

TIERED INITIAL STUDY
USDA WESTERN HUMAN NUTRITION RESEARCH CENTER
University of California, Davis

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This statement is prepared in compliance with
the California Environmental Quality Act

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TIERED INITIAL STUDY

I. BACKGROUND

1. Name of Project Sponsor: University of California
2. Campus: Davis
3. County: Yolo
4. Address and Phone Number of Campus Contact: Planning and Budget
One Shields Avenue
University of California, Davis
Davis, CA 95616
(530) 752-9259
5. Date Checklist Completed: October 27, 1999
6. Agency Requiring Checklist: University of California
7. Name of Project: USDA Western Human Nutrition Research Center
8. Lead Agency: The Regents of the University of California

Introduction

This Tiered Initial Study and proposed Negative Declaration provides the California Environmental Quality Act (CEQA) environmental analysis for the proposed United States Department of Agriculture (USDA) Western Human Nutrition Research Center (WHNRC).

The environmental analysis for the proposed project is tiered from the University of California, Davis 1994 Long Range Development Plan (LRDP) Environmental Impact Report (EIR) for project-specific and cumulative impacts that were evaluated in the 1994 LRDP EIR. The 1994 LRDP is a program EIR, prepared pursuant to Section 15168 of the California Environmental Quality Act (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 environmental analysis in the 1994 LRDP EIR was revised by the EIR prepared for the Wastewater Treatment Plant (WWTP) Replacement Project in March 1997 (State Clearinghouse #95123027 and #96072024), by the 1997-98 Major Capital Improvement Projects Supplemental EIR (SEIR), certified on July 17, 1998 (State Clearinghouse #97122016), and by the Center for the Arts Performance Hall and South Entry Roadway and Parking Improvements (Center for the Arts) Tiered Initial Study and Mitigated Negative Declaration (State Clearinghouse #98092016). Hereafter, references to the 1994 LRDP EIR include the 1994 LRDP EIR as revised by the 1997 WWTP EIR, the 1997-98 Major Capital Improvement Projects SEIR, and the Center for the Arts Tiered Initial Study and Mitigated Negative Declaration unless otherwise noted.

The CEQA concept of "tiering" refers to the coverage of general environmental matters in broad program-level EIRs, with subsequent focussed environmental documents for individual projects that implement the program. The project environmental document incorporates by reference the discussions in 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.

In accordance with CEQA Sections 15152 and 15168(c), this project is tiered to the 1994 LRDP EIR (State Clearinghouse #94022005) as revised by the 1997 WWTP Replacement Project EIR (State Clearinghouse # 95123027 and #96072024), by the 1997-98 Major Capital Improvement Project SEIR (State Clearinghouse #97122016), and by the Center for the Arts Tiered Initial Study and Mitigated Negative Declaration (State Clearinghouse #98092016) which are hereby incorporated by reference, and which are available for review during normal operating hours at the UC Davis Planning and Budget Office at 376 Mrak Hall, University of California, Davis.

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

- (c) 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
- (d) long-term cumulative impacts.

Thus, this Tiered Initial Study should be viewed in conjunction with the UC Davis 1994 LRDP EIR. 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, in which case preparation of a mitigated Negative Declaration would be appropriate;
- the project would result in new significant environmental impacts not previously identified in the LRDP EIR, and preparation of a tiered EIR would be 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. Project-specific mitigation measures for new potentially significant impacts that were not previously identified in the 1994 LRDP EIR will also be required to be implemented as part of the proposed project. The mitigation measures in the 1994 LRDP EIR that are appropriate to be implemented as part of the project are identified and discussed in Section IV.

Because none of the conditions described in CEQA or the CEQA Guidelines calling for preparation of a subsequent EIR have occurred, the Initial Study includes only minor technical changes or additions to the analysis set forth in the 1994 LRDP EIR, and because the analysis in the Initial Study does not raise important new issues about the significant effects on the environment analyzed in the LRDP EIR, this Initial Study also serves as an addendum to the LRDP EIR, for purposes of the approval of the proposed project.

Public and Agency Review

This Tiered Initial Study was circulated for public and agency review from September 15, 1999 to October 15, 1999. Comments on this Initial Study were to:

Richard F. Keller
Planning and Budget Office, 376 Mrak Hall
University of California
One Shields Avenue
Davis, CA 95616

Copies of the Draft Tiered Initial Study were available at the UC Davis Planning and Budget Office at 376 Mrak Hall, UC Davis; the Reserve Reading Room, Shields Library, UC Davis; the Yolo County Public Library, 315 E. 14th Street, Davis; and the Fairfield Suisun Community Library, 1150 Kentucky Street, Fairfield. Copies of the 1994 LRDP and LRDP EIR, WWTP EIR, 1997-98 Major Capital Improvement Projects SEIR, and Center for the Arts Tiered Initial Study and Mitigated Negative Declaration are also available at these locations.

Organization of Tiered Initial Study

This Tiered Initial Study is organized into the following sections.

Section I - Background: provides summary background information about the project sponsor, proposed project, and 1994 LRDP. In addition, this section includes a summary introduction and description of the content of the Initial Study.

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

Section III - Consistency with the 1994 LRDP and 1994 LRDP EIR: describes the consistency of the proposed project with the 1994 LRDP and 1994 LRDP EIR.

Section IV - Environmental Checklist: 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; (3) environmental impacts of the project that were adequately analyzed and mitigated in the 1994 LRDP EIR; and (4) effects that would not result in any adverse environmental impact.

This section also contains an explanation of all checklist answers, and recommended 1994 LRDP EIR mitigation measures and project-specific mitigation measures, as appropriate.

Section V - Environmental Factors Potentially Affected: identifies which environmental factors were determined to be a "Potentially Significant Impact" as indicated by the Tiered Environmental Checklist.

Section VI - Mitigation Measures: summarizes 1994 LRDP EIR and project-specific mitigation measures identified in Section IV, as appropriate.

Section VII - Determination: indicates whether impacts associated with the proposed project are significant, and what, if any, additional environmental documentation would be required.

II. PROJECT DESCRIPTION

Project Location

UC Davis

The 5,300 acre UC Davis Campus is located in Yolo and Solano Counties approximately 72 miles northeast of San Francisco, 15 miles west of the City of Sacramento, and adjacent to the City of Davis (see Figure 1). The Campus, in general, is comprised of four campus units: the Central Campus, the South Campus, the West Campus, and Russell Ranch (please see Figure 3-2, Regional and Local Setting, on page 3-5 of the 1994 LRDP DEIR). 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 1st or 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 located to the west of SR 113 and is bordered by Putah Creek to the south, Russell Boulevard to the north, and private property 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.

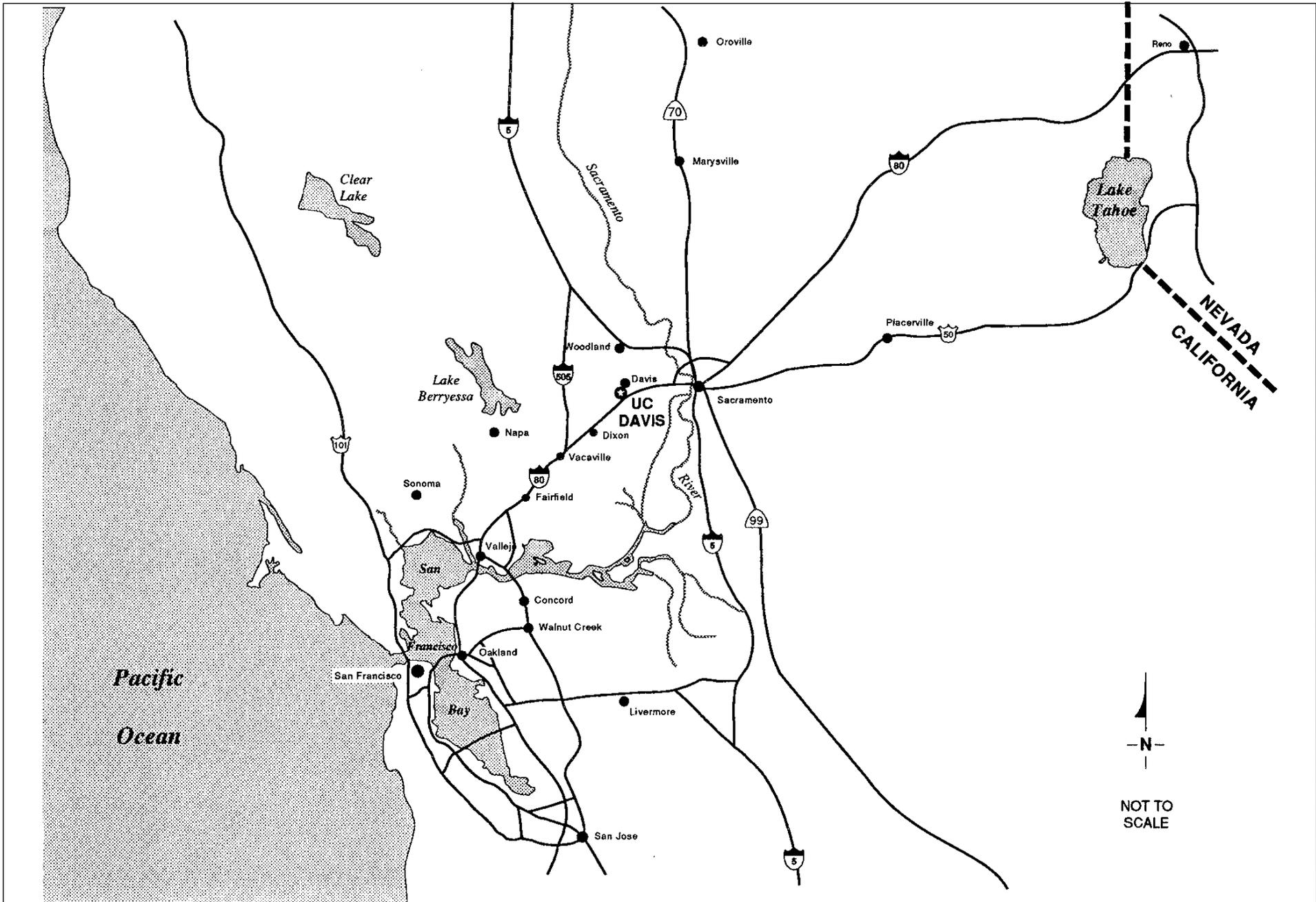
Project Description

The proposed project includes (1) the construction and operation of a new building to house the USDA WHNRC and (2) associated new parking in the Health Sciences District of the Central Campus.

The WHNRC program is an existing USDA Program that would relocate from the Presidio of San Francisco to the UC Davis Campus. Approximately 40 of the 100 employees who were located at the Presidio are currently temporarily located in five buildings on the UC Davis campus. The remaining WHNRC employees would relocate to UC Davis upon completion of the new WHNRC facility.

Project Site

The proposed WHNRC would be constructed on an approximately 2.4-acre site in the Health Sciences District of the Central Campus just east of West Health Sciences Drive, north of Parking Lot 53 and northwest of Tupper Hall (see Figure 2). The USDA would lease the site from the University pending approval of a ground-lease by the Office of the President. Existing land use on the site is undeveloped open space.



Source: 1994 LRDP DEIR, Figure 3-1

URS Greiner Woodward Clyde

REGIONAL LOCATION

Figure
1

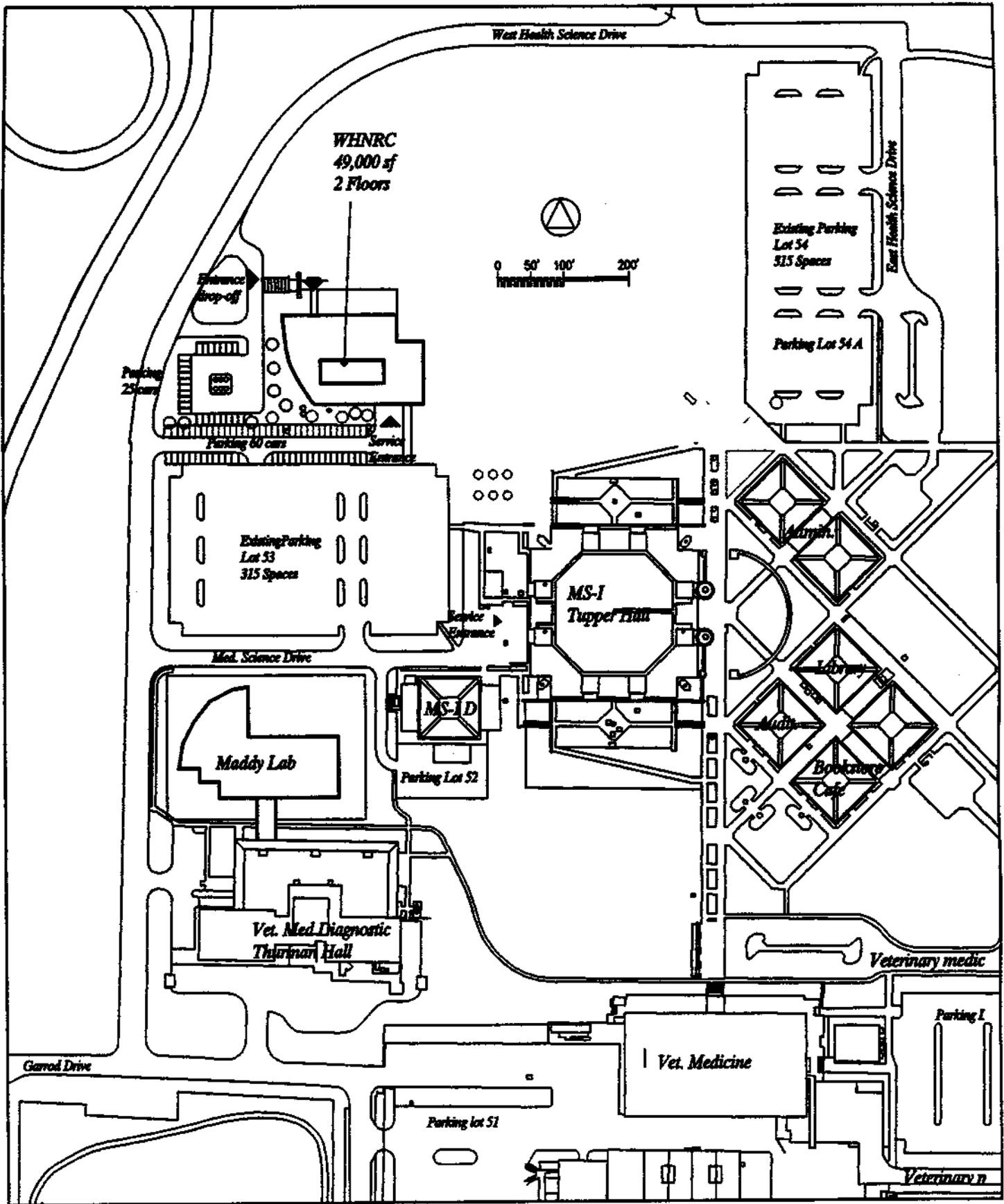


Figure 2
WHNRC Building Project
Site Plan

UC Davis
Planning and Budget Office
September 1999

Land Use Designation

As shown in Figure 3, approximately 2.2 acres of the 2.4 acre proposed project site is designated as Parking. In addition, the proposed project site includes an approximately 0.2 acre area identified as a Transportation Corridor in the 1994 LRDP (see Figure 3-8, Major Parking and Roadways, on page 3-18 of the 1994 LRDP DEIR).

The project would require an amendment to the 1994 LRDP to change the 2.2 acres of Parking to High Density Academic and Administrative (see Figure 3). The 1994 LRDP anticipated construction of another surface parking lot to the north of Lot 53 at the proposed project site to accommodate future growth in the Health Sciences District. Based on further review, and in order to provide a viable site for construction of the WHNRC, the Campus has determined that instead of building another surface parking lot, that a parking structure or deck could be constructed on Lot 53 to accommodate future growth as part of a future project. The Transportation Corridor would not be redesignated to accommodate the proposed WHNRC because it would be within the designated building setback area and would be maintained, consistent with the 1994 LRDP, for use by pedestrians and bicyclists and would serve as a utility corridor for the proposed WHNRC.

Surrounding 1994 LRDP land use designations currently include Open Space Reserve to the north and west, Parking to the south, and High Density Academic and Administrative to the east. Please see Section III for a discussion of the proposed project's general conformance with the 1994 LRDP and 1994 LRDP EIR.

Background and Need for Project

The USDA Agriculture Research Service's WHNRC, located at the Presidio of San Francisco since 1980, leased space from the Sixth U.S. Army until the Presidio was transferred to the National Park Service on October 1, 1994. After considering all options for relocation based both on potential costs and programmatic linkages, the USDA concluded in April 1996 that the WHNRC should be moved to the UC Davis campus. The UC Davis Campus was selected because it provides an excellent opportunity to establish productive collaborations in the fields of health and nutrition between UC Davis and USDA researchers. UC Davis has established research programs on campus in Nutrition and Food Science and Technology. Approximately 40 WHNRC employees were temporarily moved to existing campus facilities in 1999.

The research mission of the WHNRC is to develop and test dietary interventions for improving the health of all Americans. The research program focuses on two prevalent nutritional problems in the United States: 1) the effect of self-imposed restricted intakes of food on nutrition and health, and 2) the impact of protective factors in foods on cardiovascular and immunological function. Maintenance of body weight is a concern to many Americans. It is not uncommon for individuals to limit their intake of food in an attempt to achieve a desired body weight. Research has shown that chronic energy restriction can impair mental and immunological function, bone function, and nutritional health. However, restricted intakes can benefit health by improving cardiovascular risk factors (i.e., glucose intolerance, more favorable lipid profiles, and reduced

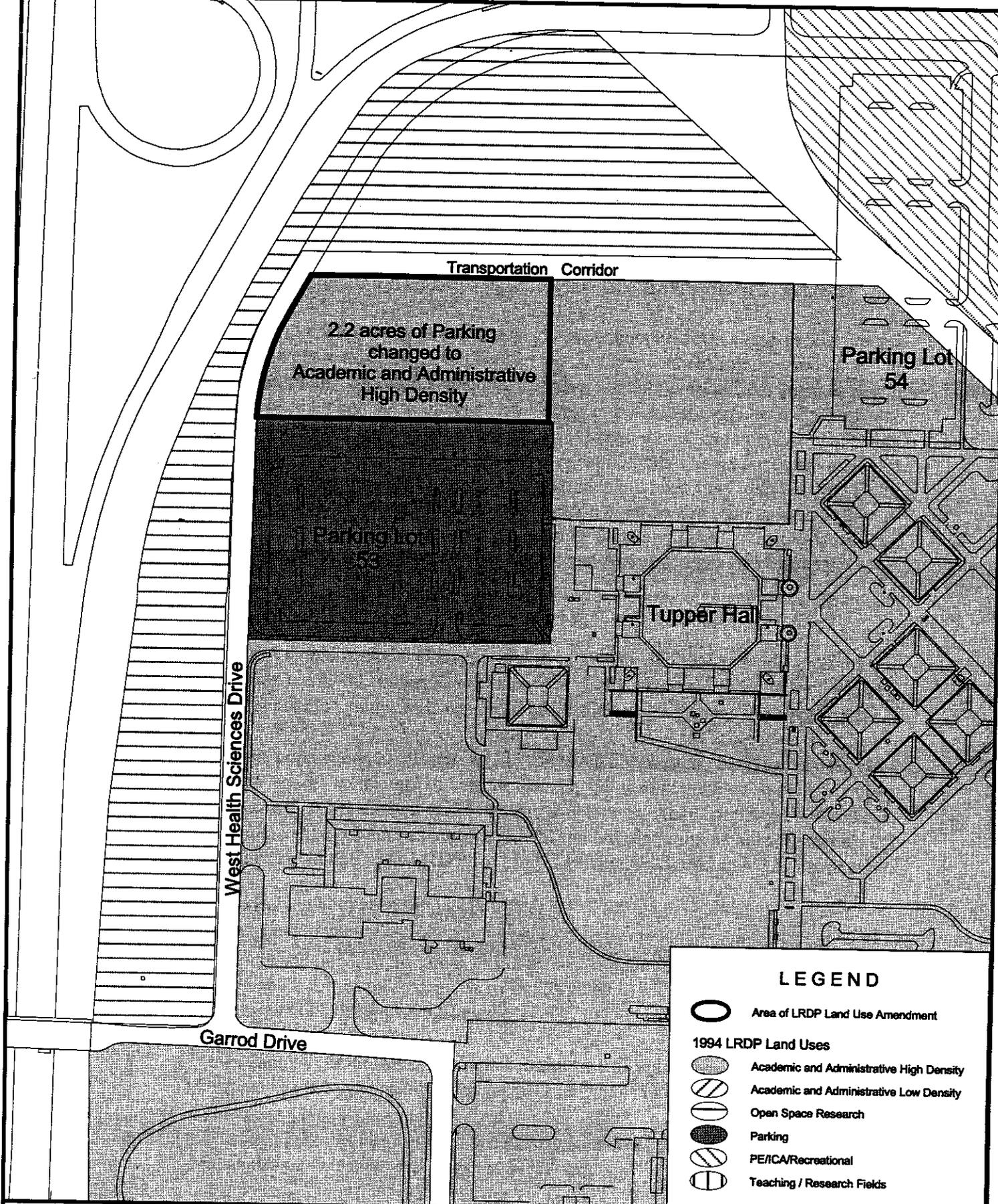


Figure 3
WHNRC Building Project
Proposed LRDP Land Use Changes

UC Davis
Planning and Budget Office
September 1999

blood pressure) or enhancing longevity. It is important, therefore, to define restricted diets that maximize the health benefits and minimize the detriments. The research program is done in five projects: (1) Diets, Antioxidants, and Optimal Health; (2) Trace Element Metabolism, Status and Requirements; (3) The Influence of Dietary Fat on Health and Immune Response; (4) Healthy Body Weight: Influences of Nutritional, Biological, and Environmental Factors; and (5) Nutrition, Infection, and Immune Disorder. The research of chronic energy restriction would take place primarily in one of the five projects included in the WHNRC research program (Healthy Body Weight: Influence of Nutritional, Biological, and Environmental Factors).

