determine if existing water supplies are adequate. When determined necessary, the Campus shall construct additional wells into the deep aquifer to meet existing and future domestic water demand.

- **LRDP EIR Mitigation Measure 4.14-2(b)** - Implement Mitigation Measure 4.14-1(a) and (b).

- **LRDP EIR Mitigation Measure 4.14-4** – The Campus shall review each project to determine if existing water supply is adequate. When determined necessary, the Campus shall develop additional wells into the shallow/intermediate aquifer to meet the water demands of the Campus utility water system.

- **LRDP EIR Mitigation Measure 4.14-6(a)** - Until the existing wastewater treatment plant is upgraded or replaced by facilities with the capacity to treat loads expected from all contemplated campus development, the Campus shall review each project to ensure that no new structures are constructed that would cause the wastewater treatment plant to exceed its permitted capacity.

- **LRDP EIR Mitigation Measure 4.14-6(b)** - If implementation of the project would result in an increased load above the current capacity, the Campus shall employ measures to either increase the plant's capacity or reduce the existing load, such that no permit standards are exceeded. Possible strategies to increase the plant's capacity or reduce the existing load could include the following:
  
  (i) incrementally increasing the total suspended solids capacity at the existing plant; or

  (ii) reducing the volume of wastewater generated by existing facilities through implementation of water conservation measures.
Mitigation measures listed above are incorporated into the proposed project and the proposed project, as mitigated, is evaluated in the checklist below.

<table>
<thead>
<tr>
<th>UTILITIES AND SERVICE SYSTEMS</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
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<td><strong>Would the project:</strong></td>
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<tr>
<td>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?</td>
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<td>c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
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<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
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<td>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 provider’s existing commitments?</td>
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<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
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<td>g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?</td>
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## UTILITIES AND SERVICE SYSTEMS

### Would the project:

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### Discussion

- **a,b,c)** Wastewater collection and treatment for the project would be provided by the new campus Wastewater Treatment Plant. The new WWTP has sufficient capacity to meet the demands of the proposed project. The proposed project would therefore not exceed Regional Water Quality Control Board wastewater treatment requirements, and impacts would be less than significant. No mitigation is required.

- **c)** The proposed project would result in an increase in impervious surfaces at the CNPRC of approximately 1.0 acres. Stormwater from within the CNPRC, including the project site, would flow to a retention basin and be retained on site. No upgrades would be required. Impacts to the storm drain system would be less than significant.

- **d)** The proposed facilities would require domestic water that would be supplied by the campus domestic/fire water system for which the deep aquifer is the source. Consistent with LRDP Mitigation Measure 4.14-2 (a), the campus will drill new wells to the deep aquifer as needed. The 1994 LRDP EIR concluded that impact on the supply of the deep aquifer could be reduced in magnitude through water conservation measures (LRDP 4.14-1 (a)), but the impact would remain significant and unavoidable because the total volume of the deep aquifer is unknown, and the aquifer does not readily recharge. Implementation of the proposed project would incrementally contribute to, but not exceed, this impact to the deep aquifer that was identified in the 1994 LRDP EIR as significant and unavoidable. This was adequately analyzed in the LRDP EIR, and addressed in the Findings and Overriding Consideration adopted by The Regents in connection with its approval of the 1994 LRDP.
The 1994 LRDP EIR, as amended, concluded that cumulative growth under the 1994 LRDP would result in increased demand for water from the deep aquifer. The cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed domestic water demand from the deep aquifer identified under the 1994 LRDP. Furthermore, this significant impact was adequately analyzed in the 1997-98 Major Capital Improvement Projects SEIR, and addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1997-98 Major Capital Improvement Projects SEIR.