An emerging frontier of nutrition is the premise that a wide variety of food components besides the essential nutrients protect health. Examples include any phytochemicals in foods (such as phytoestrogens in soybeans and limonoids in citrus) and components of food fiber (such as pectin and beta-glucans). These compounds, along with selected nutrients, are thought to reduce the risk of cardiovascular disease and cancer and enhance antioxidant status and immune function. Research at the proposed WHNRC would be undertaken to identify the active components in foods, their range of tolerable intakes, and the mechanism by which they reduce the risk of chronic disease. The research of protective factors in foods would be the joint responsibility of two of the five units included in the WHNRC research program (Diet, Antioxidants, and Optimal Health, and Trace Element Metabolism, Status and Requirements of Humans).

Project Elements

The proposed WHNRC would include: (1) construction of an approximately 49,000 gross square feet (gsf) (approximately 29,400 assignable square-foot (asf)) two- to three-story research laboratory building; (2) addition of approximately 60 new full-time employees to the campus; (3) relocation of 40 USDA WHNRC employees currently on the UC Davis Campus to the Health Sciences District; (4) construction of up to 25 WHNRC-reserved parking spaces and approximately 60 new spaces to the north side of Lot 53; (5) connections to existing campus utilities including electrical, domestic and utility water, wastewater, storm drainage, natural gas, chilled water and steam, and telecommunications; and (6) the redesignation of approximately 2.2 acres designated as Parking in the 1994 LRDP to High Density Academic and Administrative.

Uses at the two- to three story WHNRC would include:

- A human studies area for both resident and non-resident studies which would include space for up to 16 subjects to live 24 hours per day in a locked/monitored environment (9,748 gsf or 5,849 asf);
- Non-chemical laboratories which would not involve the use of hazardous chemicals or the generation of biohazardous materials (1,280 gsf or 768 asf);
- Chemical laboratories which would include the use of chemicals and/or biohazardous materials (9,700 gsf or 5,820 asf);
- Office space (5,460 gsf or 3,276 asf); and
- Storage areas that could store: (1) office supplies; (2) hazardous, non-hazardous, and radioactive waste; (3) laboratory supplies, including chemicals (corrosive and flammable) and expendable supplies for use with specialized equipment; (4) dietary supplies; and (5) file storage for subjects' medical records (2,100 gsf or 1,260 asf).

The facility would include approximately 2,180 gsf (1,308 asf) of miscellaneous areas for room types such as freezers, receiving, and glassware cleaning. The facility would also include service areas such as utility rooms, corridors, and lobbies. The additional parking associated with the WHNRC would be located in a new 25-space surface lot off of West Health Sciences Drive to the west of the WHNRC facility. The project would also add approximately 60 new spaces along Service Access Drive to the north side of Lot 53.

The WHNRC research programs could involve the use of laboratory animals; however, the animals would not be bred or housed in the WHNRC for extended periods of time. Existing facilities at Tupper Hall and Animal Resources Services (ARS) would continue to be used for that purpose.

Population

The WHNRC would accommodate approximately 100 people including the relocation of approximately 60 new USDA employees from the existing WHNRC currently located at the Presidio in San Francisco to the UC Davis Campus. As of April 1999, approximately 40 WHNRC staff were located in the following buildings on Campus: Hickey Gym, Social Sciences and Humanities, Food Science and Technology, Wickson Hall, Meyer Hall, Surge 3, and Surge IV. The existing population would be relocated to the new building.

Landscaping

The proposed WHNRC would include the development of new landscape areas over that which currently exists.

Setbacks

The WHNRC would include setbacks on the east, north, south and west sides of the proposed building (see Figure 4). The setbacks on the east, south and west sides would be 30 feet from the ground lease boundary, and the northern setback would be 70 feet from the ground lease boundary.

Utilities and Infrastructure

The proposed WHNRC would require connections to Campus utilities and infrastructure including data communications, electrical, chilled water, steam, natural gas, domestic water, sanitary sewer, utility water, and storm drainage systems, as described below. Existing infrastructure would not need to be relocated in order to accommodate the facility.

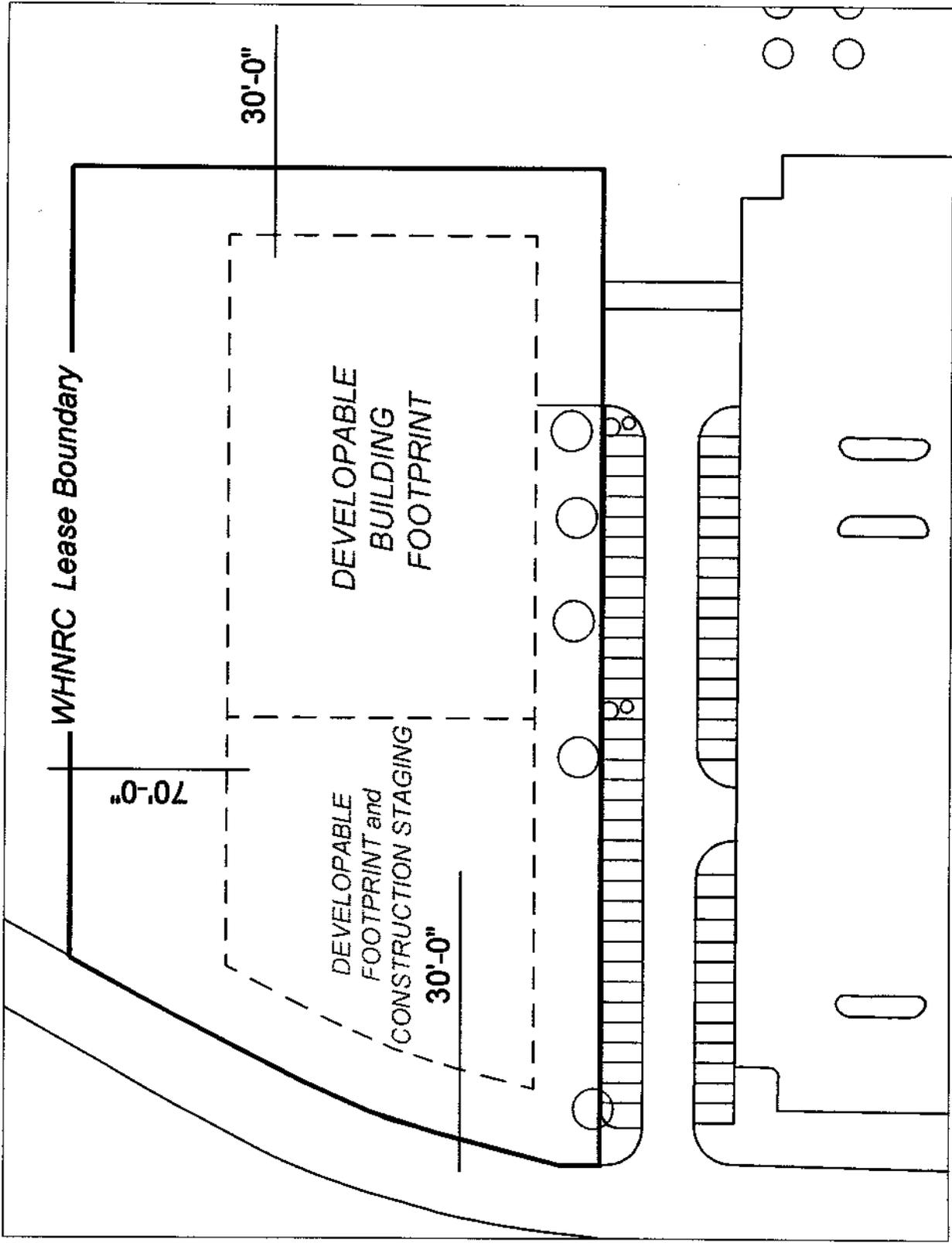


Figure 4
WHNRC Building Project
Building Setbacks

UC Davis
 Planning and Budget Office
 September 1999

Domestic Water - A domestic water loop would be installed and connected to an existing eight-inch distribution line along West Health Sciences Drive.

Utility Water - Utility water would be provided to the proposed WHNRC through a new distribution line currently running north/south under West Health Sciences Drive.

Chilled Water - The proposed WHNRC would be connected to existing chilled water distribution lines located underground at the southwest corner of Parking Lot 54.

Steam - The proposed WHNRC would be connected to existing steam distribution lines located underground just south of Parking Lot 54.

Sanitary Sewer - A new sanitary sewer line would be installed underground along the north side of the proposed WHNRC under the transportation corridor and would be connected to existing sewer lines north of Tupper Hall.

Storm Drainage - The proposed WHNRC would be connected to existing storm drainage lines located under West Health Sciences Drive.

Electrical - A new electrical loop would be constructed underground along the north side of the proposed WHNRC under the transportation corridor and would be connected to an existing electrical line located underground just northeast of Tupper Hall.

Natural Gas - The proposed WHNRC would connect to an existing natural gas main located along West Health Sciences Drive.

Telecommunications - The proposed WHNRC would connect to an existing communication line co-located in the basement of Med Sci 1A and Tupper Hall.

The provision of services would require connection to existing Campus systems which would include extending existing facilities, but would not require expansion of existing facilities, with the exception of telecommunications. All points of connection would be adequate with the completion of previously approved utilities upgrades, including the 1999 Chilled Water Expansion Project (Phase IV), construction of a new WWTP, and the Electrical Improvements Phase 2B project.

Roadway and Parking Improvements

The proposed WHNRC does not include changes to the existing roadway system in the project area and would add parking to the area. Access to the site would be from the existing West Health Sciences Drive and parking would be provided from the existing Parking Lots 53 and 54, along West Health Sciences Drive, and from a new parking lot directly to the west of the new facility. The new parking lot would provide approximately 25 additional spaces. Parking in these spaces would be controlled by the USDA and would not be available to the general campus community. Striping, signage, and possibly a security gate would be implemented. In addition, to accommodate increased demand for parking by the WHNRC, the overall project includes expanding Parking Lot 53 to include 60 new parking spaces along the Service Access Drive for WHNRC.

Project Schedule

The ground-lease for construction of the WHNRC in the Health Sciences District is expected to be signed by the Office of the President and USDA in November 1999. Currently, the WHNRC project is scheduled for approval by the Regents in Summer 2000, with construction in Winter 2002, and completion of construction by Winter of 2004.

Construction Staging

Construction staging would take place on-site on currently undeveloped land immediately west of the proposed WHNRC (see Figure 4). Construction traffic would access the site from SR 113 and Hutchison Drive. Because the construction site is in close proximity to Tupper Hall and there would be potential for indoor air quality complaints during construction, control measures would be implemented for local NO_x and ROC control. (See Item 5 of the Environmental Checklist for a discussion of this issue.)

Project Objectives

The Campus identified the following objectives for the proposed WHNRC:

- Provide a facility to house the WHNRC program that meets the requirements of the USDA;
- Locate similar use facilities in close proximity to existing buildings in the Health Sciences Complex;
- Establish linkages between the WHNRC and the UC Davis Departments of Nutrition and Food Science and Technology, the School of Medicine, and other similar campus programs for an innovative, world-class program in food for health research programs;
- Create an image to outside, as well as campus, community;
- Create a direct access to and from buildings for potentially 24 visitors and company/day;
- Create access to Tupper Hall and associated services;
- Create access to School of Medicine imaging equipment; and
- Identify utility capacity/adequacy for complete buildout.

Project Approval

As a public agency principally responsible for approving or carrying out the proposed project, the University of California is considered the Lead Agency under CEQA, and is responsible for reviewing and certifying the adequacy of the environmental document and approving the proposed USDA WHNRC. The USDA and the University of California Office of the President will sign the ground lease following completion of the environmental review (November 1999). It is anticipated that The Regents will consider design approval of the proposed WHNRC in Summer 2000. The USDA is the

lead agency to the WHNRC under the National Environmental Policy Act (NEPA) and is responsible for reviewing and certifying the adequacy of the federal environmental document and approving the WHNRC.

Separate documentation is being prepared for the WHNRC for consideration of certification by the USDA consistent with NEPA requirements.

III. CONSISTENCY WITH 1994 LRDP AND LRDP EIR

Introduction

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

- Is the proposed project included in the scope of the development projected for 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?
- Is the proposed project within the scope of the cumulative analysis in the 1994 LRDP EIR?
- Are the objectives of the proposed project consistent with the adopted objectives for the 1994 LRDP?

The following discussion describes the WHNRC's relationship to development projections, land use designations, population projections, and objectives contained in the 1994 LRDP, and the project's consistency with each of these items.

1994 LRDP Scope of Development

The 1994 LRDP approved development of approximately 1.75 million asf for academic and administrative uses, support, libraries and student services. Since adoption of the 1994 LRDP, approximately 429,686 asf has been approved, constructed, or occupied. Table 1 provides a breakdown of the building space inventory for the Campus buildout. Even though the WHNRC is a federal facility, it still counts toward development of Instruction and Research space anticipated under the 1994 LRDP. Therefore, the additional approximately 29,400 asf for the USDA WHNRC of Instruction and Research space resulting from the proposed project would not exceed planned development and would be consistent with the development approved under the 1994 LRDP.

1994 LRDP Land Use Designations

As shown in Figure 3, 2.2 acres of the 2.4-acre proposed WHNRC site is designated as Parking under the 1994 LRDP. In addition, the proposed project site includes an approximately 0.2-acre area identified as a Transportation Corridor in the 1994 LRDP (see Figure 3-8, Major Parking and Roadways, on page 3-18 of the 1994 LRDP DEIR). The 1994 LRDP defines the High Density Academic and Administrative land use designation as follows (see pages 45 and 46 of the 1994 LRDP):

TABLE 1
BUILDING SPACE INVENTORY AND
BUILDING SPACE NEED PROJECTIONS YEAR 2005-06

Program	1992-93	1995-96	1996-97	1997-98	1998-99	Buildout Since 1994	1994 LRDP Development (1994-2005/06)	Projected Space in Year 2005-06
Instruction and Research ¹	2,941,559	3,091,199	3,088,764	3,169,704	3,232,704	291,145	1,205,000	4,146,559
Libraries	406,353	405,551	405,551	405,551	-802	-802	93,000	499,353
Student Services	363,241	400,656	400,656	400,656	37,415	37,415	60,000	423,241
Administrative/Support	903,601	987,163	993,163	993,163	89,562	89,562	262,000	1,165,401
Public Service/Non- University Agencies	130,986	143,352	143,352	143,352	143,352	12,366	130,000	260,986
TOTAL	4,745,740	5,027,921	5,031,486	5,112,426	5,175,426	429,686	1,750,000²	6,495,740

¹ Includes all instruction and research-related space including health sciences, organized research units, organized activities and museums.

² 1.6 million asf will be distributed on academic and administrative lands, or within other land uses on parcels smaller than two acres; and 150,000 asf in support lands or within other land uses on parcels smaller than two acres.

SOURCE: UC Davis Planning and Budget Office.

This land use category includes space for conducting the instruction and research mission of the University of California. Classrooms; research laboratories and research support areas including animal facilities; faculty, student and staff offices; and libraries make up the majority of this space. Also included is space for student activities, museums, administrative offices, meeting rooms, and space for public service activities linked to UC Davis. The high density designation includes existing buildings up to nine stories, and an average height for new buildings of four stories.

The proposed project would include construction of a new facility in the Health Sciences District on the Central Campus to provide research and administrative facilities for the USDA (Agricultural Research Service). The proposed WHNRC would be two to three stories in height. Therefore, the proposed WHNRC would be consistent with the High Density Academic and Administrative land use designation.

The 1994 LRDP defines the Parking land use designation as follows (see page 47 of the 1994 LRDP):

Major surface parking lots and parking structures are included in this land use. Existing and future infill parking lots of less than 100 spaces are subsumed in other land use categories and are not shown on the plan.

The proposed WHNRC project would include redesignating approximately 2.2 acres of Parking as High Density Academic and Administrative. The redesignation of this land use would require an LRDP amendment to revise the proposed WHNRC site from Parking to High Density Academic and Administrative. The 1994 LRDP anticipated construction of another surface parking lot to the north of Lot 53 at the proposed project site to accommodate future growth in the Health Sciences District. Based on further review, and in order to provide a viable site for construction of the WHNRC, the Campus has determined that instead of building another surface parking lot, that a parking structure or deck could be constructed on Lot 53 to accommodate future growth as part of a future project.

The WHNRC would not require an amendment to the 1994 LRDP to redesignate the Transportation Corridor because it would be within the designated building setback area and would be maintained, consistent with the 1994 LRDP, for use by pedestrians and bicyclist and would serve as a utility corridor for the proposed WHNRC.

1994 LRDP Population Projections

The 1994 LRDP DEIR (pages 3-2 and 3-3) described the following regarding Campus population projections.

Population projections for all campuses in the UC system are established in a process that is determined by State statute and policy. The specific campus population projections for UC Davis are determined by the Campus and the Office of the President, which consider:

- the responsibility of the University as required by the State Master Plan for Higher Education to accommodate the top 12.5 percent of graduating high school students in the University of California system;
- the state's ability to support financially this policy commitment;
- population growth and specifically the number of qualified students; and
- the academic plan and physical capacity of the Davis campus to accommodate students.

Table 2 summarizes the anticipated population growth under the 1994 LRDP.

As shown in Table 2, population estimates (1998-99) for Campus faculty, staff and students is 32,982 (22,803 students and 10,179 faculty and staff). Recently, the Regents approved the 1997-98 Major Capital Improvement Projects, which will add approximately 62 faculty and staff to the 1998-99 estimates, and the Center for the Arts Performance Hall and South Entry Roadway and Parking Improvements Project, which will add approximately 10 new campus employees. The Campus also recently approved the 1999 Chilled Water Expansion Project, which will add up to three new employees. With these three projects, the total campus faculty and staff population would be 10,251. The addition of up to 100 new employees associated with the proposed WHNRC (even though it is a federal facility, the new population associated with the WHNRC counts towards the population increase anticipated under the 1994 LRDP) for a total of 10,351 employees would not exceed the population projections (12,630 faculty and staff), assumed in the 1994 LRDP. Therefore, the proposed project would be consistent with 1994 LRDP population projections.

TABLE 2			
PROJECTED CAMPUS POPULATION			
Population	1992-93³	1998-99⁴	2005-06⁵
Students ¹	21,060	22,803	26,000
Faculty and staff ²	9,550	10,179	12,630
TOTAL POPULATION	30,610	32,982	38,630
1. Off-campus student population not counted in this total. Approximately 570 students are located at the UC Davis, Medical Center, Sacramento, Campus and an additional 280 students are enrolled elsewhere at other UC Davis affiliated facilities. Therefore, accounting for the off-campus student population, total UC Davis enrollment in 2005-06 will be 26,850. 2. Includes faculty and staff located on the Central, West and South Campus, Russell Ranch and at Campus facilities in the City of Davis sphere of influence. 3. Base year for 1994 LRDP EIR analysis. 4. Most recent population figures. 5. Projected 1994 LRDP buildout.			
SOURCES: Table 3-1 on page 3-3 of the 1994 LRDP DEIR, UC Davis Planning and Budget Office, EIP Associates, 1993, 1995, and 1997.			

1994 LRDP EIR Cumulative Analysis

The 1994 LRDP EIR contained cumulative analyses for the projected buildout of the UC Davis LRDP. The cumulative context in the 1994 LRDP EIR varied depending on the nature of the issue being studied. Cumulative effects were classified by natural resources boundaries (i.e., biological resources, hydrology, geology, and air quality); and those defined by population growth within the City of Davis, and Yolo and Solano counties (i.e., public and community services, transportation, hazardous materials, noise, visual and cultural resources). The cumulative impact analysis for each technical issue in the 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 a new facility in the Health Sciences District. As discussed above, the proposed WHNRC is consistent with the 1994 LRDP scope of

development for development of High Density Academic and Administrative use and population projects for buildout through 2005-06. Therefore, the proposed project incrementally contributes to, but does not exceed the cumulative impact evaluation contained in the 1994 LRDP EIR, as amended.

Since adoption of the 1994 LRDP, the anticipated amount of development in the Health Sciences District has been refined. In addition to the proposed WHNRC building, probable growth in the Health Sciences District is anticipated to include four new buildings associated with the Veterinary School (Surgeries Relocation, Center for Companion Animal Health, Vet Med 3A, and the Valley Building), and one building associated with the School of Medicine (Center for Functional Genomics and Bioinformatics) for a total of approximately 320,000 asf. Although this growth represents a redistribution of asf to the Health Sciences District that differs from the assumptions made in the LRDP EIR analyses, it is still consistent with overall approved LRDP asf and population projections for the campus. Assumptions for the LRDP are periodically refined as the LRDP is implemented. This refinement of assumptions for growth in the Health Sciences District has been incorporated into the updated cumulative health risk assessment and traffic analysis for this project.

In order to accurately reflect probable growth in the Health Sciences District, the five projects mentioned above have been included in the cumulative impact analysis for the proposed project. Specifically, please see the discussions under Items 6 -Air Quality, 7 -Transportation/Circulation, and 13-Utilities and Service Systems.

The technical discussions in the Tiered Initial Study Checklist concluded that the proposed project would:

- (1) not contribute to significant and unavoidable cumulative impacts identified in the 1994 LRDP EIR related to loss of prime agricultural land (see Item 2a), and exposure to existing hazardous materials during construction (see Item 10a);
- (2) incrementally contribute to (a de minimis contribution), but not exceed, significant and unavoidable impacts identified in the 1994 LRDP EIR related to seismic groundshaking (see Item 4a), post-construction water quality (see Item 5a), loss of groundwater recharge potential (see Item 5b), criteria and toxic air emissions (see Item 6a,b,f), intersection level of service (see Item 7a), loss of Annual Grassland habitat (see Item 8a,b,e), hazardous materials use (see Item 10b), radioactive materials use (see Item 10c), biohazardous materials use (see Item 10d), emergency response (see Item 10h), noise levels (see Item 11a), fire protection services (see Item 12a), police protection services (see Item 12b), contribution of school age children to the Davis Joint Unified School District (see Item 12c), demand from the deep aquifer (see Item 13f), loss of rural character (see Item 14a-c), and loss of cultural resources (see Item 15c,e); and
- (3) incrementally contribute to (a de minimis contribution), but not exceed, less-than-significant cumulative impacts identified in the 1994 LRDP EIR related to carbon monoxide emissions (see Item 6a,b,f), transport of hazardous materials (see Item 10f), parks and recreation demand (see Items 12d and 16b), electricity and natural gas demand (see Item 13a), wastewater capacity (see Item 13c,d,g), demand from the shallow/intermediate aquifer (see Item 13f), and solid waste disposal capacity (see Item 13h).

1994 LRDP Objectives

As described on page 3-10 of the 1994 LRDP DEIR, among other goals, the 1994 LRDP was intended to meet the needs of anticipated growth in enrollment and employment by providing expanded instruction and research space. More specifically, the 1994 LRDP contains 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.

Central Campus. Concentrate high density academic development on the Central Campus.

A compact core campus. Maintain the academic core for instruction and research facilities, generally within a 10-minute walk from Shields Library. Maintain building density targets in the core campus, with an average height of four stories for new development. Use the infill of new buildings and the removal of outmoded facilities as opportunities to continue the development of common open spaces as initiated in the 1963 plan.

Bicycle and pedestrian systems. Accompany new development, particularly in the Central Campus, with appropriate additions to the bicycle and pedestrian systems.

Future corridors. Preserve flexibility beyond the life of the plan by keeping new buildings clear of potential roadway and bikeway corridors.

The proposed project would be consistent with the objectives contained in the 1994 LRDP. The proposed WHNRC would cluster related programs in the Health Sciences District of the Central Campus. The facility would maintain building density targets in the Central Campus. Finally, the WHNRC would include expansion of the existing pedestrian plaza in the Health Sciences District adjacent to Tupper Hall. The designated Future Transportation Corridor would be accommodated by the building setback requirements and would be maintained. Therefore, the proposed WHNRC would be consistent with the applicable objectives contained in the 1994 LRDP.

IV. TIERED ENVIRONMENTAL CHECKLIST

Introduction

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; (3) environmental impacts of the project that were adequately analyzed and mitigated in the 1994 LRDP EIR; and (4) effects that would not result in any adverse environmental impact.

A discussion follows each environmental item identified in the Checklist. Included in each discussion are 1994 LRDP EIR mitigation measures, as appropriate, recommended for implementation as part of the proposed projects.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
1. LAND USE AND PLANNING.				
<i>Would the proposal:</i>				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with designated adjacent existing or future land uses on or off-campus?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be in general conformance with LRDP land use designations?	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Conflict with any applicable habitat conservation plan or natural communities conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

* This new potentially significant project-specific impact is reduced to a less than significant level by mitigation measure(s) included in this Tiered Initial Study.

Discussion

Land use issues are addressed in Section 4.1 of the 1994 LRDP DEIR, as amended by the LRDP FEIR, in Section 4.6 of the 1997 WWTP Replacement Project DEIR, as amended by the WWTP FEIR, in Sections 5.3, 6.3, 7.3 and Chapter 8 of the 1997-98 Major Capital Improvement Projects DSEIR, as amended by the FSEIR, and Item 1 of the Center for the Arts Tiered Initial Study and Mitigated Negative Declaration, as amended by the Final Initial Study and Mitigated Negative Declaration.

- a) The proposed project includes development in the Health Sciences District of the Central Campus. Implementation of the proposed project would not disrupt or divide the physical arrangement of an established community. Therefore, no impact would occur.

- b) The approximately 2.4-acre undeveloped site is located in the Health Sciences District of the Central Campus just east of West Health Sciences Drive, north of Parking Lot 53, and northwest of Tupper Hall. Existing adjacent land uses include undeveloped Open Space and Open Space Reserve to the north and the immediate west, a parking lot to the south, and High Density Academic and Administrative to the west. Surrounding 1994 LRDP land use designations include Open Space Reserve to the north and west, Parking to the south, and High Density Academic and Administrative to the east and southeast.

The proposed facility would include development of the proposed WHNRC, landscaping and associated parking facilities which would be consistent with adjacent High Density and Academic and Parking land uses. Therefore, implementation of the proposed WHNRC would not be anticipated to conflict with adjacent on or off campus existing and/or future uses. This impact is less than significant and no mitigation is required.

- c) As previously described, approximately 2.2 acres of the 2.4-acre proposed WHNRC site is designated as Parking in the 1994 LRDP. In addition, the proposed project site includes an approximately 0.2 acre Transportation Corridor. In order to accommodate the proposed WHNRC facility, approximately 2.2 acres of Parking would be redesignated as High Density Academic and Administrative which would require a LRDP amendment. The 1994 LRDP anticipated construction of another surface parking lot to the north of Lot 53 at the proposed object site to accommodate future growth in the Health Sciences District. Based on further review, and in order to provide a viable site for the construction of the WHNRC, the Campus has determined that instead of building another surface parking lot, that a parking structure or deck could be constructed on Lot 53 to accommodate future growth as part of a future project. Redesignation of the proposed project site land use with an LRDP amendment is considered a significant impact unless mitigation is incorporated.

Implementation of the following project-specific mitigation measure would reduce this impact to a less-than-significant level.

Project-Specific Mitigation Measure

1. *The Regents shall amend the 1994 LRDP land use map to change 2.2 acres of the proposed WHNRC site from Parking to High Density Academic and Administrative land use designation.*

The redesignation of approximately 2.2 acres of Parking to High Density Academic and Administrative use would not result in insufficient parking capacity in the Health Sciences District because a separate element of the overall project includes expanding Parking Lot 53 along Access Service Drive to add 60 new parking spaces. In addition, it is anticipated that a future project would include construction of a parking structure or deck on Lot 53 (see the discussion above and under Item 7d).

The Transportation Corridor would not be redesignated to accommodate the proposed WHNRC because it would be within the designated building setback area and would be maintained, consistent with the 1994 LRDP, for use by pedestrians and bicyclists and would serve as a utility corridor for the proposed WHNRC.

- d) The approximately 2.4-acre WHNRC site is currently undeveloped land located in a developed portion of the Campus designated as Urban and Built-up Land by the State of California Department of Conservation for Yolo and Solano Counties Important Farmlands Map (see Figure 4.1-5 on page 4.1-29 of LRDP DEIR). The proposed project site is not included in any conservation plan. Therefore, the proposed WHNRC would not conflict with any applicable habitat conservation plan or natural communities conservation plan, and no impact would occur.

Summary

The proposed WHNRC would not result in any new or significant impacts associated with disruption of an established community, conflicts with designated adjacent existing or future land uses on or off-campus or applicable habitat conservation plans or natural communities conservation plans. The proposed WHNRC would be inconsistent with 1994 LRDP land use designations, and Project-Specific Mitigation Measure 1 will be implemented as part of the project to reduce this impact to a less-than-significant level. This project-specific impact is less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
2. AGRICULTURE RESOURCES:				
<i>Would the proposal:</i>				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a) The approximately 2.4-acre WHNRC site is currently undeveloped land designated as Urban and Built-up Land by the State of California Department of Conservation for Yolo and Solano Counties Important Farmlands Map (see Figure 4.1-5 on page 4.1-29 of LRDP DEIR). The proposed WHNRC site is not designated as prime farmland by the State Department of Conservation’s inventory, and therefore, would not result in the loss of prime farmland, unique farmland, or farmland of statewide importance. No impact would occur.

Cumulative Impacts

The 1994 LRDP, as amended, concluded that development under the 1994 LRDP and in the region could covert approximately 1,229 acres of prime agricultural lands to urban uses. This impact was considered significant and unavoidable and was fully 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. Because the proposed project does not contain prime farmland, it would not contribute to this cumulative impact.

- b,c) The proposed project site is on the UC Davis Central Campus and is not designated for agricultural use or under a Williamson Act contract. Therefore, there would be no loss of farmland to non-agricultural use as a result of development of the WHNRC or associated parking and no impact would occur.

Summary

The proposed WHNRC would not result in or contribute to impacts to agricultural resources and no mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
3. POPULATION AND HOUSING.				
<i>Would the proposal:</i>				
a. Cumulatively exceed Campus population projections in the 1994 LRDP?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Displace substantial numbers of people and/or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Conflict with the population projections or housing policies set forth in the City of Davis General Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Population and housing issues are addressed in Section 4.2 of the 1994 LRDP DEIR, as amended by the LRDP FEIR.

- a) The proposed WHNRC would add up to 100 new employees. As discussed in Section III, the current population estimate for Campus faculty, staff and students is 32,982 (22,803 students and 10,251 faculty and staff). The addition of up to 100 new employees associated with the proposed project (for a total of 10,351 employees) would not exceed the 1994 LRDP population projections for faculty and staff in 2005-06 (12,630) and would be consistent with 1994 LRDP population projections. Therefore, this impact is less than significant, and no mitigation is required.

- b) The proposed project would include development of the WHNRC in a developed portion of the Central Campus. Minor extensions of existing infrastructure would be required to serve the proposed buildings.

Proposed infrastructure would be sized only to serve the proposed WHNRC. No growth-inducing impacts would occur beyond those analyzed in the 1994 LRDP EIR. Also, see the discussion under Section 13, Utilities and Service Systems. Therefore, no growth impacts would occur beyond those analyzed in the 1994 LRDP. This impact is less than significant, and no mitigation is required.

- c) The project site is not currently designated for housing and does not include any existing housing facilities. Therefore, the proposed WHNRC would not displace existing housing, and no impact would occur.
- d) The proposed WHNRC would add up to 100 new employees, which would contribute to the growth of the campus population. However, this increase in population is within and consistent with the population projections in the 1994 LRDP (see discussion under Section III, Consistency with 1994 LRDP and LRDP EIR, 1994 LRDP Population Projections).

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.

Since growth accommodated by the proposed project is consistent with growth projected under the 1994 LRDP and the 1994 LRDP does not conflict with the population projections of 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. This impact is less than significant and no mitigation is required.

Summary

The proposed WHNRC would not result in any new or significant population, employment and housing impacts that have not already been examined in the 1994 LRDP EIR. All project-specific impacts are less than significant. No additional mitigation is required.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
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4. GEOLOGY AND SOILS.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
<i>Would the project result in or expose people or structures to potential impacts involving:</i>				
a. The risk of loss, injury, or death from :				
i. Fault 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Strong ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vi. Flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vii. Wildland fires, including where wildlands are adjacent to urbanized areas and where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Substantial soil erosion, or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Is the project located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expansive soils?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Unique geologic or physical features?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Geotechnical issues are addressed in Section 4.9 of the 1994 LRDP DEIR, as amended by the LRDP FEIR.

a-i) The project site is not located within an Alquist-Priolo Earthquake Fault Zone (previously called Special Study Zones). The closest known fault is located 12 miles northwest of the main Campus. The closest branches of the San Andreas fault system are the Green Valley (32 miles southwest) and the Rodgers Creek (47 miles southwest) faults. The San Andreas fault is located

approximately 67 miles to the southwest (please see Table 4.9-2 on page 4.9-3 of the 1994 LRDP DEIR). Therefore, the proposed WHNRC would not be exposed to risks associated with fault rupture, and no impact would occur.

- a-ii,iii) The Campus is located in an area subject to moderate groundshaking during an earthquake event. As described in the 1994 LRDP DEIR, page 4.9-2:

According to the Preliminary Map of Maximum Expectable Earthquake Intensity in California, prepared by the California Department of Mines and Geology, 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 structural damage to stucco, masonry walls, and chimneys exposing people to the associated risks of falling objects and building collapse.

The proposed project includes construction of a new academic and research building. The proposed structure could be subject to damage during a seismic event. Incorporated into the project is implementation of the following 1994 LRDP EIR mitigation measures that would ensure that impacts from seismically induced groundshaking would be reduced to a less-than-significant level:

- 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.*
- 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.*
- 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.*

Implementation of Mitigation Measure 4.9-1(a) would ensure that the new facility would be designed and installed in compliance with applicable California Uniform Building Code (CUBC) and Title 24 standards.

Compliance with 1994 LRDP EIR Mitigation Measure 4.9-1(a) would ensure no impacts relating to seismically induced ground shaking other than those previously identified and adequately analyzed in the 1994 LRDP EIR. Therefore, significant seismically-induced ground shaking impacts for the WHNRC 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that development 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. This impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed this increase in population identified under the 1994 LRDP. The proposed project's incremental contribution (approximately 100 persons) to this cumulative impact is so small that it is considered to be de minimis. 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.

- iv) The proposed WHNRC facility would not be located in an area subject to seiche, tsunami, or volcanic hazard. Therefore, no impact would occur.
- v) The proposed WHNRC site is located in an area of flat topography and, therefore, would not be subject to landslides or mudflows and no impact would occur.
- vi) The proposed WHNRC site is not located near a levee or dam, or in a 100-year flood plain and would not likely be subject to flooding. 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.¹ Because the proposed WHNRC site is not located in a designated 100-year floodplain, and would not be exposed to inundation as a result of dam failure, no impact would occur. Please see Items 5f and 5g for further discussion of flooding impacts.
- vii) The proposed WHNRC site is located in the Central Campus and is surrounded primarily by existing developed uses including buildings, roadways and a parking lot, and is not adjacent to wildlands. In addition, the open fields to the north of the project site are routinely mowed for weed control and fire prevention. Therefore, the proposed facility would not be subject to wildland fires and no impact would occur.
- b) Soils under the proposed WHNRC site belong to the Yolo Series and Reiff Series (see Figure 4.9-1 on page 4.9-6 of the 1994 LRDP DEIR). These soils are characterized by moderately rapid permeability, very slow runoff, minimal erosion hazard, and moderate to high shrink-swell potential.

Construction of the proposed project would require grading and excavation activities to construct building foundations and infrastructure. Earth-disturbing activities could result in increased rates of erosion. As described above, soils in the project area can be 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. Therefore, impacts for the WHNRC would be less than significant and no mitigation is required. Potential water quality impacts from soil-disturbing activities and locations of construction staging areas relative to surface water and groundwater are discussed under Item 5c.

- c) Lateral spreading, liquefaction potential, or other unstable soil conditions have not been identified as development constraints on campus. The proposed project site is not located on soil or strata that is unstable (see discussion under Item 4b). Subsidence due to groundwater withdrawal has been identified at a few locations in Yolo County; however, none of the locations are at or near the Campus.² Further, the 1994 LRDP EIR did not identify impacts associated with subsidence. Although no significant adverse geologic or soil conditions are anticipated, geotechnical studies that would be prepared in accordance with CUBC requirements (as noted on page 4.9-10 of the 1994 LRDP DEIR) would identify appropriate recommendations for site development and design features to account for any identified hazards. A preliminary geotechnical study concluded that the proposed project site is suitable for future development from the standpoint of surface soils and groundwater conditions.³ Therefore, the proposed WHNRC would not result in any new or significant impacts that have not already been evaluated in the 1994 LRDP EIR. This impact is less than significant and no additional mitigation is required. For a discussion of seismic ground failure including lateral spreading, liquefaction, or collapse, see the discussion under Item 4a.
- d) As previously described, soils underlying the proposed project exhibit moderate to high expansion (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 DEIR, all project construction would be required to comply with applicable requirements of the CUBC. A preliminary assessment of site-specific soil and ground water conditions indicated that the site is suitable for future development from the standpoint of surface soils and ground water conditions.⁴ The proposed project would also implement 1994 LRDP Mitigation Measure 4.9-1(a), which would require review of facility design to ensure compliance with CUBC requirements. Therefore, impacts for the WHNRC would be less than significant and no additional mitigation is required.
- e) Implementation of the proposed WHNRC would not result in any impacts to any unique geological features as none have been identified at the project site. Therefore, no impact would occur.

Summary

The proposed WHNRC would not result in any new or significant geology, seismicity or soils impacts that have not already been examined in the 1994 LRDP EIR. Mitigation Measure 4.9-1(a) through (c) will be implemented as part of the WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
5. HYDROLOGY AND WATER QUALITY				
<i>Would the proposal:</i>				
a. Violate Regional Water Quality Control Board water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
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 (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to control?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Place within a 100-year floodplain structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Hydrology and water quality issues are addressed in Section 4.8 of the 1994 LRDP DEIR, as amended by the LRDP FEIR; in Section 4.1 of the WWTP Replacement Project DEIR, as amended by the WWTP FEIR; and in Sections 4.3, 5.4, 7.4 and Chapter 8 of the 1997-98 Major Capital Improvement Projects DEIR, as amended by the FSEIR.

a) **Construction**

Construction of the proposed project would include temporary earth disturbing activities which could result in increased rates of soil erosion leading to increased sediment loads in storm water runoff. This could adversely affect receiving water quality. Soils underlying the project

construction site are characterized as having minimum erosion potential (see Figure 4.9-1 on page 4.9-6 of the 1994 LRDP DEIR and the discussion under Item 3f).

The area to be graded for site preparation of the WHNRC could include a maximum of 2.4 acres. Because site soils are characterized as having minimum erosion potential, it is anticipated that potential water quality impacts would be minimal. However, this impact incrementally contributes to construction-related water quality impacts in the North Fork and the South Fork of Putah Creek, as previously identified in the 1994 LRDP EIR.

The 1994 LRDP EIR identified the following mitigation measure to reduce this impact to a less-than-significant level:

- 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-storm water 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.*

Compliance with 1994 LRDP EIR Mitigation Measure 4.8-4(b) would ensure that no new significant adverse impacts to surface water quality would occur as a result of construction activities as compared to those previously identified and adequately analyzed in the 1994 LRDP EIR. The surface water quality impacts for the WHNRC 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.

Operation

Increased rates of surface runoff associated with additional impervious surfaces could also change drainage patterns and alter existing water quality. The primary sources of storm water pollution attributable to the operation of the proposed project would be oil, grease (from parked vehicles), heavy metals, and sediments which could adversely affect the North Fork and South Fork Putah Creek water quality. In addition, project landscaping would require irrigation. Landscape irrigation runoff can increase loads of sediments and nutrients (fertilizers and pesticides) in receiving waters.

The proposed WHNRC would result in an increase in surface runoff associated with impervious surface cover and increased landscape irrigation drainage to the South Fork of Putah Creek compared to existing conditions (see the discussion under Item 5c). Therefore,

it is anticipated that project operational activities would result in an associated increase of urban contaminants in surface runoff over that which currently exists. Development of the proposed project site was anticipated in the 1994 LRDP and the increase in surface runoff and associated urban contaminants was evaluated in the 1994 LRDP Draft EIR (Impact 4.8-5). The proposed WHNRC would result in an increase in landscaped area over current conditions, and therefore, could result in increased sediment and nutrient loading in receiving waters. Even though the proposed WHNRC was designated for parking use in the 1994 LRDP, which would have resulted in less landscape area, the increase in landscape area attributed to the WHNRC over that assumed and evaluated in the 1994 LRDP EIR would be negligible.