As discussed in Appendix C, campus growth through 2014-15 is anticipated to increase the campus' demand for water from the deep aquifer beyond that assumed under the 1994 LRDP. Cumulative impacts 4.14-1 and 4.14-11 are anticipated to remain significant and unavoidable through 2014-15, however, these impacts and the availability of additional feasible mitigation measures will be reexamined as part of the LRDP update process.

f, g) Operation of the proposed facilities would generate non-hazardous solid waste for disposal at the Campus Landfill, which would result in an increase in solid waste over existing conditions. The Campus Landfill has sufficient capacity to accommodate the increased quantity of solid waste generated by implementation of the 1994 LRDP. This assumes an annual growth rate of 1.8 percent, which represents approximately 60 tons per day of solid waste. The CNPRC Facility Upgrade Project would not generate waste that exceeds the permitted capacity nor would it exceed 1994 LRDP solid waste projections because the proposed project are within the assumptions contained in the 1994 LRDP and LRDP EIR. Therefore, the Campus Landfill has the capacity to accommodate solid waste generated by the proposed project, and impacts would be less than significant. No additional mitigation is required.

The 1994 LRDP EIR, as amended, concluded that development allowed under the 1994 LRDP would result in increased generation of solid waste in the Davis area. This cumulative impact was considered less than significant because adequate landfill capacity exists to accommodate buildout of the City of Davis. The proposed project would contribute to, but not exceed demand for solid waste disposal capacity associated with the buildout of the 1994 LRDP because the project is consistent with planned development.

h) **Electricity**

The proposed project would comply with the standards of Title 20, Energy Building Regulations, and Title 24, Energy Conservation Standards of the California Code of Regulations. As stated on page 4.15-2 of the 1994 LRDP DEIR, all new buildings constructed in California must comply with Titles 20 and 24, and it is a policy of the University of California to comply with these regulations.

In 2002, the campus completed the west campus portion of a campus-wide electrical improvement project (EI2B). There are adequate facilities on the west campus to provide electricity to the proposed improvements. Therefore, impacts of the proposed project on electrical distribution system capacity are less than significant.

**Natural Gas**

Natural gas pressure at the CNPRC has decreased due to increased growth on the West Campus. The need for increased gas supply was previously evaluated and approved as part of the CEQA review of the Jackson Laboratory Environmental Impact Report. The new line built as part of that project will provide service from Russell Boulevard to the west campus. Upon completion
of the gas line connection, the natural gas pressure at the CNPRC will be adequate to serve the proposed facilities (UC Davis 2001).

The 1994 LRDP EIR, as amended, concluded that buildout under the 1994 LRDP and in the PG&E and WAPA service areas would increase the demand for the use of electricity, natural gas and related infrastructure. These cumulative impacts were considered less than significant because the City and the campus have established policies to comply with state standards for energy conservation. In addition, PG&E and WAPA will continue to provide service. The proposed project would contribute to, but not exceed demand for electricity and natural gas associated with buildout of the 1994 LRDP because the project is consistent with planned development.

i) As discussed on page 4.14-8 of the 1994 LRDP DEIR, the campus installed its current telecommunications system in 1987. The main switching facility is located in the Telecommunications Building, east of the Central Heating and Cooling Plant. All voice and data switching equipment and network infrastructure facilities are owned and operated by the campus.

The Major Capital Improvement Projects SEIR recommended mitigation measure 4.3-12 with respect to telecommunication.

4.3-12 Prior to completion of construction drawings, the Campus shall evaluate the proposed point of connection to determine if the existing telecommunication distribution system has adequate capacity. If capacity does not exist at the point of connection, an alternate point of connection shall be identified where adequate capacity exists.

Short extensions of the telecommunication system within the CNPRC would be needed to service to the proposed facility upgrades. These extensions would be located within the developed portion of the CNPRC. Therefore, no impact would occur.

j) The standards of significance for utilities and service systems that were used in preparation of the 1994 LRDP EIR are presented at the beginning of this section of the Initial Study. These standards are consistent with the questions in the checklist for utilities and service systems. Based on the discussion presented above, the proposed project would not exceed the standards of significance in the LRDP EIR. It would not result in any new project-level or cumulative impacts related to utilities and service systems that were not previously analyzed in the 1994 LRDP EIR.