The 1994 LRDP EIR identified the following mitigation measure to reduce impacts on receiving water quality attributed to increased surface water runoff associated with increased impervious surface cover and landscape irrigation to a less-than-significant level:

4.8-5(a) *The Campus shall ensure that project design includes a combination of the following Best Management Practices (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 on 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 reduce irrigation runoff.*
- (vi) *Efficient irrigation systems 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.*

With implementation of LRDP EIR Mitigation Measures 4.8-5(a), (i) through (vi), the proposed WHNRC would result in no new impacts relating to water quality associated with the drainage pattern of the site beyond those previously described and adequately mitigated in the 1994 LRDP EIR. Significant surface water quality impacts of the WHNRC have been mitigated to a less-than-significant level through incorporation of mitigation measures adopted as part of the 1994 LRDP EIR and no additional mitigation is required. The WHNRC would not directly or indirectly result in any discharges that would violate water quality standards. This impact is less than significant and no additional mitigation is required.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that urban and agricultural development under the 1994 LRDP in the Putah Creek watershed could reduce receiving water quality. This cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed the increase in urban development identified under the 1994 LRDP. The proposed project's incremental contribution (approximately 2.4 acres) to this cumulative impact is so small that it is considered to be de minimis. 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.

- 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. As discussed below, the proposed WHNRC would result in an approximate 2.4-acre increase in new impervious surface, which would not lead to a measurable change in the condition of the aquifers. In addition, the Campus assumed development of this area in the 1994 LRDP. Furthermore, as described on page 4.8-18 of the 1994 LRDP EIR:

... In the Central Campus much of the land area is already developed and infill development proposed would not significantly reduce the potential for groundwater recharge.

Because the proposed WHNRC is located in the Central Campus and would be consistent with the amount of developed area assumed in the 1994 LRDP in this area of the Campus, the increase in impervious surface cover attributed to the WHNRC would not result in a significant loss of groundwater recharge capability over that assumed and evaluated in the 1994 LRDP EIR.

The Campus obtains its domestic water from the domestic/fire water system on Campus, which uses wells that draw from the deep aquifer. 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 DEIR, buildout of asf and on-campus housing under the 1994 LRDP would result in an estimated increased demand for water from the deep aquifer of 223 million gallons per year (mgy), for a total demand of approximately 1,115 mgy at buildout. Of this total demand, the proposed project would require approximately 4 mgy (29,400 asf x 140 gal/asf/yr). This estimated demand is considered conservative because the factor used (140 gal/asf/yr) is an overall average demand that takes into consideration uses that typically result in a higher demand than those typically associated with the proposed project uses. Please refer to the discussion under Item 13f. It is also anticipated that the proposed WHNRC would include landscaping which would require irrigation. The Campus relies on the shallow/intermediate aquifer to provide irrigation water. Project operations would include water conservation measures such as the installation of low water use landscape, drip irrigation, irrigation control devices, and application of mulch. However, it is not anticipated that the irrigation water needed for landscaping would result in a significant change in the quantity of groundwater due to direct withdrawals. This is due to the small area of landscaping associated with the proposed project. In addition, the 1994 LRDP EIR determined that development allowed under the 1994 LRDP would result in a less-than-significant impact on the shallow/intermediate aquifer (see page 4.14-15 of the 1994 LRDP DEIR). This impact is less than significant for the WHNRC and no additional mitigation is required.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that urban development under the 1994 LRDP and in the Lower Cache-Putah Groundwater Basin, would increase the amount of impervious surface and reduce groundwater recharge. This cumulative impact was considered significant

and unavoidable. The proposed project would contribute to, but not exceed this increase in impervious surface cover identified under the 1994 LRDP. The proposed project's incremental contribution (approximately 2.4 acres) to this cumulative impact is so small that it is considered to be de minimis. 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.

- c) Storm drainage from the proposed WHNRC site drains to the North Fork of Putah Creek, and is then pumped into the South Fork of Putah Creek. Under existing conditions the 2.4-acre site is undeveloped. With implementation of the proposed project, it is assumed that the entire site would be covered with impervious surface cover which would increase the amount of surface storm water runoff over that which currently exists. The actual amount of impervious surface cover would be lower because new development would include landscaping which is not subtracted from this estimate.

Please see Item 5a, above, for a discussion of potential erosion effects due to project development. The proposed project would not involve any activities that would substantially alter drainage patterns that would result in substantial erosion or siltation on or off-site. This impact is less than significant, and no mitigation is required.

- d) As described under Item 5c, the proposed WHNRC would result in an increase in surface runoff associated with impervious surface cover and increased landscape irrigation draining to the North Fork of Putah Creek compared to current conditions. The increase in surface runoff to the North Fork of Putah Creek attributed to the proposed project would not be anticipated to result in a significant change in the total amount of surface runoff over that anticipated and evaluated in the 1994 LRDP EIR which would result in flooding on- or off-site. For a discussion of impacts to drainage system capacity see Item 5e.
- e) Storm drainage from the project site is discharged through a series of collectors, pump stations, and transmission mains and is pumped into the South Fork of Putah Creek.

As discussed under Item 5c, with implementation of the proposed project, it is assumed that the entire site would be covered with impervious surface cover which would increase the amount of surface storm water runoff over that which currently exists. The actual amount of impervious surface cover would be lower because new development would include landscaping which is not subtracted from this estimate.

Development of the proposed WHNRC site was anticipated in the 1994 LRDP and the increase in surface runoff was evaluated in the 1994 LRDP DEIR (Impact 4.8-2). The proposed WHNRC site was designated for Parking uses in the 1994 LRDP, which could have resulted in a slightly higher increase in surface runoff over that assumed and evaluated in the 1994 LRDP EIR. However, that increase in runoff would be negligible.

The 1994 LRDP EIR included the following mitigation measures to reduce impacts to campus drainage capacity to a less-than-significant level:

- 4.8-2(a) *Prior to approval of final project design, the Campus shall prepare 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.*

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:*

- (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.*

It is anticipated that the capacity of existing stormwater pumps and collection system would be sufficient, and no modifications would be required. However, if it is determined that modifications are necessary, any relocation and up-sizing of existing collection pipes proposed as part of the project to accommodate the proposed facilities would be implemented consistent with 1994 LRDP EIR Mitigation Measure 4.8-2(b)(i). All drainage system construction would occur under existing roads and parking lots. Therefore, impacts to existing drainage capacity for the WHNRC would be considered less than significant and no additional mitigation is required.

- f,g) The proposed project site is not located in a 100-year flood plain as defined by the Federal Emergency Management Agency (please see Figure 4.8-2, 100-Year Flood Plain, on page 4.8-4 of the 1994 LRDP DEIR). Therefore, there would be no exposure of people or property to water-related hazards associated with being located in a 100-year flood plain and no impact would occur.

Summary

The proposed WHNRC would not result in any new or significant surface and/or groundwater impacts that have not already been examined in the 1994 LRDP EIR, and Mitigation Measures 4.8-4(b) 4.8-5(a)(i) through (vi), will be implemented as part of the WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
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6. AIR QUALITY.

Would the proposal:

- a. Violate any stationary or non stationary source air quality standards or contribute to an existing or projected air quality violation?

During Construction:

During Operation:

- b. Expose sensitive receptors to substantial pollutants concentrations?

- c. Create or contribute to a non-stationary source “hot spot” (primarily carbon monoxide)?

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
d. Expose sensitive receptors to objectionable odors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan or Congestion Management Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Result in a net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standards (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Air quality issues are addressed in Section 4.5 of the 1994 LRDP DEIR, as amended by the LRDP FEIR; in Section 4.2 of the WWTP Replacement Project DEIR, as amended by the WWTP FEIR; and in Sections 4.6, 5.7, 6.7, 7.7, and Chapter 8 of the 1997-98 Major Capital Improvements Project DSEIR, as amended by the FSEIR.

a,b,
f) **Construction**

Construction of the proposed WHNRC would include earth moving activities. 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.

Short-term project construction activities (excavation, grading and demolition) would generate dust that would incrementally contribute to significant particulate matter (PM₁₀) emissions previously identified in the 1994 LRDP EIR. As identified in the 1994 LRDP DEIR on page 4.5-18, because the region is non-attainment for PM₁₀, the Yolo/Solano Air Quality Management District (YSAQMD) would require that dust suppression measures be implemented during construction activities. The 1994 LRDP EIR identified the following mitigation measure to reduce the short-term generation of PM₁₀ to the extent feasible:

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 AQMD 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.*

Compliance with 1994 LRDP EIR Mitigation Measure 4.5-1 would ensure that the proposed project would result in no new impacts relating to construction air quality beyond those previously identified in the 1994 LRDP EIR and no further mitigation is required. Due to the close proximity to Tupper Hall, there is a potential for indoor air quality complaints from Tupper Hall occupants during construction. Furthermore, it is anticipated that construction of the WHNRC would not occur simultaneously with major construction projects in the vicinity of the proposed project. If multiple simultaneous construction projects were to occur, cumulative dust impacts could be significant and unavoidable. 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 circumstance was addressed in the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP.

The 1994 LRDP DEIR (page 4.5-19) identified that construction-related emissions would also include Reactive Organic Compounds (ROC) and Nitrogen Oxides (NO_x), precursors to ozone (O₃) formation from construction vehicles, equipment and machinery. However, the increased number of construction vehicle trips would occur during a limited period of time and long-term impacts to air quality 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 O₃ 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 O₃ precursors would not be expected to lead to a violation of ambient air quality standards for O₃ in the Campus vicinity. While these emissions would contribute (temporarily) to the non-attainment status of Yolo County for O₃, they would likely represent less than the stationary source emission thresholds and, thus, are considered less-than-significant.

Operation

Criteria Pollutants

The proposed WHNRC would generate an increase in vehicle trips (29 in the a.m. peak and 36 during the p.m. peak) associated with the increase in employee population (up to 100 new employees). Increased vehicle trips would contribute to increased levels of carbon monoxide (CO). The 1994 LRDP EIR identified increased levels of CO, ozone precursors (O_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. The project would incrementally contribute to, but would not exceed, this impact previously identified in the 1994 LRDP EIR.

The 1994 LRDP EIR identified the following mitigation measures to reduce the magnitude of impacts to regional air quality, but the impact remains significant and unavoidable at the LRDP level.

4.5-3(a) Implement Mitigation Measures 4.3-1 and 4.3-5.

Mitigation Measure 4.3-1 requires implementation of measures on the campus to maintain and expand use of non-vehicular modes of transit to, from, and within the Campus. This measure would result in the reduction in the number of automobiles used for daily operations of the Campus and would result in a corresponding reduction in the potential increase in criteria pollutant load described in this impact. Specific types of measures undertaken by the Campus to reduce the number of automobiles used include: (1) a comprehensive bicycle circulation network, (2) parking fees, (3) transit planning and subsidies, (4) promotion of carpools, vanpools, park and ride, and rideshare programs and incentives, (5) shuttle bus systems, (6) telecommuting, and (7) public awareness programs.

Mitigation Measure 4.3-1 would also result in physical changes to roadways and intersections on and adjacent to the Campus. The changes would result in improved vehicular operations on those roadways and intersections (increased speed, less idling time, etc.). Such improved operations tend to decrease the level of pollution generated by vehicles using the particular road or intersection. Mitigation Measure 4.3-5 encourages continued and increased availability of public transportation services. This would reduce the number of vehicle trips to and from the campus.

The proposed WHNRC would also incrementally contribute to, but not exceed cumulative criteria air pollutant impacts that were identified in the 1994 LRDP EIR as significant and unavoidable (Impact 4.5-8). This impact was fully addressed by the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the LRDP EIR.

Compliance with 1994 LRDP EIR Mitigation Measure 4.5-3(a) would ensure that the proposed WHNRC would not result in new operational air quality impacts other than those previously identified in the 1994 LRDP EIR. Criteria pollutant impacts for the WHNRC 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that development under the 1994 LRDP, in conjunction with cumulative development in the region, would increase criteria pollutant emissions. This cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed increased criteria pollutants identified under the 1994 LRDP. The proposed project's contribution (attributed to approximately 29 new vehicle trips in the a.m. peak and 36 during the p.m. peak) to this cumulative impact is so small that it is considered to be de minimis. 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 1997-98 Major Capital Improvement Projects SEIR.

In addition, the 1994 LRDP EIR, as amended, concluded that development under the 1994 LRDP, in conjunction with cumulative development in the region, would increase CO concentrations at intersections. This cumulative impact was considered less than significant because State or federal standards would not be exceeded. The proposed project would contribute to, but not exceed increased CO emissions identified under the 1994 LRDP because it is consistent with approved development.. The proposed project's contribution (attributed

to approximately 29 new vehicle trips in the a.m. peak and 36 during the p.m. peak) to this less than significant cumulative impact is so small that it is considered to be de minimis.

Air Toxics

Toxic air contaminants (TACs) are emitted from both stationary and mobile sources, that could cause short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects. The proposed WHNRC facility includes various laboratories for instruction and research that add to existing laboratories found in other buildings on campus. The proposed project would increase laboratory space on campus, and therefore, would increase TAC emissions. Unlike criteria pollutants, there are no specific minimum levels of TACs below which exposure can be considered safe; any exposure has the potential to have adverse health effects. TACs emitted from automobiles are considered the major source of TAC emissions, and local agricultural operations also contribute (see pages 4.5-11 and 4.5-14 of the 1994 LRDP DEIR).

UC Davis conducted a health risk assessment (HRA) to identify potential health risks associated with TACs due to development under the 1994 LRDP.⁵ The analysis (referred to as the 1994 HRA) 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 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).

The 1994 analysis was updated in 1996 to include the following new or modified sources not evaluated in the 1994 HRA: relocation of the WWTP to a site not anticipated under the 1994 LRDP; a decrease in the number of on-campus pathological waste incinerators from two to one; and operation of the campus landfill treatment system that would use a flare to control emissions.⁶ The 1996 HRA estimated that the cancer risk associated with development allowed under the 1994 LRDP, including the new and modified emissions sources, would be 0.4648 in one million⁷, which is below the campus standard of significance of 10 in one million. The 1996 HRA also showed that the acute and chronic non-carcinogenic health risk hazard exposure indices would be 0.00929 and 0.00197, respectively.⁸ Both of the indices are less than the campus threshold of 1.0.

The 1994 HRA (as amended by the 1996 HRA) analysis was again updated in 1998 for the 1997-98 Major Capital Improvement Projects SEIR to reflect additional laboratory space and the location of laboratory space not anticipated in the 1994 HRA. The 1998 HRA showed that the acute and chronic non-carcinogenic health risk hazard exposure indices would be 0.009304 and 0.00744, respectively (see page 8-3 of the 1997-98 Major Capital Improvement Projects DSEIR). Both these indices are well below the campus threshold of 1.0.

A detailed description of the components of the 1994, 1996, and 1998 screening-level health risk assessments and their methodologies is presented in the 1994 LRDP DEIR (pages 4.5-24 through 4.5-27), in the WWTP Replacement Project DEIR (Appendix G), and in 1997-98 Major Capital Improvement Projects SEIR pages 4.6-7 through 4.6-9, respectively.

The 1994 HRA, as updated, did not include the proposed new sources which would be attributed to the proposed WHNRC. Therefore, an update to the 1994 LRDP HRA was

prepared to incorporate the proposed project. The detailed methodology and description of the findings is included in the *USDA Western Human Nutrition Research Center Updated Health Risk Assessment of Air Emissions*, which is available for review at the UC Davis Planning and Budget Office, 376 Mrak Hall. Table 3 presents the acute, chronic non-carcinogenic health risk hazard exposure indices and cancer risk associated with the WHNRC, and cumulative buildout of the 1994 LRDP (including the proposed WHNRC and probable future growth in the Health Sciences District).

TABLE 3
SUMMARY OF CUMULATIVE RISKS FOR LRDP

Description	Proposed WHNRC	1994 LRDP	Proposed Projects with 1994 LRDP
Acute Hazard Index	0.205 x 10 ⁻³	9.29 x 10 ⁻³	9.29 x 10 ⁻³
Chronic Hazard Index	0.024 x 10 ⁻³	6.32 x 10 ⁻³	3.37 x 10 ⁻³
Cancer Risks	0.0032 per 10 ⁶	0.5298 per 10 ⁶	0.4755 per 10 ⁶

Notes:

Campus wide risk values for LRDP presented in 1998 update to health risk assessment. Based on conservative screening methodology for 1997-98 Major Capital Improvement Projects.
Cumulative risk values including WHNRC and probable future development in the Health Sciences District.

As can be seen in Table 3, the estimated acute and chronic non-carcinogenic health risk hazard exposure indices for the WHNRC would be 0.000205 and 0.00024, respectively. Cumulatively, the estimated acute and chronic non-carcinogenic health risk hazard exposure indices would be 0.00929 and 0.00337, respectively. Because the health risk assessment update for the 1997-98 Major Capital Improvement Projects was based on a screening methodology, the cumulative risks shown by the previous 1994 LRDP health risk assessment as updated for those projects were conservative overestimates. The present analysis is based upon a refined methodology for all foreseeable development in the LRDP, including probable future development in the Health Sciences District. As shown in Table 3, use of the refined methodology results in a slight reduction of the cumulative chronic hazard index and cancer risks from the risks reported in the last update. All of the project-specific and cumulative indices are well below the campus threshold of 1.0, and therefore, the WHNRC would result in a less-than-significant project-specific impact.

Cumulative Impacts

The 1994 LRDP EIR (pages 4.5-30 and 4.5-31) and the 1996 WWTP EIR (page 4.2-22) addressed the impact of cumulative increases in toxic air contaminants from mobile and stationary sources, and concluded that this cumulative impact would be considered significant and unavoidable due to the lack of methods to assess the impact. The proposed project would incrementally contribute to, but not exceed, cumulative increases in toxic air contaminants that

were identified in the 1994 LRDP. The proposed project's incremental contribution to this cumulative impact is so small that it is considered to be de minimis. The acute and chronic non-carcinogenic hazard indices for the proposed project are estimated to be .000205 and .00024, respectively compared to .00929 and .00337, respectively with buildout of the LRDP, including the proposed project. All indices are well below the threshold of 1.0. 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 1997-98 Major Capital Improvement Projects SEIR.

Title V Permitting Requirements

As described on pages 4.6-5 through 4.6-6 of the 1997-98 Major Capital Improvements Project DSEIR, Title V of the federal Clean Air Act as amended in 1990 (CAA) provides for the establishment of operating permits for major sources that emit regulated air pollutants. 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.

UC Davis is a major source subject to the requirements of Title V due to emissions of NO_x, SO_x, and VOCs in excess of EPA thresholds. Based on discussions with YSAQMD, the YSAQMD would not consider the WHNRC a part of the UC Davis facility for purposes of Title V, since it is owned and operated by the USDA. The WHNRC would be evaluated as its own facility, and therefore, would fall below the Title V emissions thresholds. Therefore, no impact would occur.

- c) The proposed WHNRC would not create or contribute to a non-stationary source "hot spot" and no impact would occur. Please see the discussion under Item 6a,b and f.
- d) There are currently several odor emission sources on the Central Campus, primarily from confined animal facilities, sewage lift stations, the WWTP, landfill, and motor vehicles (see page 4.15-14 of the 1994 LRDP DEIR). The proposed project is located in an area that would not be significantly exposed to these odor sources. Although there would be various laboratories at the proposed WHNRC, the expected uses of the laboratories do not involve materials that would create significant odor, and no impact would occur.
- e) 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 Sacramento Valley Air Basin (SVAB) into compliance with federal and State ambient air quality standards. Because the SVAB is not in compliance with ozone standards, the AQAP addresses emissions of ozone precursors. Currently, AQAPs are not required to address PM₁₀, for which the YSAQMD is non-attainment for State standards (see pages 4.2-14 through 4.2-15 of the WWTP Replacement Project DEIR).

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 DEIR, a Sacramento Area Regional Ozone Attainment Plan was submitted to the EPA in November 1994. The 1994

attainment plan has been reviewed and approved. 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. While the plan is designed to bring the Sacramento area into attainment with the ozone standard by 2005, it does not contain additional measures that would apply to the proposed project. The proposed WHNRC would not conflict with or obstruct implementation of the AQAP, and no impact would occur. Please see the discussion under Item 6a, b, and f for an evaluation of criteria and toxic air pollutants.

Summary

The proposed WHNRC would not result in any new or significant construction-related or operational air quality impacts and effects relating to odors that have not already been examined adequately in the 1994 LRDP EIR. Mitigation Measures 4.5-1(a) through (d) and 4.5-3(a) will be implemented as part of the proposed WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
7. TRANSPORTATION/CIRCULATION.				
<i>Would the proposal result in:</i>				
a. Increased traffic volumes which are substantial in relation to the capacity of the existing and/or future transportation network resulting in level of service violations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Inadequate emergency access or access to nearby uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Insufficient parking capacity on Campus?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Increased pedestrian and bicycle traffic in areas which may not have adequate facilities for these modes of travel?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Increased conflicts between bicyclists, pedestrians, and transit vehicles, causing increased congestion and safety problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Increased demand for transit services?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Changes in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Transportation and circulation issues are addressed in Section 4.3 of the 1994 LRDP DEIR as amended by the FEIR, and in Chapter 8 (Cumulative Impacts) of the 1997-98 Major Capital Improvement Projects SEIR, as amended by the FSEIR.

- a) In order to evaluate potential project-specific impacts of the proposed WHNRC, estimated project generated traffic was added to existing traffic volumes and thirty key intersections were analyzed for typical weekday a.m. and p.m. peak hour conditions. The complete analysis (including a discussion of methods used) is contained in a technical report available for review at the UC Davis Planning and Budget Office, 376 Mrak Hall.

Construction

The proposed WHNRC would be constructed in phases over an approximately two-year period. Construction staging would occur on-site. Construction vehicles would access the project sites from State Route 113 at the Hutchison Drive interchange. It is estimated that a maximum of 50 construction vehicles trips would access each site per day during peak construction seasons. The State Route 113 / Hutchison Drive ramp intersections operate at an acceptable LOS during both the a.m. and p.m. peak hours. As shown in Tables 3 and 4, these intersections are expected to continue to operate at acceptable levels of service with buildout of the 1994 LRDP (including the proposed WHNRC). Therefore, the short-term increase of construction vehicle traffic associated with the WHNRC would not result in a significant impact.

Operation

Table 4 summarizes the incremental motorized vehicle trip generation associated with the project. Trip generation was based upon 100 employees at the WHNRC, all new to the campus. The project is estimated to generate 390 new daily trips to campus, 29 new trips to campus during the a.m. peak hour, and 36 new trips to campus during the p.m. peak hour.

Trips were added to the existing roadway network in accordance with observed travel patterns in the vicinity of the site and traffic routing patterns derived from the LRDP travel model.

TABLE 4				
MOTORIZED VEHICLE TRIP GENERATION				
Time Period	Existing Campus		Project	
	Entering the Campus	Exiting the Campus	New Trips Entering the Campus	New Trips Exiting the Campus
A.M. Peak Hour ¹	3,560	940	27	2
P.M. Peak Hour ¹	1,500	3,390	10	26
Remainder of Average Weekday	21,360	22,090	158	167
Average Weekday ²	26,420	26,420	195	195
1. Time period of peak hour varies by location on Campus. For analysis purposes, the peak volume at each location has been considered. 2. Based upon Tuesday through Thursday conditions.				
SOURCE: DKS Associates, 1999.				

Tables 5 and 6 summarize a.m. and p.m. peak hour intersection operating conditions with the proposed project, respectively. The proposed WHNRC would not result in any new intersections violating the LOS standards. On a percentage basis, proposed project traffic is small in relation to overall campus volumes (i.e., less than one percent), and the net effect is a slight delay increase at ten intersections and a slight delay decrease at two intersections. However, acceptable Levels of Service (LOS) would be maintained and these delays would not result in any intersection change in LOS that would exceed established thresholds. Therefore,

implementation of the proposed WHNRC would generate increased traffic volumes that would result in a less-than-significant project-specific impact to transportation system capacity and no mitigation is required.

Cumulative Impacts

The 1994 LRDP included population growth projections, physical development patterns, and land use designations for the UC Davis campus through 2005-06. Development of academic and administrative buildings in the Health Sciences District was anticipated in the 1994 LRDP. Although the WHNRC is a federal facility, building occupants still count toward population projections anticipated under the 1994 LRDP (see Section III of this Initial Study - Consistency with the 1994 LRDP and LRDP EIR). Therefore, the impacts of the proposed WHNRC due to cumulative campus population growth were included in the Traffic, Circulation, and Parking analysis included in the 1994 LRDP EIR (Impact 4.3-1 on page 4.3-29). The analysis in the 1994 LRDP EIR assumed the widening of the Richards Boulevard corridor to four lanes by the year 2005, as proposed in the then current City of Davis General Plan. The 1994 LRDP EIR included mitigation measures to reduce traffic and circulation impacts (Mitigation Measures 4.3-1(a) and (b) on pages 4.3-35 to 4.3-37 of the 1994 LRDP DEIR). Consistent with 1994 LRDP EIR Mitigation Measure 4.3-1(b), the Campus monitored a.m. and p.m. peak hour traffic operations at the 29 key intersections in the Campus vicinity in the Fall of 1997. With the exception of the

TABLE 5					
A.M. PEAK HOUR EXISTING PLUS PROJECT INTERSECTION OPERATING CONDITIONS					
Intersecting Roadways		Existing Without Project		Existing With Project	
		Delay (seconds)	LOS	Delay (seconds)	LOS
County Road 98	Russell Blvd.	2.1	A	2.1	A
SR 113 SB Ramp	Russell Blvd.	4.8	A	4.7	A
SR 113 NB Ramp	Russell Blvd.	8.6	B	8.6	B
County Road 98	Hutchison Dr.	1.5	A	1.5	A
Hopkins Road	Hutchison Dr.	0.7	A	0.7	A
SR 113 SB Ramp	Hutchison Dr.	8.8	B	9.3	B
SR 113 NB Ramp	Hutchison Dr.	2.8	A	2.8	A
La Rue Road	Hutchison Dr.	13.4	B	13.5	B
La Rue Road	Russell Blvd.	13.5	B	13.5	B
La Rue Road	Orchard Park Dr.	8.9	B	8.9	B
La Rue Road	Garrod Dr.	0.6	A	0.6	A
California Avenue	Russell Blvd.	0.8	A	0.8	A
California Avenue	Old Davis Road	16.5	C	16.5	C
Old Davis Road	I-80 WB Ramp	2.4	A	2.4	A
Old Davis Road	I-80 EB Ramp	4.9	A	4.9	A
Mrak Hall Dr.	Old Davis Road	3.1	A	3.1	A
Oak Avenue	Russell Blvd.	2.6	A	2.6	A
Howard Way	Russell Blvd.	11.5	B	11.5	B
A Street	Russell Blvd.	4.3	A	4.3	A
B Street	Russell Blvd.	15.4	C	15.4	C
B Street	Third Street	2.9	A	2.9	A
A Street	First Street	3.2	A	3.2	A
A Street	Old Davis Road	7.7	B	7.7	B
B Street	First Street	14.4	C	14.5	C
D Street	First Street	5.9	B	5.9	B
Richards Blvd.	First Street	47.3	E	47.3	E
Richards Blvd.	Olive Dr.	11.3	B	11.3	B
I-80 EB Ramps	Richards Blvd.	13.3	B	13.4	B
Research Park Dr.	Richards Blvd.	6.5	B	6.5	B
Health Sciences Dr.	Hutchison Dr.	0.9	A	1.0	A

SOURCE: DKS Associates, 1999.

TABLE 6					
P.M. PEAK HOUR EXISTING PLUS PROJECT INTERSECTION OPERATING CONDITIONS					
Intersecting Roadways		Existing Without Project		Existing With Project	
		Delay (seconds)	LOS	Delay (seconds)	LOS
County Road 98	Russell Blvd.	2.4	A	2.4	A
BSR 113 SB Ramp	Russell Blvd.	5.1	B	5.1	B
SR 113 NB Ramp	Russell Blvd.	12.1	B	12.1	B
County Road 98	Hutchison Dr.	1.7	A	1.7	A
Hopkins Road	Hutchison Dr.	1.5	A	1.5	A
SR 113 SB Ramp	Hutchison Dr.	1.7	A	1.8	A
SR 113 NB Ramp	Hutchison Dr.	1.0	A	1.0	A
La Rue Road	Hutchison Dr.	18.5	C	18.8	C
La Rue Road	Russell Blvd.	15.1	C	15.2	C
La Rue Road	Orchard Park Dr.	12.1	B	12.0	B
La Rue Road	Garrod Dr.	1.4	A	1.4	A
California Avenue	Russell Blvd.	0.3	A	0.3	A
California Avenue	Old Davis Road	48.9	F	49.4	F
Old Davis Road	I-80 WB Ramp	0.7	A	0.7	A
Old Davis Road	I-80 EB Ramp	2.8	A	2.8	A
Mrak Hall Dr.	Old Davis Road	6.5	B	6.5	B
Oak Avenue	Russell Blvd.	2.0	A	2.0	A
Howard Way	Russell Blvd.	13.6	B	13.7	B
A Street	Russell Blvd.	4.8	A	4.8	A
B Street	Russell Blvd.	14.7	B	14.7	B
B Street	Third Street	4.6	A	4.6	A
A Street	First Street	3.3	A	3.4	A
A Street	Old Davis Road	6.8	B	6.8	B
B Street	First Street	16.9	C	17.0	C
D Street	First Street	12.7	B	12.7	B
Richards Blvd.	First Street	49.1	E	49.3	E
Richards Blvd.	Olive Dr.	18.4	C	18.4	C
I-80 EB Ramps	Richards Blvd.	15.6	C	15.7	C
Research Park Dr.	Richards Blvd.	10.1	B	10.2	B
Health Sciences Dr.	Hutchison Dr.	2.9	A	3.4	A

SOURCE: DKS Associates, 1999.

known traffic operating deficiencies at the intersection of Richards Boulevard and First Street and at the intersection of California Avenue and Old Davis Road, all other intersections operated within the LOS standards.⁹

Since certification of the 1994 LRDP EIR, the City has decided to maintain the Richards Boulevard undercrossing as two lanes. To reflect the future circulation system (including a two-lane Richards Underpass), the cumulative traffic volumes were reevaluated in the 1997-98 Major Capital Improvement Projects DSEIR in Chapter 8 (pages 8-15 through 8-34), as amended by the FSEIR.

Since completion of the 1997-98 Major Capital Improvements Project DSEIR, as amended by the FSEIR, the Campus has revisited the assumed distribution of projected population growth on the Campus associated with the 1994 LRDP. Assumptions for the LRDP are periodically refined as the 1994 LRDP is implemented. Currently, the Campus estimates that faculty and staff growth in the Health Sciences District will exceed earlier assumptions. However, overall Campus-wide cumulative population growth will remain consistent with the LRDP projections. The revised cumulative traffic analysis also includes probable growth in the Health Sciences District. In addition to the proposed WHNRC building, probable growth in the Health Sciences District is anticipated to include four new buildings associated with the Veterinary School (Surgeries Relocation, Center for Companion Animal Health, Vet Med 3A, and the Valley Building), and one building associated with the School of Medicine (Center for Functional Genomics and Bioinformatics).

In order to more accurately reflect currently assumed population distribution assumptions, a revised cumulative traffic analysis was conducted. Tables 7 and 8 present the results of the analyses, and compare these updated results to the results of the 1997-98 Major Capital Improvements Project DSEIR traffic analysis. Due to the higher than anticipated growth in the Health Sciences District, the traffic analysis has been expanded to include Health Sciences Drive. As presented in the tables, the revised cumulative traffic analysis concludes that there are no changes in the level of significance of traffic operating conditions when compared to the 1997-98 Major Capital Improvements Project DSEIR traffic analysis. Acceptable LOS would be maintained and any reduction in LOS would not result in any intersection change in LOS that would exceed established thresholds. The following six intersections are projected to violate level of service standards (LOS - defined on pages 4.3-4 and 4.3-9 of the 1994 LRDP EIR) by 2010 under cumulative conditions.

- California Avenue and Old Davis Road
- LOS "F" during the a.m. and p.m. peak hours
- A Street and Old Davis Road
- LOS "E" during the p.m. peak hour
- B Street and First Street
- LOS "F" during the a.m. peak hour

TABLE 7
2005-06 A.M. PEAK HOUR CUMULATIVE INTERSECTION
OPERATING CONDITIONS

Intersecting Roadways		1997-98 Major Capital Improvements Project DSEIR		Revised Analysis	
		Delay (seconds)	LOS	Delay (seconds)	LOS
County Road 98	Russell Blvd.	4.8	A	3.1	A
SR 113 SB Ramp	Russell Blvd.	11.5	B	11.4	B
SR 113 NB Ramp	Russell Blvd.	11.2	B	11.0	B
County Road 98	Hutchison Dr.	1.8	A	1.9	A
Hopkins Road	Hutchison Dr.	1.3	A	1.1	A
SR 113 SB Ramp	Hutchison Dr.	13.5	C	15.1	D
SR 113 NB Ramp	Hutchison Dr.	5.6	B	6.3	B
La Rue Road	Hutchison Dr.	12.4	B	12.3	B
La Rue Road	Russell Blvd.	15.1	C	15.3	C
La Rue Road	Orchard Park Dr.	12.3	B	12.0	B
La Rue Road	Garrod Dr.	1.1	A	0.7	A
California Avenue	Russell Blvd.	0.8	A	0.8	A
California Avenue	Old Davis Road	67.2	F	126.8	F
Old Davis Road	I-80 WB Ramp	3.8	A	4.0	A
Old Davis Road	I-80 EB Ramp	16.7	C	28.7	D
Mrak Hall Dr.	Old Davis Road	3.2	A	3.3	A
Oak Avenue	Russell Blvd.	2.4	A	2.3	A
Howard Way	Russell Blvd.	12.8	B	12.4	B
A Street	Russell Blvd.	4.1	A	4.1	A
B Street	Russell Blvd.	16.1	C	15.9	C
B Street	Third Street	2.5	A	2.6	A
A Street	First Street	6.3	B	3.3	A
A Street	Old Davis Road	10.7	C	11.4	C
B Street	First Street	78.0	F	63.8	F
D Street	First Street	1.2	A	6.5	B
Richards Blvd.	First Street	95.8	F	85.6	F
Richards Blvd.	Olive Dr.	89.6	F	87.8	F
I-80 EB Ramps	Richards Blvd.	43.9	E	42.8	E
Research Park Dr.	Richards Blvd.	30.0	D	24.7	C
Health Sciences Dr.	Hutchison Dr.	-	-	1.0	A

SOURCE: DKS Associates, 1999.

TABLE 8
2005-06 P.M. PEAK HOUR CUMULATIVE INTERSECTION
OPERATING CONDITIONS

Intersecting Roadways		1997-98 Major Capital Improvements Project DSEIR		Revised Analysis	
		Delay (seconds)	LOS	Delay (seconds)	LOS
County Road 98	Russell Blvd.	9.0	B	5.0	A
BSR 113 SB Ramp	Russell Blvd.	7.6	B	7.8	B
SR 113 NB Ramp	Russell Blvd.	37.0	D	24.1	C
County Road 98	Hutchison Dr.	2.4	A	2.6	A
Hopkins Road	Hutchison Dr.	1.9	A	1.9	A
SR 113 SB Ramp	Hutchison Dr.	1.2	A	1.4	A
SR 113 NB Ramp	Hutchison Dr.	2.5	A	2.4	A
La Rue Road	Hutchison Dr.	17.6	C	18.4	C
La Rue Road	Russell Blvd.	25.4	D	22.4	C
La Rue Road	Orchard Park Dr.	13.2	B	13.0	B
La Rue Road	Garrod Dr.	0.9	A	1.3	A
California Avenue	Russell Blvd.	0.6	A	0.6	A
California Avenue	Old Davis Road	90.9	F	144.7	F
Old Davis Road	I-80 WB Ramp	2.8	A	2.9	A
Old Davis Road	I-80 EB Ramp	7.9	B	9.5	B
Mrak Hall Dr.	Old Davis Road	6.2	B	6.2	B
Oak Avenue	Russell Blvd.	10.5	B	13.3	B
Howard Way	Russell Blvd.	16.9	C	15.3	C
A Street	Russell Blvd.	5.6	B	6.2	B
B Street	Russell Blvd.	17.5	C	16.1	C
B Street	Third Street	5.1	B	5.4	B
A Street	First Street	5.8	C	4.4	A
A Street	Old Davis Road	44.5	E	11.9	C
B Street	First Street	16.9	C	21.4	D
D Street	First Street	3.4	A	8.7	B
Richards Blvd.	First Street	167.7	F	161.5	F
Richards Blvd.	Olive Dr.	>180	F	>180	F
I-80 EB Ramps	Richards Blvd.	147.0	F	157.0	F
Research Park Dr.	Richards Blvd.	133.8	F	117.6	F
Health Sciences Dr.	Hutchison Dr.	-	-	12.3	C

SOURCE: DKS Associates, 1999.

- Richards Boulevard and First Street
 - LOS “F” during the a.m. and p.m. peak hours
- Richards Boulevard and Olive Drive
 - LOS “F” during the a.m. and p.m. peak hours
- Richards Boulevard and I-80 Eastbound Ramps
 - LOS “E” during the a.m. peak hour and LOS “F” during the p.m. peak hour
- Richards Boulevard and Research Park Drive
 - LOS “F” during the p.m. peak hour

To mitigate level of service violations, the 1997-98 Major Capital Improvement Projects DSEIR included Mitigation Measure 4.3-1 which includes continued Campus support for Transportation Systems Management (TSM) strategies to reduce Campus motorized vehicle trips (1994 LRDP EIR Mitigation Measure 4.3-1(a)), and revised the proposed physical improvements at several intersections (Mitigation Measure 4.3-1(b)).

1994 LRDP EIR Mitigation Measure 4.3-1(b) was revised in the 1997-98 Major Capital Improvement Projects SEIR as follows:

- 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 Road 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 / Covell 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.*

As described on page 8-23 of the 1997-98 Major Capital Improvement Projects DSEIR, compliance with Mitigation Measure 4.3-1(b) would reduce impacts to less-than-significant levels at three of six impacted intersections, but the impact would remain significant and unavoidable at the following three intersections.

Richards Boulevard and I-80 Eastbound Ramps

To meet the LOS standard at the intersection of the I-80 Eastbound Ramps and Richards Boulevard, substantial additional improvements would be required, which could include:

- Widening the Richards Boulevard Overcrossing of I-80 to provide three westbound lanes; or
- Providing a new "slip" off-ramp from I-80 eastbound to Richards Boulevard eastbound; or
- Providing a new "loop" on-ramp from Richards Boulevard southbound to I-80 eastbound south of the existing overcrossing.

The feasibility of these improvements is undetermined at this time, in view of potential traffic operations and right-of-way constraints that may preclude their development. These improvements are also outside the jurisdiction of the Campus.

Richards Boulevard and Olive Drive

The City of Davis recently amended its Transportation and Circulation Element to have the Richards Boulevard under crossing remain at two lanes. Traffic entering Downtown Davis will likely queue through this intersection for several hours of the day. The addition of traffic associated with the recently adopted Gateway/Olive Drive Specific Plan results in peak hour conditions which cannot be efficiently accommodated if Richards Boulevard remains at two lanes. No feasible improvements have been identified for this location which would improve LOS to better than "F" conditions. However, the City of Davis is studying TSM measures to mitigate congestion in this corridor.

Richards Boulevard and First Street

With the Richards Boulevard under crossing remaining at two lanes (per recent City of Davis actions), it is not possible to modify this intersection in a manner that would result in any substantial improvement to traffic operations. No feasible improvements have been identified for this location that would improve LOS to better than "F" conditions (see pages 8-25 to 8-31 of the 1997-98 Major Capital Improvement Projects DSEIR for a discussion of possible improvements). However, the City of Davis is studying TSM measures to mitigate congestion in this corridor.

Implementation of the proposed WHNRC would incrementally contribute to, but would not exceed, this impact previously identified in the 1997-98 Major Capital Improvement Projects SEIR. Specifically, as shown in Tables 5 and 7, with or without the project, LOS at the three intersections described above would be the same in both the p.m. and a.m. peak hours. The proposed project's incremental contribution to this cumulative impact is considered de minimis.

Furthermore, this impact was fully 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. It should be noted that improvements to the intersection of Health Science Drive and Hutchison are currently under construction, and will be completed in the Fall of 1999 to improve the efficiency of the intersection. Improvements to be completed include repaving and restriping Hutchison Drive to include a left turn lane for west bound traffic. This improvement will improve the flow of traffic for vehicles accessing the WHNRC facility.

- b) The proposed WHNRC has been conceptually designed in accordance with recognized guidelines and standards, such as those promulgated by the Campus, the federal government, and the State of California. The proposed project would not introduce any new safety hazards related to incompatible uses, such as farm equipment. Overall, implementation of the proposed WHNRC would not result in any design features or incompatible uses that would result in transportation safety hazards and no impact would occur.
- c) The location and design of the WHNRC would allow adequate emergency and general access by all modes. The buildings would not eliminate or unduly impede access to any existing uses. Vehicular, automobile, bicycle, and pedestrian connections would be provided from the project to adjacent uses and the overall Campus transportation system. Fire and other emergency access have been considered in the design of the new facilities. Therefore, no impact would occur related to emergency access.
- d) The Health Sciences District is currently served by parking lots 50, 51, 52, 53, 54, and 54A. Additionally, there is on-street parking on Health Sciences Drive. These lots and on-street parking provide a supply of 1,002 spaces.

UC Davis Transportation and Parking Services conducted parking occupancy surveys in Winter 1999. Based upon these surveys, the peak parking accumulation occurs at about 10:00 a.m., with a current demand of 800 spaces (including the Equine Analytical Chemistry Laboratory which will be occupied prior to completion of the WHNRC), or about 80 percent of the existing parking supply.