Summary

The utility demands of the proposed project were addressed within the capacities planned under the 1994 LRDP. Only short connections would be required to supply project facilities with necessary utilities. Therefore, no impacts would occur.
17. MANDATORY FINDINGS OF SIGNIFICANCE

<table>
<thead>
<tr>
<th>MANDATORY FINDINGS OF SIGNIFICANCE</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Impact for which LRDP/Program EIR is Sufficient</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>?</td>
<td>?</td>
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<td>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)?</td>
<td>?</td>
<td>?</td>
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<tr>
<td>c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td>?</td>
<td>?</td>
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<td>?</td>
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</table>

Discussion

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 potential significant impacts to a less-than-significant levels are not within the jurisdiction of the University of California to enforce and monitor. These potentially significant and unavoidable impacts were adequate analyzed in the LRDP EIR, and addressed in the Findings of Overriding Consideration adopted by The Regents in connection with approval of the 1994 LRDP EIR, as amended. As discussed further in Appendix C, the campus anticipates that these cumulative impacts would remain significant and unavoidable through 2014-15.

b, c) The proposed project is consistent with the 1994 LRDP, as described in Section IV of this Initial Study. The cumulative impacts of the development of the campus pursuant to the 1994 LRDP
MANDATORY FINDINGS OF SIGNIFICANCE

were identified and adequately analyzed in the 1994 LRDP EIR. The proposed project would incrementally contribute to, but not exceed, significant and unavoidable impacts related to geology and soils, hydrology and water quality, air quality, transportation and circulation, biological resources, hazardous materials and waste, public services, aesthetics, cultural resources, and noise. These potentially significant and unavoidable impacts were adequate analyzed in the LRDP EIR, and addressed in the Findings of Overriding Consideration adopted by The Regents in connection with approval of the 1994 LRDP EIR, as amended. As discussed further in Appendix C, the campus anticipates that these impacts would remain significant and unavoidable through 2014-15.
18. FISH AND GAME DETERMINATION

Based on the information above, there is no evidence that the project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends. The presumption of adverse effect set forth in 14 California Code of Regulations 753.5 (d) has been rebutted by substantial evidence.

___ Certificate of Fee Exemption

__X__ Pay fee
19. OTHER ISSUES RELEVANT TO THIS PROJECT

2003 LRDP EIR

The University of California has determined that enrollment throughout the University system will increase by approximately 60,000 to 70,000 students within the next 10 to 15 years. This growth in enrollment is related to projected demographic changes that are expected to increase the demand for a college education in California. UC Davis is currently considering how it should plan to accommodate the campus' share of this enrollment growth. The campus’ share of this growth could bring the three-quarter average on-campus student population to approximately 30,000 by 2015-16. The 1994 LRDP already assumed 26,000 of these students. This anticipated enrollment growth and associated increases in employees and facility construction for 2015-16 would surpass the assumptions identified in the 1994 LRDP for 2005-06 and evaluated in the 1994 LRDP EIR. The campus is in the process of preparing a new 2003 LRDP to identify the changes required to accommodate anticipated growth, and an EIR to assess the environmental impacts of such changes. An Initial Study for the proposed 2003 LRDP was published for agency and public review in October 2002 and is available online at http://www.ormp.ucdavis.edu/environreview. It is anticipated that The Regents will review and consider approval of the updated LRDP and its EIR in the fall of 2003.
VIII. REFERENCES


UC Davis Facility Services. n.d. UC Davis Project Planning Guide Electrical Improvements: Phase 2B Project.


YSAQMD. 2000. Telephone communication from Dan O’Brien of the YSAQMD to John Koehler of URS Corporation on April 6, and faxed communication on April 7.
IX. AGENCIES AND PERSONS CONSULTED

A. Sidney England, Director of Environmental Planning, UC Davis.

Matthew Dulcich, Associate Environmental Planner, UC Davis

Jerry O’Hearn, Architects and Engineers, UC Davis
X. REPORT PREPAREES

Shabnam Barati, Project Manager, URS Corporation, Oakland

Sally Morgan, Assistant Project Manager,

John Koehler, Senior Air Quality Specialist, URS Corporation, Oakland