The proposed WHNRC would result in an increase in parking demand of 98 spaces in the Health Sciences District as follows:

- WHNRC non-staff parking – Based upon information utilized in the development of the plans for the facility, the proposed provision of 25 reserved parking spaces for visitors will be sufficient for this use.
- WHNRC staff parking – Based upon 100 employees and a parking ratio of 0.73 spaces per employee, there is a new demand for 73 spaces.

Therefore, with the proposed WHNRC, the total demand for parking in the Health Sciences District would be approximately 898 spaces (including 98 associated with the proposed project).

As described above, the proposed project would provide 25 reserved parking spaces for non-staff use. The remaining 73 spaces would need to be provided by Campus parking lots. In response to this additional demand of 73 spaces, the project would add approximately 60 new spaces to the north side of Lot 53 for a total inventory of 1,062 parking spaces. The resultant

utilization ratio would be about 85 percent. These calculations exclude the WHNRC non-staff parking (25 reserved parking spaces).

Therefore, implementation of the proposed WHNRC would not result in insufficient parking capacity, either on an immediate or cumulative basis. It should be noted that the 1994 LRDP anticipated construction of another surface parking lot to the north of Lot 53 at the proposed site of the WHNRC to accommodate future growth in the Health Sciences District. Based on further review, and the redesignation of Parking use to High Density Academic and Administrative to accommodate the proposed WHNRC, the Campus has determined that instead of building another surface parking lot, that a parking structure or deck could be constructed on Lot 53 as part of a future project to accommodate future growth. Therefore, impacts on campus parking inventory would be less than significant and no mitigation is required.

- e,f) The proposed WHNRC would increase bicycle and pedestrian traffic in the Health Sciences District by adding 100 new employees. The Health Sciences District of the campus includes an extensive existing system of pedestrian and bicycle facilities, including bike paths, bike routes, and pedestrian ways. The proposed project will be well integrated into the bicycle and pedestrian network of the Health Sciences District. The project area would also be planned for adequate bicycle parking at the building. The LRDP includes future additional bicycle and pedestrian facilities, which are not precluded by the project. Therefore, existing and proposed bicycle and pedestrian facilities are considered adequate to serve the project. Impacts to bicycle and pedestrian facilities are less than significant and no mitigation is required.
- g,h) The proposed WHNRC would result in approximately 100 new employees on campus and would contribute to a minimal increased demand for transit services. The 1994 LRDP EIR identified the following mitigation measure to address the need for increased transit services:

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.*

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. Continued compliance with 1994 LRDP EIR Mitigation Measure 4.3-5 will ensure no new impacts relating to increased transit service other than those previously identified in the 1994 LRDP EIR. Therefore, significant transit service 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 additional mitigation is required.

- i) The proposed WHNRC does not include uses that would result in changes to air traffic patterns. Therefore no impact would occur.

Summary

The proposed WHNRC would not result in any new or significant impacts related to hazards from design features, emergency access, pedestrian and bicycle traffic and conflicts, conflicts with adopted

alternative transportation policies, transit services, or rail, waterborne or air traffic impacts that have not already been examined in the 1994 LRDP EIR, and 1994 LRDP EIR Mitigation Measures 4.3-1(b) (as revised by the 1997-98 Major Capital Improvement Projects SEIR) and 4.3-5 will be implemented as part of the project. Although the WHNRC would increase traffic volumes over existing conditions, no project-specific level of service violations would occur and this impact would be less than significant. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
8. BIOLOGICAL RESOURCES.				
<i>Would the proposal:</i>				
a. Adversely impact, either directly or through habitat modifications, any endangered, threatened or rare species, as listed in Title 14 of the California Code of Regulations (Sections 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12) or their habitats (including, but not limited to plants, fish, insects, animals, and birds)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Adversely impact federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with any local policies or ordinances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
protecting biological resources, such as a tree preservation policy or ordinance?				
g. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
* This new potentially significant project-specific impact is reduced to a less than significant level by mitigation measure(s) included in this Tiered Initial Study.				

Discussion

Biological Resource issues are addressed in Section 4.7 of the 1994 LRDP EIR, as amended by the LRDP FEIR; in Section 4.4 of the 1997 WWTP Replacement Project DEIR, as amended by the WWTP FEIR; Sections 5.5, 6.5, 7.5 and Chapter 8 of the 1997-98 Major Capital Improvement Projects DSEIR, as amended by the FSEIR, and Item 7 of the Center for the Arts Tiered Initial Study and Mitigated Negative Declaration, as amended by the Final Initial Study and Mitigated Negative Declaration.

a,b,e) The 1994 LRDP EIR included a map identifying habitat types on the campus (Figure 4.7-1 on page 4.7-3). The proposed WHNRC site is located on land designated as Ruderal/Annual Grassland habitat. Ruderal/Annual Grassland is found along the edges of roads and fields, vacant uncultivated areas, and along the levee banks and upland flood plain of Putah Creek. This habitat type is a result of regular past or current disturbance from agricultural practices, road and levee maintenance, and proximity to roads and buildings. It typically occurs as open treeless grassland composed primarily of annual plant species. There are no mature trees on the project site.

The composition of the Ruderal/Annual Grassland habitat consists largely of non-native introduced annual grasses and forbs. Because of the aggressive nature of these introduced plants and the virtual extirpation of many native plant species, they have become naturalized as the dominant species and have excluded the growth of native perennial grassland species that occurred prior to settlement and cultivation of the area. Vegetation observed on the proposed sites includes disturbed annual grassland primarily consisting of weedy colonizing species, including Italian ryegrass, foxtail barley, slender wild oats, field bindweed, and bur-clover.¹⁰

Grassland edges to the fields and roads provide food, cover, and movement corridors for resident and migratory wildlife species. Small mammals, reptiles, and birds can be found in this habitat type. Because of its recent decline in the region, the burrowing owl is perhaps the most notable wildlife species that has been observed nesting and foraging in Ruderal/Annual Grassland on Campus.

Special-Status Plants

The 1994 LRDP EIR (page 4.7-8) defines special-status species to include those taxa that are listed as threatened or endangered under either the California or Federal Endangered Species Acts, species that are candidates for either state or federal listing, and species afforded protection under the Fish and Game Code of California. Also included as a Special-status species are California Department of Fish and Game (DFG) "Species of Special Concern".

As discussed on page 4.7-19 of the 1994 LRDP DEIR, the potential occurrence of special-status plant species on the Campus is highly unlikely due to the modified and regularly disturbed nature of most of the Campus and the lack of suitable soils or hydrologic conditions. Furthermore, recent rare plant surveys of parcels on the Main Campus have resulted in no observations of any rare plants. Additionally, most of the grassland species observed during these floristic inventories have been non-native species typical of disturbed and altered landscapes. While the probability of occurrence of any special-status plant species is extremely low, the 1994 LRDP EIR included the following mitigation measures to identify the presence of special-status plants:

- 4.7-1(a) *During the project planning phase, the Campus shall conduct a rare plant survey if the site was previously undeveloped. Surveys shall be conducted by qualified biologists in accordance with the most current DFG/USFWS guidelines or protocols and shall be conducted at the time of year when the plants in question are identifiable. (Identification periods are included in Table 4.7-1, however, survey timing for the various plant species is dependent in part on yearly rainfall patterns and is determined on a case-by-case basis).*

In accordance with 1994 LRDP EIR Mitigation Measure 4.7-1(a), a rare plant survey for special status species was performed to determine the impacts of the proposed project.¹¹ A list of potentially occurring special-status plants was generated through review of the California Natural Diversity Data Base (CNDDDB) and the California Native Plant Society (CNPS) Electronic Inventory of Vascular Plants. The plants identified by the CNDDDB and CNPS search for the proposed project are listed in Table 4.7-1, Special-Status Plant Species with the Potential to Occur in the Vicinity of UC Davis, on pages 4.7-8 through 4.7-13 of the 1994 LRDP DEIR. Special-status plant surveys were conducted on foot by walking transects across the undeveloped open space in the Health Sciences District (including the proposed WHNRC site).

Results of the survey, which was conducted in May 1998, identified no special-status plant species. Therefore, there would be no impact on rare plants, and additional mitigation is not required.

Wildlife

Burrowing Owls

As discussed on pages 4.7-15 and 4.7-16 of the 1994 LRDP DEIR, the burrowing owl is fully protected against take pursuant to Section 3503.5 of the California Fish and Game (DFG) Code and is a DFG species of special concern. Burrowing owls are small birds with the relatively unique habits of being active during the day as well as in the evening and nesting underground. They typically use burrow systems created by ground squirrels or other large burrow-dwelling rodents. Their diet is usually dominated by insects but may also include small mammals, reptiles, and amphibians. Burrowing owls generally forage in open fields with relatively sparse, short vegetation; their foraging ability is disrupted by dense tall vegetation.

Nesting burrowing owls have been recorded at various Central Campus locations, including the Health Sciences District since 1981. No information is available on the status of burrowing owls on the Central Campus prior to 1981. A significant reduction in the number of breeding pairs has occurred since 22 pairs were observed in 1981. Only 12 pairs were observed in 1986, and breeding was not observed on the Central Campus from 1992 through 1997. Only one burrowing owl was observed in the Health Sciences District of the Central Campus for about two weeks in 1992.

As described on pages 4.7-15 and 4.7-16 of the 1994 LRDP DEIR, the declining population of burrowing owls on the campus persisted longest on the open fields in and around the Health Sciences District. These lands were used for agricultural research, including many orchards, until the construction of the Veterinary and Medical Schools and the multi-lane State Highway 113. These facilities were built from the early 1960s through the mid-1970s. Undeveloped lands to the east and north of the Veterinary and Medical schools had been actively farmed for decades, typically in dryland crops such as safflower and oats. As a result of farming practices, the entire area was disced on an annual basis and the dense crops were unsuitable foraging and nesting habitat for burrowing owls during most of the year. More recently, these lands have been managed primarily for weed control, a practice that prevents growth of tall, dense vegetation, keeping it open and potentially suitable for nesting and foraging by burrowing owls. Since at least the mid-1980s, Campus management of these fields have considered the presence of burrowing owls. Typical weed control activities include identifying the location of burrows occupied by burrowing owls, mowing the fields once or twice a year away from the burrows, and, when needed to keep the habitat open, trimming the vegetation immediately around active burrows with hand equipment. The fields are also managed to control ground squirrels. The field immediately north of Medical Sciences 1A Building and west of Parking Lot 54 has been posted with signs identifying the area as burrowing owl habitat and generally has been mowed instead of disced to control weeds. Posting the area with signs was intended to benefit burrowing owls by minimizing disturbance by people walking through the fields.

The 1994 LRDP EIR identified the following mitigation measure to monitor the location of burrowing owls in the vicinity of the Health Sciences District:

4.7-3(a) The Campus shall continue to monitor the area around the Medical Sciences Complex for the presence or absence of burrowing owls.

Consistent with 1994 LRDP EIR Mitigation Measure 4.7-3(a), the Campus has been monitoring the area around the Health Sciences District. The area surveyed was bordered by Highway 113 to the west, Orchard Park to the north, Dairy Road to the east, and the Equestrian Center to the south. The burrowing owls surveys were conducted in accordance with the burrowing owl protocol survey guidelines recommended by the DFG. From 1992 through 1998, burrowing owl surveys were conducted from February through November so that an opportunity to observe owls during the entire nesting season was possible. Beginning January 1999, surveys have been conducted approximately once every three weeks. Surveys were conducted on foot during the recommended time of day to locate burrowing owls and potential burrows.

In 1993, 1994, 1995, and 1996, no burrowing owls were observed in the survey area. In 1997, burrowing owls were observed sporadically between March and November in the field east of the Health Sciences complex south of the bicycle path. Nesting was not documented in 1997.

Also during March field surveys, pellets and white wash were identified at a burrow entrance. A single pair of burrowing owls nested near the intersection of Garrod Drive and Veterinary Medical Drive, approximately 1,500 feet southeast of the proposed project site in 1998, the first recorded nesting pair on the Central Campus since 1991. In addition, during February and March 1998 a single bird was observed in the vicinity of Hutchison Drive and La Rue Road, and on March 30, 1998 this bird was observed on the project site. This apparently unmated bird was not observed subsequently in 1998. During January through August 1999, two pairs of burrowing owls were observed in the fields east of the Health Sciences complex and two pairs produced young. The nearest birds were located approximately 1,300 feet east of the project site. No owls were recorded on the project site or the fields to the north or west through August 1999.

Based on the current location of burrowing owls in the fields around the Health Sciences complex, the proposed project would not affect burrows being used by owls. However, the location of the owls could change prior to the start of construction. To ensure that the location of owls is known, the campus should continue to implement LRDP Mitigation Measure 4.7-4(b). In addition, the 1994 LRDP EIR identified the following mitigation measure:

4.7-3(b) *The Campus, in consultation with the DFG, shall conduct a pre-construction breeding-season survey (approximately February 1 through August 31) of proposed project sites during the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist to determine if any burrowing owls are nesting on or directly adjacent to any proposed project site.*

If phased construction procedures are planned for the proposed project, the results of the above survey shall be valid only for the season when it is conducted.

If the above survey or the annual survey does not identify any owls on the project site, then no further mitigation would be required. However, should any burrowing owls be found nesting on or adjacent to the project site, then the following 1994 LRDP EIR mitigation measure would be implemented.

4.7-3(c) *During the construction stage, the Campus in consultation with the DFG, shall avoid all burrowing owl nest sites potentially disturbed by project construction during the breeding season while the nest is occupied with adults and/or young. The occupied nest site shall be monitored by a qualified biologist to determine when the nest is no longer used. Avoidance shall include the establishment of a 300-foot to 500-foot diameter non-disturbance buffer zone around the nest site. Disturbance of any nest sites shall only occur outside of the breeding season and when the nests are unoccupied based on monitoring by a DFG approved biologist. The buffer zone shall be delineated by highly visible temporary construction fencing.*

Based on approval by DFG, pre-construction and pre-breeding season exclusion measures may be implemented to preclude burrowing owl occupation of the project site prior to project-related disturbance.

Implementation of 1994 LRDP EIR Mitigation Measure 4.7-3(c) would ensure that the location of burrowing owls on or adjacent to the project site is known, that occupied burrows would not be harmed, and that active burrows would be protected during the nesting season. If active burrows are found on the site, the following mitigation measure would reduce this impact to a less-than-significant level.

Project-Specific Mitigation Measures

2. *Based on approval by the California Department of Fish and Game, owls using burrows on or adjacent to the project site could be relocated to a nearby natural burrow or an artificial burrow.*

Construction of the proposed WHNRC would result in the conversion of approximately 2.4-acres of Ruderal/Annual Grassland habitat to developed urban area and the loss of potential burrowing owl nesting and foraging habitat. This conversion of habitat was included under buildout of the 1994 LRDP. However, in order to mitigate for the loss of burrowing owl habitat, the 1994 LRDP EIR, as amended by the 1997-98 Major Capital Improvement Projects SEIR included Mitigation Measure 6.5-3. In order to provide the Campus with more flexibility as to the selection of land at the Russell Ranch to provide suitable burrowing owl nesting habitat, 1997-98 Major Capital Improvement Project SEIR Mitigation Measure 6.5-3 has been revised to read as follows:

6.5-3 *In addition, to the compensation for the loss of Swainson's hawk foraging habitat identified in the 1994 LRDP EIR Mitigation Measure 4.7-5, the Campus shall also convert either the approximately 55 acres of existing orchards adjacent to Putah Creek at the Russell Ranch, or a portion of the 85 acre designated habitat restoration and research area to cover type suitable for burrowing owl nesting habitat.*

Compliance with 1994 LRDP EIR Mitigation Measures 4.7-3(b) and 4.7-3(c), 1997-98 Major Capital Improvement Projects SEIR Mitigation Measure 6.5-3 (as revised) and Project-Specific Mitigation Measure 2 would ensure that the proposed project would result in no new impacts related to burrowing owls beyond those previously identified in the 1994 LRDP EIR. Therefore, significant burrowing owl impacts have been mitigated to a less-than-significant level and no further mitigation is required.

Swainson's Hawks and Other Raptors

The occurrence of the Swainson's hawk in and around the Campus is well documented. Surveys for Swainson's hawk nests on the Campus and within one-half mile of the Central Campus have been conducted annually since 1990. The results of these surveys documented up to 46 different nest trees on the Campus during that period.¹² Most of the Swainson's hawk nests are located in the Putah Creek riparian corridor.

The 1994 LRDP EIR identified the following mitigation measure to reduce impacts on established raptor nests to a less-than-significant level:

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 would 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 would no longer be considered as a Swainson's hawk nest site subject to this mitigation.

As discussed above, in accordance with 1994 LRDP EIR Mitigation Measure 4.7-4(b), Campus wide raptor surveys have been conducted annually since 1990.

Between 1994 and 1998, four active Swainson's hawk nests have been recorded within one-half mile of the proposed WHNRC site. One nest is located southwest of the project sites where Garrod Road crosses Hwy 113. This nest was active in 1997, but not in 1998. Two nests were

documented as active in 1995 which were located south of the project site by the Putah Creek North Fork Cutoff west of Hwy 113. Nests south of the project site are screened by academic and administrative uses or landscaping in the Health Sciences District and are adjacent to (i.e., within 50-100 feet) of Highway 113. All three of these nests are at sites at least 1,200 feet from the proposed project site, and the nesting birds are accustomed to high levels of human activity.

Another nest was documented north of the project site just east of Hwy 113 and north of Extension Center Drive. This nest was active in 1995, but produced no fledglings. It is located approximately 1,800 feet north of the project site and is screened by existing trees.

The 1994 LRDP EIR identified the following mitigation measure to reduce the potential failure of Swainson's hawk nests to a less-than-significant level:

- 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 DFG, 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.

- 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.

In accordance with 1994 LRDP EIR Mitigation Measure 4.7-6(a) and (b), the Campus would conduct pre-construction surveys beginning in March of the year of construction, which is at the beginning of the nesting season. By conducting presence/absence pre-construction surveys, nesting Swainson's hawks within one-half mile of the project site would be identified. If a nesting pair is located during the pre-construction surveys, then consultation with DFG would determine the potential for disturbance. In consultation with DFG, the Campus would implement feasible changes in the project in response to the specific circumstances to mitigate impacts to a less-than-significant level.

Compliance with LRDP EIR Mitigation Measures 4.7-4(b) and 4.7-6(a) and (b) would ensure that the proposed WHNRC would not result in new impacts to nesting Swainson's hawks and other raptors beyond those previously identified in the 1994 LRDP EIR. Therefore, significant Swainson's hawk and other raptor species nesting 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.

As described above, development of the proposed WHNRC would result in the conversion of approximately 2.4 acres of Ruderal/Annual Grassland habitat to developed urban area and the loss of Swainson's hawk foraging habitat. The conversion of approximately 2.4 acres of Ruderal/Annual Grassland attributed to development of the WHNRC was anticipated with

buildout of the 1994 LRDP. The 1994 LRDP EIR identified the following mitigation measure to reduce impacts on Swainson's hawk foraging habitat to a less-than-significant level:

- 4.7-5 *As Agricultural Land and Ruderal/Annual Grassland habitat is converted to Campus development under the 1994 LRDP EIR, the Campus will compensate for the loss of Swainson's hawk foraging habitat at a 1:1 ratio of acres lost to acres preserved through the implementation of one or a combination of the following methods.*
- *Approximately 40 acres of Cropland habitat in the "C" tract adjacent to the Putah Creek Reserve on the West Campus will remain Campus agricultural research uses but will be under land use restrictions that will ensure cropland cover types that are suitable as Swainson's hawk foraging habitat. No incompatible uses such as orchards, vineyard, or development will be allowed in the areas set aside for Swainson's hawk foraging habitat. However, normal crop rotations may periodically result in unsuitable cover types of annual crops.*
 - *Approximately 20 acres of land within the North Fork Cutoff that currently support livestock enclosures will be restored to a woodland and grassland habitat. No livestock shall be allowed within the restoration area.*
 - *Approximately 55 acres of existing orchards adjacent to Putah Creek at the Russell Ranch will be removed, converted to a cover type suitable for Swainson's hawk foraging, and added to the Putah Creek Reserve.*
 - *Approximately 85 acres at the Russell Ranch that have been designated as a habitat restoration and research area will include the establishment of cover types that are suitable Swainson's hawk foraging habitat.*

Consistent with 1994 LRDP EIR Mitigation Measure 4.7-5, plans are currently being developed for the conversion of the Russell Ranch and implementation is expected to begin in Spring 2000. Compliance with 1994 LRDP EIR Mitigation Measure 4.7-5 would ensure that the proposed project would result in no new impacts related to loss of Swainson's hawk foraging habitat beyond those previously identified in the 1994 LRDP EIR. Therefore, significant impacts associated with the loss of Swainson's hawk foraging habitat 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, identified buildout of the LRDP would result in the significant and unavoidable loss of 251 acres of Agricultural Land and Ruderal/Annual Grassland habitat. The proposed project would contribute to (approximately 2.4 acres), but not exceed this cumulative loss. The proposed projects incremental contribution to this cumulative impact is so small (2.4 acres out of 251 acres) that is considered to be de minimis. Furthermore, this significant and unavoidable cumulative impact was fully 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.

- c) The proposed WHNRC site is not located adjacent to a stream corridor and is not designated as a sensitive natural community. Therefore, there would be no impact to riparian habitat or other sensitive natural communities. The proposed project site is designated as Annual Grassland habitat in the 1994 LRDP (please see the discussion under Items a,b,e).

- d) No wetland habitat is known to occur or is anticipated to occur on the proposed WHNRC site.¹³ Therefore, no impacts would occur to wetland habitat.
- f,g) No trees would be removed to accommodate construction of the proposed WHNRC. The proposed project would not conflict with any policies, ordinances, or adopted habitat conservation plans. Therefore, no impact would occur.

Summary

The proposed WHNRC would not result in any new or significant biological resources impacts that have not already been examined adequately in the 1994 LRDP EIR, and Mitigation Measures 4.7-1(a), 4.7-3(a) through (c), 4.7-4(b), 4.7-5, 4.7-6 (a) and (b), 1997-98 Major Capital Improvement Projects SEIR Mitigation Measure 6.5-3 (as revised), and Project-Specific Mitigation Measure 2 will be implemented as part of the proposed WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
9. MINERAL RESOURCES.				
<i>Would the proposal:</i>				
a. Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of future value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a designated locally important mineral resource recovery site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

- a,b,c) As described on page 4.9-9 of the 1994 LRDP DEIR, there are no known mineral resources identified on the Campus. Natural gas has been identified under a portion of the Campus, but development of the proposed WHNRC would not affect the availability of any mineral resource. Therefore, no impact would occur.

Summary

The proposed WHNRC would not result in any new or significant energy and/or mineral resource impacts that have not already been adequately examined in the 1994 LRDP EIR. There would be no impacts on mineral resources.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
10. HAZARDS AND HAZARDOUS MATERIALS.				
<i>Would the proposal involve:</i>				
a. Exposure to existing hazardous materials (including sites identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5) or waste contamination during construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Increased use of hazardous chemicals and disposal of hazardous waste that could expose people to potential health and safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Increased use of radioactive materials and disposal of radioactive waste that could expose people to potential health and safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Increased use of biohazardous materials and disposal of biohazardous waste that could expose people to potential health and safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Increased use of laboratory animals that could increase the risk of animal bites, escapes, and disease transmission?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Increased transportation of hazardous materials to, from, and within the Campus that could expose people to potential health and safety risks as a result of an accidental release?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Result in a safety hazard for people residing or working in the vicinity of an airport?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Expose people or structures to the risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Hazardous materials and public safety issues are addressed in Section 4.6 of the 1994 LRDP DEIR, as amended by the LRDP FEIR, and in Chapter 4.3 of the WWTP Replacement Project DEIR, as amended by the WWTP FEIR.

- a) The 1994 LRDP DEIR (pages 4.6-25 through 4.6-30) identified the potential for soil or groundwater contamination as a result of various Campus activities to be present in areas that could be developed under the 1994 LRDP. Construction of projects in such locations could

expose Campus occupants and construction workers to contaminated soil or groundwater as a result of past uses of the various sites. Exposure to hazardous materials in contaminated soil or groundwater could cause various short- or long-term health effects in persons exposed to the contamination. Work at locations that are contaminated with hazardous materials could pose adverse health and safety risks for workers or the public if the contaminants are not identified and properly managed. The 1994 LRDP EIR identified Mitigation Measure 4.6-16(a) to reduce exposure of construction workers and Campus occupants to contaminated soil or groundwater during construction:

- 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 existing buildings on each site investigated for the presence of hazardous materials or wastes by completing a "due diligence checklist."*

Figure 4.6-1 on page 4.6-28 of the 1994 LRDP DEIR identified on-Campus locations requiring further investigation for soil and groundwater contamination. Although no locations were identified in the proposed WHNRC construction site, a Phase 1A Preliminary Site Assessment as part of the due diligence process has been completed for the WHNRC construction site in accordance with Mitigation Measures 4.6-16(a). The investigation included a review of University and publicly available documents, maps, and historical aerial photographs, interviews with persons knowledgeable about past activities on the project sites, limited site reconnaissance, and a review of federal, State, and local lists pertaining to hazardous substances and waste sites, and inquiries to the Campus Office of Environmental Health and Safety for information regarding the sites. The results of the investigation indicated that no environmental issues or conditions were identified that would prohibit the University from proceeding with the construction project.¹⁴ Therefore, the proposed WHNRC would not expose persons to existing hazardous materials or waste contamination during construction activities.

Cumulative Impacts

The 1994 LRDP, as amended, concluded that development of potentially contaminated sites on Campus, in combination with other adjacent development, could pose cumulative health and safety risks to site workers and the public. This cumulative impact was considered significant and unavoidable. Based on the results of the survey for the project site described above, no existing site contamination exists and the WHNRC construction would not contribute to a cumulative impact related to the development of potentially contaminated sites identified in the 1994 LRDP EIR. Furthermore, this significant and unavoidable impact was fully addressed in the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP EIR, as amended.

- b) Construction of the proposed WHNRC could involve the use of various products that could contain materials classified as hazardous. Fuels, such as gasoline and diesel, would also be used 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, and contract specifications would also contain specific provisions regarding the use of these products and compliance with applicable regulations and standards. Contract specifications would also require the use of temporary impermeable surfaces that would be placed under construction staging areas to protect soil and groundwater from contamination from inadvertent spills or leaks.

The proposed WHNRC includes laboratories for instruction and research that add to existing facilities and replace some existing laboratories found in other buildings on campus. The proposed project would involve an increase in laboratory space on campus, and therefore would increase the use of hazardous materials. The proposed WHNRC would include 1,280 square feet of non-hazardous laboratory areas and 9,700 sq. ft. of hazardous laboratory areas.

The 1994 LRDP EIR identified increased use and generation of hazardous chemicals as potentially significant impacts (see pages 4.6-40 through 4.6-45) and identified the following mitigation measures to reduce the magnitude of impacts.

- 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:*
- (i) *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.*
 - (ii) *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.*
 - (iii) *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.*
- 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.*
- 4.6-1(c) *Biennial health and safety audits shall be conducted by individuals independent of the Campus.*

In conformance with 1994 LRDP EIR Mitigation Measure 4.6-1(iii), the Waste Minimization Coordinator was established in 1994. The Campus also has biennial audits conducted by a third party to document the compliance status of campus departments and units (1994 LRDP EIR Mitigation Measures 4.6-1(b) and (c)).

- 4.6-2(a) *Implement the following steps at the existing hazardous materials accumulation facility to reduce risks to health, safety, and the environment in the interim, before a new facility is built.*
- *Ventilation exhaust fans would be added to the flammable liquid storage bin where non-Dot containers are accumulated prior to packaging. As an alternative, a Certified Industrial Hygienist would prepare a plan to ensure the safety of workers who would enter the storage bin, and UC Davis would implement the plan. One element of the plan could be to use supplied-air breathing apparatuses when entering the cargo container. A worker exposure monitoring program would also be included in the plan.*

- *As identified in Mitigation Measure No. 1, a Waste Minimization Coordinator position would be established. The result would be a gradual reduction in the volume of waste produced by existing facilities and a reduction in the volume expected to be produced at new facilities.*
- *An increase in resources (staff and funds) sufficient to improve operational controls, including, but not limited to, monthly safety and compliance audits and improved training at the facility. This change would (1) allow faster processing of wastes for shipment to treatment facilities or disposal, reducing the time hazardous chemical and radioactive wastes are on campus and (2) ensure that safety controls such as OSHA training, correct practices, and safety equipment are in place.*

4.6-2(b) *The Campus shall complete and occupy the proposed Environmental Services Facility and close the current environmental services facility.*

Construction of the new Campus Environmental Services Facility (ESF) was completed in May of 1999. Therefore, the new ESF will be operational before the proposed WHNRC is completed. In accordance with Mitigation Measure 4.6-2(a), the Campus has implemented the required measures at the existing ESF to reduce potential risks including establishment of the Waste Minimization Coordinator, incorporation of ventilation exhaust fans in the existing ESF, and implementation of a worker safety plan for material handling at the existing ESF. All hazardous waste will be handled by the ESF. The WHNRC facility will be required to adopt and comply with all the standards applicable to Campus units.

Continued compliance with LRDP EIR Mitigation Measure 4.6-1(a) through (c) would ensure that the proposed WHNRC would not result in new hazardous materials use, storage and generation impacts other than those previously identified in the 1994 LRDP EIR. Therefore, significant hazardous materials use, storage and generation 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that increased use of hazardous materials related to cumulative development in the region would increase the number of people exposed to health hazards associated with such use and would place an additional load on waste management facilities. These cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed these impacts identified under the 1994 LRDP. The proposed project's incremental contribution (associated with approximately 5,820 asf of lab use) to these cumulative impacts is so small that it is considered to be de minimis.

- c) The proposed WHNRC includes various laboratories for instruction and research that add to existing facilities. The proposed project would involve an increase in laboratory space on campus that would result in an increase in the use of radioactive materials. The proposed WHNRC would include the use of radioactive compounds in the laboratory for analyzing hormones in blood samples.

The 1994 LRDP EIR identified increased use of radioactive materials and generation of radioactive waste as potentially significant impacts (see pages 4.6-48 through 4.6-51) and identified the following mitigation measures to reduce the magnitude of impacts to a less-than-significant level.

4.6-5(a) *The Campus shall strengthen its health physics program commensurately with changes in the hazards associated with campus radioactive materials use.*

4.6-5(b) *Implement Mitigation Measures 4.6-1(a) through (c).*

4.6-6(a) *The Campus shall complete and occupy the proposed Environmental Services Facility and close the current environmental services facility.*

As previously described, the new ESF will be operational prior to completion of the proposed WHNRC. The Campus has a Waste Minimization Coordinator and has implemented biennial audits of campus departments and units to document compliance with hazardous material regulations.

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.*

A formal Radiation Waste Minimization Plan is under development. Laboratory staff are given waste minimization training if their work involves the handling of radioactive materials and the training is updated annually. Radiation workers are tracked to assure compliance with the requirement for receiving training.

Compliance with 1994 LRDP EIR Mitigation Measures 4.6-5(a) and (b), and 4.6-6 (d) would ensure that the proposed WHNRC would not result in new radioactive material use, storage and generation impacts other than these previously identified in the 1994 LRDP EIR. Therefore, significant radioactive material use, storage and generation 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that increased use of radioactive materials and generation of radioactive waste related to cumulative development in the region would increase the number of people exposed to health hazards associated with such use and would place an additional load on waste management facilities. These cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed these impacts identified under the 1994 LRDP. The proposed project's incremental contribution (associated with approximately 5,820 asf of lab use) to these cumulative impacts is so small that it is considered to be de minimis. Furthermore, these 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.

- d) The proposed WHNRC includes various laboratories for research that could result in an increase in the use of biohazardous materials. The 1994 LRDP EIR identified increased use of biohazardous materials as a potentially significant impact (see pages 4.6-52 through 4.6-56). The 1994 LRDP EIR identified Mitigation Measure 4.6-1(a) through (c), as listed above, to reduce the impact from increased use of biohazardous materials to a less-than-significant level. It should be noted that the increased generation of biohazardous waste that could expose campus occupants to risks was considered to be a less-than-significant impact. However, the following mitigation was identified to further reduce impacts:

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.

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 to ensure satisfactory compliance.*

Compliance with 1994 LRDP EIR Mitigation Measures 4.6-11(b) and (c) would ensure that the proposed WHNRC would not result in new biohazardous materials use, storage and generation impacts other than those previously identified in the 1994 LRDP EIR. Therefore, significant biohazardous materials 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that increased use of biohazardous materials and generation of biohazardous waste related to cumulative development in the region would increase the number of people exposed to health hazards associated with such use. This cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed impacts associated with increased use of biohazardous materials identified under the 1994 LRDP. The proposed project's incremental contribution (associated with approximately 5,820 asf of lab use) to this cumulative impacts is so small that it is considered to be de minimis. 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 development under the 1994 LRDP, in conjunction with cumulative development in the region, would increase the generation of medical waste which would place an additional load on available management facilities. This cumulative impact was considered less than significant because appropriate waste management policies and practices would continue to be followed. The proposed project would contribute to, but not exceed increased medical waste generation identified under the 1994 LRDP. The proposed project's contribution (associated with approximately 5,820 asf of lab use) to this less than significant cumulative impact is so small that it is considered to be de minimis.

- e) The use of small animals, such as mice, would continue and slightly increase at the proposed WHNRC. The animals would be used during experimental procedures, but would not be bred or stored for extended periods onsite. No infectious animals would be used at the WHNRC. The 1994 LRDP EIR identified the increased use of laboratory animals as a potentially significant impact (see pages 4.6-56 through 4.6-58). Compliance with LRDP Mitigation Measure 4.6-10, which requires implementation of Mitigation Measure 4.6-1 (a) through (c), as identified above for increased hazardous chemical use, would ensure that the proposed WHNRC would not result in new impacts relating to increased laboratory animal use than previously identified in the 1994 LRDP EIR. Therefore, significant laboratory animal use 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.

- f) The new labs at the proposed WHNRC would operate within the normal range of wet chemistry. However, due to the slight increase in overall lab space there would be an increase in the use, storage and transportation of chemical, radioactive and biohazardous (anatomical parts) materials. However, 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 proposed WHNRC would also incrementally contribute to, but not exceed, cumulative hazardous materials transportation impacts and no mitigation is required. Cumulative hazardous materials 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).

- g) The University Airport is a public use airport designed to accommodate aircraft up to 12,500 pounds, which includes most single-engine and some light twin-engine planes. According to the 1994 LRDP EIR, although the University Airport, as a university-owned facility, is outside the jurisdiction of the local Airport Land Use commission, future land use compatibility guidelines to attenuate noise, height and safety impacts based on the Federal Aviation Administration requirements have been prepared by the Sacramento Area Council of Governments. The proposed WHNRC site is located on the Central Campus approximately one mile east of the University Airport and is not in the direct vicinity of the University Airport. Therefore, no impact would occur due to safety hazards related to the airport.
- h) No existing streets or access points are planned for temporary or permanent alteration. Therefore, neither on-site staging of construction equipment, nor travel between sources of construction material and the site, would result in interference with an emergency plan or emergency evacuation plan.

As discussed in Item 7c, construction and operation impacts related to emergency response or emergency evacuation routes and access would be less than significant.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that increased campus operations, in conjunction with anticipated growth in the City of Davis, could contribute to cumulative demand for emergency response capabilities in the Davis area. This cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed impacts associated with increased demand for emergency response identified under the 1994 LRDP.

The proposed project's incremental contribution (associated with approximately 5,820 asf of lab use) to this cumulative impacts is so small that it is considered to be de minimis. 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.

- i) Implementation of the proposed project would not increase existing wildland fire hazards in the Central Campus because it is not located in an area containing large amounts of flammable

brush, grass or trees. The proposed project would be surrounded by existing developed uses that include buildings and roadways, which would minimize the potential for vegetation-related fire hazards. The open fields to the north are regularly mowed to control weeds and reduce fire dangers. Therefore, implementation of the proposed WHNRC would not increase the existing wildland fire hazard in areas with flammable brush, grass, or trees over that which currently exists. Impacts would be less than significant and no mitigation is required.

Summary

The proposed WHNRC would not result in any new or significant hazards impacts that have not already been adequately examined in the 1994 LRDP EIR and Mitigation Measures 4.6-6(d) and 4.6-11(b) and (c) will be implemented as part of the WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
11. NOISE.				
<i>Would the proposal result in:</i>				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Noise issues are addressed in Section 4.4 of the 1994 LRDP DEIR, as amended by the LRDP FEIR; in Section 4.8 of the 1997 WWTP Replacement Project DEIR, as amended by the WWTP FEIR; and Sections 4.7, 5.8, 6.8, 7.8 and Chapter 8 of the 1997-1998 Major Capital Improvements Projects DSEIR, as amended by the FSEIR.

- a,c,d) According to the 1994 LRDP EIR, ambient noise levels for the Central Campus range from approximately 53 to 66 A-weighted decibels (dBA). The proposed approximately 2.4-acre WHNRC site is located in the Health Sciences District area. Surrounding land uses include Parking Lots 53 and 54, Open Space to the north, and Tupper Hall and other High Density Academic and Administrative buildings to the south. Surrounding 1994 LRDP land use designations include Open Space Reserve, Parking, and High Density Academic and Administrative. Surrounding sensitive uses include academic and administrative uses. Ambient noise level measurements taken for the 1994 LRDP DEIR in the vicinity of the proposed WHNRC site (at the west end of Veterinary Medicine Drive) measured 53 L_{eq} (see page 4.4-11 of the 1994 LRDP DEIR).

Construction

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

Construction activities may cause noise levels to exceed 60 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 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.

Construction activity associated with the proposed WHNRC would result in short-term increases in existing noise levels, which could adversely affect adjacent academic uses. The 1994 LRDP EIR identified the following mitigation measure to reduce impacts from construction noise to a less-than-significant level.

- 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.*

Compliance with 1994 LRDP EIR Mitigation Measure 4.4-1(a) through (f) would ensure that the proposed project would not result in new or significant impacts relating to construction noise beyond those previously identified in the 1994 LRDP EIR. Therefore, significant construction noise 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.

Operation

The proposed WHNRC involves the operation of High Density Academic and Administrative facilities and associated landscaping and parking. As described on page 4.4-25 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 WHNRC 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 proposed WHNRC would not result in a substantial increase in vehicle traffic in the Health Sciences District (see the discussion under Item 6a). However, the proposed WHNRC would result in an increase in vehicle traffic that could expose existing and proposed academic and administrative uses to increased noise levels.

The 1994 LRDP EIR included the following mitigation measures to reduce this impact to a less-than-significant level:

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

- 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.*

Consistent with 1994 LRDP EIR Mitigation Measure 4.4-3(a), noise measurements were taken at the proposed project site just northwest of Tupper Hall. Noise levels measured approximately 58 dBA¹⁵, or 68 L_{dn} ¹⁶. The dominant noise source in the vicinity of the proposed WHNRC site is the Tupper Hall ventilation system located on the north side of Tupper Hall, and not traffic from nearby West Health Science Drive. Therefore, it is not anticipated that the increase in vehicle traffic associated with operation of the WHNRC would result in noise levels that would exceed those which would be experienced as a result of the buildings proximity to Tupper Hall.

In accordance with 1994 LRDP EIR Mitigation Measure 4.4-3(b), the proposed WHNRC would include installation of noise attenuation features which would further reduce interior noise levels. Conventional building construction with closed windows and fresh air supply/air conditioning would achieve the necessary noise attenuation. 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. Noise levels associated with increased vehicle traffic are not likely to exceed noise levels associated with Tupper Hall, and potentially significant noise levels have been mitigated to a less-than-significant level through incorporation of mitigation measures adopted as part of the 1994 LRDP EIR. Therefore, no further mitigation is required.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that growth under the 1994 LRDP would result in increased traffic and other noise sources which could expose people to significant noise levels.

This cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed increased noise levels identified under the 1994 LRDP. The proposed project's contribution (attributed to approximately 29 new vehicle trips in the a.m. peak and 36 during the p.m. peak) to this cumulative impact is so small that it is considered to be de minimis. 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 1997-98 Major Capital Improvement Projects SEIR.

- b) Construction of the proposed WHNRC would not include pile driving or other construction activities that could result in groundborne vibration or noise. Therefore, no impact would occur.
- e,f) The proposed WHNRC site is located on the Central Campus approximately two miles east of the University Airport. The project site is outside the 55, 60, and 65 CNEL noise contour lines for the University Airport. In addition, the 1994 LRDP DEIR (page 4.4-29) concluded that development associated with the 1994 LRDP would not be impacted by aircraft from Yolo County Airport or the University Airport. Therefore, no impact would occur.

Summary

The proposed WHNRC would not result in any new or significant construction or operational noise impacts that have not already been examined adequately in the 1994 LRDP EIR, and Mitigation Measure 4.4-1(a) through (f) and 4.4-3(b) will be implemented as part of the proposed WHNRC . All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
12. PUBLIC SERVICES.				
<i>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>				
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
e. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>

Discussion

Public services issues are addressed in Sections 4.12 and 4.13 of the 1994 LRDP DEIR, as amended by the LRDP FEIR; and in Section 4.3 of the 1997-98 Major Capital Improvements Project DSEIR, as amended by the FSEIR.

- a) The UC Davis Fire Department provides fire protection for the Central Campus area. The Campus Fire Department is currently staffed with 18 career firefighting personnel (six assigned to each of three shifts to maintain minimum staffing of five), 15 resident-student firefighters, five fire prevention staff, and five administrative and support personnel.¹⁷ Fire protection service demand is based on a ratio of personnel to increased 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. The proposed project includes construction of a new facility on campus and would be considered additional space to be protected by the Campus Fire Department. The addition of 49,000 gsf of building space would require an additional 0.17 firefighters to maintain current level of service. Because implementation of the proposed project would increase the need for firefighters, it would be required to comply with the Campus’ level of service policy. However, as discussed in Section III, 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.

The 1994 LRDP EIR identified the following mitigation measure to reduce increased demand on fire protection services to a less-than-significant level:

- 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.*

To maintain a ratio of 3.5 firefighters per 1,000,000 sf of building area and to ensure adequate response times, the Campus Fire Department entered into two automatic aid agreements in 1994 with the City of Davis. In addition, the proposed WHNRC includes fire safety features such as fire sprinkler systems and fire alarm systems. All design and construction of the proposed WHNRC would conform to all applicable building codes and fire/life safety codes.

Continued compliance with 1994 LRDP EIR Mitigation Measure 4.12-1 would ensure that the WHNRC would result in no new impacts to Campus fire protection services beyond those previously identified and adequately mitigated in the 1994 LRDP EIR. Therefore, significant fire service 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.

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 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.

In addition, the 1994 LRDP EIR identified the following mitigation measure to reduce impacts on fire water systems to a less-than-significant level:

- 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.*

As described above, the campus domestic/fire system distribution lines are sized to meet peak fire flows. Continued compliance with 1994 LRDP EIR Mitigation Measure 4.12-2 will ensure that the WHNRC 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that cumulative growth under the 1994 LRDP could result in decreased level of service from City of Davis fire protection services. This cumulative impact was considered significant and unavoidable. The proposed project would contribute to, but not exceed increased noise levels identified under the 1994 LRDP. The proposed project's contribution (attributed to approximately 49,000 gsf of new building space) to this cumulative impact is so small that it is considered to be de minimis. 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.

- b) The Campus Police Department provides service to the project area. The Department is authorized for a staff of 50 sworn officers, although it is currently staffed with 45 sworn officers and 34 to 35 non-sworn personnel, including dispatchers and support staff.¹⁸ 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. The Campus is required to implement the following 1994 LRDP EIR mitigation measure to reduce increased demand on police protection services to a less-than-significant level:

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 needs; or*
- (c) *expand mutual aid assistance from adjacent jurisdictions.*

In accordance with LRDP EIR Mitigation Measure 4.12-3, the Campus Police Department updated their 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 WHNRC and the addition of up to 100 people 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 WHNRC would result in no new impacts relating to police protection other than those previously identified in the 1994 LRDP EIR. Also, new employees would be added to the existing developed area of the Central Campus, which is included in existing police services. Therefore, significant police service 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that cumulative growth under the 1994 LRDP could result in 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 increased noise levels identified under the 1994 LRDP. The proposed project's contribution (attributed to approximately 100 new employees) to this cumulative impact is so small that it is considered to be de minimis. 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.

- c,d) The increase in permanent Campus population of up to 100 people is within the population projections evaluated in the 1994 LRDP EIR for schools and parks (see Section III, Consistency With The 1994 LRDP EIR). These impacts were determined to be less than significant in the 1994 LRDP EIR. Therefore, the addition of 100 new Campus employees would be a less-than-significant impact and no mitigation is required.

Cumulative Impacts

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 Davis Joint Unified School District. 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. The proposed project's contribution (100 new employees of the 8,000 projected for the Campus to contribute to the population of 75,000 for the City of Davis) to this cumulative impact is so small that it is considered to be de minimis. 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. In addition, 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 it is consistent with approved development. The proposed project's contribution (100 new employees of the 8,000 projected for the Campus to contribute to the population of 75,000 for the City of Davis) to these less than significant cumulative impacts is so small that it is considered to be de minimis.

- e) The proposed WHNRC would not result in a need for new or altered maintenance or public services over that identified in the 1994 LRDP EIR because both population and gsf (and asf) of the proposed facility are within the projections of the 1994 LRDP. The impact would be considered less than significant and no mitigation is required.

Summary

The proposed WHNRC would not result in any new or significant public service impacts that have not already been analyzed adequately in the 1994 LRDP EIR, and Mitigation Measures 4.12-1, 4.12-2, and 4.12-3 will be implemented as part of the proposed WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
13. UTILITIES AND SERVICE SYSTEMS.				
<i>Would the proposal:</i>				
a. Require or result in the construction of new electrical or natural gas facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Require or result in the construction of new telecommunication facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Are sufficient water supplies available to serve the project from existing entitlement and resources, or are new or expanded entitlement needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Has the wastewater treatment provider which serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Utilities and service systems are addressed in Section 4.14 of the 1994 LRDP DEIR, as amended by the LRDP FEIR, in Sections 4.3, 5.4, 6.4, 7.4 and Chapter 8 of the 1997-98 Major Capital Improvement Projects DSEIR, as amended by the FSEIR, and Item 12 of the CFA Tiered Initial Study (IS), as amended by the Final IS.

a) **Electricity**

As described on page 4.3-12 of the 1997-98 Major Capital Improvement Projects DSEIR, to accommodate anticipated demand for electricity from buildout of the 1994 LRDP (including the proposed project), the Campus is in the process of implementing the Electrical Improvements Phase 2B project, which includes 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 that is expected to occur. Phase 2B includes 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 a substation that will be obsolete in 2000.^{19,20} Phase 2B improvements would be completed by 2002.

New lighting and electrical outlets for the proposed project would comply with the standards in 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 EIR, 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.

It is estimated that the proposed WHNRC would result in an increased peak demand for approximately 1,100 Kva of electricity. The proposed WHNRC would be operational no sooner than Winter 2004, after the planned completion of the Phase 2B improvements. The proposed WHNRC would access electricity from a point of connection just northeast of Tupper Hall. With implementation of the Phase 2B Project, electrical utilities will be adequate to service the proposed WHNRC by the time of occupancy.²¹ In order to ensure that existing points of connection have adequate capacity to accommodate proposed uses, the 1994 LRDP EIR (as amended by the 1997-98 Major Capital Improvements Project) identified the following mitigation measure to reduce electrical demand impacts to a less-than-significant level:

- 4.3-10(b) *Prior to completion of construction drawings, the Campus shall evaluate the proposed point of connection to determine if the existing electrical distribution system has adequate capacity. If capacity does not exist at the point of connection, an alternative point of connection shall be identified where adequate capacity exists.*

Consistent with Mitigation Measure 4.3-10(b), the Campus evaluated this point of connection and determined it would have adequate capacity to service the proposed WHNRC. However, this assumption will be reevaluated as more precise demand figures are developed. Any potential short-term construction impacts associated with installation of the proposed extension of electrical distribution lines (water quality, noise, air quality, transportation, biological resources and cultural resources) have been evaluated in the appropriate sections of this Tiered Initial

Study. Therefore, impacts of the WHNRC on electrical distribution system capacity are less than significant. No additional mitigation is required.

If anticipated future growth in the Health Sciences District were built out (in addition to the proposed project), it would result in exceeding the capacity of the existing campus electrical distribution system. The Campus will be undertaking planning efforts to determine what upgrades are necessary to provide adequate electrical service to future buildings in the Health Sciences District. The nature of necessary upgrades has not been determined at the present time. Once infrastructure upgrade plans are refined, the Campus will conduct appropriate environmental analysis as part of a separate project.

Natural Gas

As discussed on page 4.15-2 of the 1994 LRDP DEIR, natural gas is purchased from outside vendors and provided to the Campus through 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. The proposed project site would be provided natural gas via a campus low pressure system.

The proposed WHNRC would result in an increased demand for natural gas of 1,110 cubic feet/hour. The proposed WHNRC would be connected to the existing natural gas system from a point of connection to the west of the site along West Health Sciences Drive. In order to ensure that existing points of connection have adequate capacity to accommodate proposed uses, the 1994 LRDP EIR, as amended by the 1997-98 Major Capital Improvements Project SEIR identified the following mitigation measure to reduce this impact to a less-than-significant level:

- 4.3-11 *Prior to completion of construction drawings, the Campus shall evaluate the proposed point of connection to determine if the existing natural gas distribution system has adequate capacity. If capacity does not exist at the point of connection, an alternative point of connection shall be identified where adequate capacity exists.*

In conformance with Mitigation Measure 4.3-11, the Campus has evaluated this point of connection and determined that it would be adequate to serve the proposed WHNRC.²² Construction impacts associated with installation of the proposed extension of natural gas distribution lines (water quality, noise, air quality, transportation, biological resources and cultural resources) have been evaluated in the appropriate sections of this Tiered Initial Study. Therefore, impacts of the WHNRC on natural gas distribution system capacity are less than significant. No additional mitigation is required.

If anticipated future growth in the Health Sciences District were built out (in addition to the proposed project), it would result in exceeding the capacity of the existing campus natural gas distribution system. The Campus will be undertaking planning efforts to determine what upgrades are necessary to provide adequate natural gas service to future buildings in the Health Sciences District. The nature of necessary upgrades has not been determined at the present time. Once infrastructure upgrade plans are refined, the Campus will conduct appropriate environmental analysis as part of a separate project.

Cumulative Impacts

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 it is consistent with approved development. The proposed project's contribution (29,400 asf) to these less than significant cumulative impacts is so small that it is considered to be de minimis.

- b) 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 (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.

It is estimated that the proposed WHNRC would increase campus demand and would connect to an existing communication line located in the basement of Med Sci 1A and Tupper Hall. Because the UC Davis Communications Resources Service would coordinate with the Office of Architects and Engineers to ensure that the design and installation of the telecommunications systems will be in accordance with established standards, it is anticipated that adequate telecommunication capacity exists.

In order to ensure that existing points of connection have adequate capacity to accommodate proposed uses, the 1994 LRDP EIR, as amended by the 1997-98 Major Capital Improvements Project SEIR identified the following mitigation measure to reduce this impact to a less-than-significant level:

- 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 alternative point of connection shall be identified where adequate capacity exists.*

In conformance with Mitigation Measure 4.3-12, the Campus has evaluated this point of connection and determined that it would be adequate to serve the proposed WHNRC. However, this assumption will be reevaluated as more precise demand figures are developed. Construction impacts associated with installation of the proposed extension of telecommunication distribution lines (water quality, noise, air quality, transportation, biological resources and cultural resources) have been evaluated in the appropriate sections of this Tiered Initial Study. Therefore, impacts of the WHNRC on telecommunication distribution system capacity are less than significant. No additional mitigation is required.

If anticipated future growth in the Health Sciences District were built out (in addition to the proposed project), it would result in exceeding the capacity of the existing campus telecommunication distribution system. The Campus will be undertaking planning efforts to determine what upgrades are necessary to provide adequate telecommunication service to future buildings in the Health Sciences District. The nature of necessary upgrades has not been determined at the present time. Once infrastructure upgrade plans are refined, the Campus will conduct appropriate environmental analysis as part of a separate project.

- c,d, g) Domestic and utility water supply, chilled water and steam distribution systems serve facilities in the vicinity of the proposed WHNRC (Tupper Hall). The proposed project would require extension of existing water distribution lines on campus, including domestic water, utility water, chilled water and steam systems. Wastewater collection and treatment is provided by the Campus WWTP. The following describes the effects of the proposed WHNRC on existing and future distribution system capacity. Impacts on water supply are addressed under Item 13f.

Domestic Water

As described on pages 4.3-3 and 4.3-4 of the 1997-98 Major Capital Improvement Projects DSEIR, 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 (including the demand generated by the proposed project).

The proposed WHNRC would generate a peak fire-flow demand of 750 gpm and would be connected to the existing system from a point of connection to the west of the project site on West Health Sciences Drive. The increased demand would not exceed the domestic water supply capacity.²³

The 1994 LRDP EIR identified the following mitigation measure to reduce impacts to the domestic/fire water system to a less-than-significant level:

- 4.14-2 *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.*

Consistent with 1994 LRDP EIR Mitigation Measure 4.14-2(a), the domestic water system was evaluated to determine if adequate supply exists to meet the demand of the proposed WHNRC. The Campus has determined that the 1.5 million gallon underground reservoir and the cycling of the wells and booster pumps associated with the reservoir have consistently kept reservoir levels within normal operating range (page 4.3-4 of the 1997-98 Major Capital Improvement Projects DSEIR). Out of a total of four booster pumps, usually one or two booster pumps run, and two or three wells are in operation out of a total of six. Therefore, adequate capacity exists to serve the proposed WHNRC.

The 1994 LRDP EIR, as amended by the 1997-98 Major Capital Improvement Projects SEIR identified the following mitigation measure to reduce impacts on domestic water distribution and capacity to a less-than-significant level:

- 4.3-2 *Prior to completion of construction drawings, the Campus shall evaluate the proposed point of connection to determine if the existing domestic/fire water distribution system has adequate capacity. If adequate*

capacity does not exist at the point of connection to meet peak domestic/fire flow requirements, an alternative point of connection shall be identified where adequate capacity exists.

Based on preliminary design, the existing main line has adequate capacity (based on assumed demand) at the point of connection to serve the proposed WHNRC. However, this assumption will be reevaluated as more precise demand figures are developed. Construction impacts associated with installation of the proposed extension of domestic water distribution lines (water quality, noise, air quality, transportation, biological resources and cultural resources) have been evaluated in the appropriate sections of this Tiered Initial Study. Therefore, impacts of the WHNRC on domestic water distribution system capacity are less than significant. No additional mitigation is required.

If anticipated future growth in the Health Sciences District were built out (in addition to the proposed project), it would result in exceeding the capacity of the existing campus domestic water distribution system. The Campus will be undertaking planning efforts to determine what upgrades are necessary to provide adequate domestic water service to future buildings in the Health Sciences District. The nature of necessary upgrades has not been determined at the present time. Once infrastructure upgrade plans are refined, the Campus will conduct appropriate environmental analysis as part of a separate project.

Utility Water

As described on page 4.3-6 of the 1997-98 Major Capital Improvement Projects DSEIR, 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 including the demand generated by the proposed WHNRC. Operation of the proposed WHNRC would result in an increase of approximately 50 gpm peak demand. The demand associated with the proposed WHNRC would not exceed the projected demand for the 1994 LRDP.

The 1994 LRDP EIR identified the following mitigation measure to reduce impacts to the utility water system to a less-than-significant level:

- 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.*

Consistent with 1994 LRDP EIR Mitigation Measure 4.14-4, the Campus will review the utility water system as project plans are developed and prior to the completion of construction to determine if adequate capacity exists to meet the demand of the proposed WHNRC. If the Campus determines that adequate capacity does not exist, then the Campus would meet the increased demand for utility water through implementation of new wells, or other measures.

Utility water would be provided to the proposed WHNRC by connecting to the existing utility water system from a point of connection to the west of the project site on West Health Sciences Drive.

The 1994 LRDP EIR, as amended by the 1997-98 Major Capital Improvement Projects SEIR identified the following mitigation measures to reduce impacts on utility water distribution and capacity to a less-than-significant level:

- 4.3-4(a) *Prior to occupancy, as an alternative to developing new utility water wells, the Campus shall ensure adequate utility water is available by implementing one of the following, or equally effective measures: develop an alternative surface water supply; develop additional storage capacity; reuse treated wastewater for landscape irrigation; and/or modify the landscape irrigation schedule.*
- 4.3-4(b) *Prior to completion of construction drawings, the Campus shall evaluate the proposed point of connection to determine if the existing utility water distribution system has adequate capacity. If adequate capacity does not exist at the point of connection to meet peak utility water flow requirements, an alternative point of connection shall be identified where adequate capacity exists.*

With implementation of Mitigation Measure 4.3-4, the impacts on the utility water supply and distribution system would be less than significant. Therefore, significant utility water 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.

Based on preliminary design, the existing main line has adequate capacity (based on assumed WHNRC demand) at the point of connection.²⁴ However, this assumption will be reevaluated as more precise demand figures are developed. Construction impacts associated with installation of the proposed extension of utility water distribution lines (water quality, noise, air quality, transportation, biological resources and cultural resources) have been evaluated in the appropriate sections of this Tiered Initial Study. Therefore, impacts of the WHNRC on utility water distribution system capacity are less than significant. No additional mitigation is required.

If anticipated future growth in the Health Sciences District were built out (in addition to the proposed project), it would result in exceeding the capacity of the existing campus utility water distribution system. The Campus will be undertaking planning efforts to determine what upgrades are necessary to provide adequate utility water service to future buildings in the Health Sciences District. The nature of necessary upgrades has not been determined at the present time. Once infrastructure upgrade plans are refined, the Campus will conduct appropriate environmental analysis as part of a separate project.

Chilled Water and Steam

As described on page 4.3-2 of the 1997-98 Major Capital Improvement Projects DSEIR, the Central Heating and Cooling Plant produces steam to provide heat and chilled water to buildings in the Central Campus (including the project area). Current total steam capacity is approximately 220,000 pounds/hour (lbs/hr). Chilled water capacity is currently approximately 10,000 tons.

The Campus has identified the need to upgrade the central Campus chilled water system in order to accommodate campus growth. This upgrade (the 1999 Chilled Water Expansion Project) would increase chilled water capacity on the Central Campus to approximately 21,000 tons (sufficient to meet the demand anticipated with buildout of the 1994 LRDP (including the proposed WHNRC)). The proposed expansion includes the construction of a new chilled water plant which would include construction and operation of two electric chillers, two cooling towers and a 4.3 million gallon thermal energy storage tank. The proposed upgrade also includes installation of new distribution lines at various locations in the Central Campus, including the Health Sciences District.

The proposed WHNRC would contribute a peak chilled water and steam demand by 210 tons and 1,900 lbs/hr, respectively. The demand associated with project development was included in, and would not exceed the projected demand for the 1994 LRDP. The proposed WHNRC would be connected to existing chilled water and steam distribution lines from a point of connection at the southwest corner of Parking Lot 54.

As described on page 4.3-7 of the 1997-98 Major Capital Improvement Projects DSEIR, total steam capacity at the Central Heating and Cooling Plant is 220,000 lbs/hr. Under normal weather conditions current use is estimated at 210,000 lbs/hr. Under extreme cold weather conditions, the steam system can operate near capacity. However, with implementation of current utilities upgrade projects (including the 1999 Chilled Water Expansion Project), adequate capacity exists to meet WHNRC demand.²⁵ Also, the Central Plant has recently been set up with the ability to connect a temporary boiler for use in emergencies.

The 1994 LRDP EIR, as amended by the 1997-98 Major Capital Improvement Projects SEIR identified the following mitigation measure to reduce impacts on steam distribution and capacity to a less-than-significant level:

4.3-5(b) *Prior to completion of construction drawings, the Campus shall evaluate the proposed point of connection to determine if the existing steam distribution system has adequate capacity. If adequate capacity does not exist at the point of connection to meet steam requirements, an alternative point of connection shall be identified where adequate capacity exists.*

Based on preliminary design, the existing main line has adequate capacity (based on proposed project demand) at the point of connection to serve the proposed WHNRC. However, this assumption will be reevaluated as more precise demand figures are developed. Construction impacts associated with installation of the proposed extension of steam distribution lines (water quality, noise, air quality, transportation, biological resources and cultural resources) have been evaluated in the appropriate sections of this Tiered Initial Study. Therefore, impacts of the WHNRC on steam distribution system capacity are less than significant. No additional mitigation is required.

As mentioned previously, chilled water would be provided to the proposed WHNRC through hook up to an existing chilled water distribution line. Following completion of the 1999 Chilled Water Expansion (Phase IV), which would be completed prior to occupancy of either building, the existing chilled water distribution system would have adequate capacity to serve the proposed building.²⁶

If anticipated future growth in the Health Sciences District were built out (in addition to the proposed project), it would result in exceeding the capacity of the existing campus chilled water and steam distribution system. The Campus will be undertaking planning efforts to determine what upgrades are necessary to provide adequate chilled water and steam service to future buildings in the Health Sciences District. The nature of necessary upgrades has not been determined at the present time. Once infrastructure upgrade plans are refined, the Campus will conduct appropriate environmental analysis as part of a separate project.

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. Current UC Davis WWTP permitted capacity is approximately 2.5 mgd.²⁷ The average annual discharge from the existing plant was 1.56 mgd from 1993-1995, and ranged from 1.2 mgd to 1.9 mgd. The Campus is currently developing a new WWTP to replace the existing plant. The new WWTP will be more reliable to operate than the outdated treatment system and will meet future discharge requirements. The new treatment plant is scheduled for completion by November 1999 and will have a permitted capacity of 2.7 or 2.8 mgd. Compliance deadlines require that the new WWTP be operational by November 2000.

The proposed WHNRC would result in a maximum addition of approximately 6,700 gallons per day (gpd) of flow. The proposed WHNRC would be connected to the existing system from a point of connection to the east of the proposed sites that currently runs in a north/south direction adjacent to Parking Lot 54.

The 1994 LRDP EIR, as amended by the 1997-98 Major Capital Improvement Projects SEIR included the following mitigation measure to reduce impacts related to wastewater collection system capacity:

- 4.3-8 *Prior to completion of construction drawings, the Campus shall evaluate the proposed point of connection to determine if the existing wastewater collection system has adequate capacity. If adequate capacity does not exist at the point of connection, an alternative point of connection shall be identified where adequate capacity exists.*

Based on preliminary design, the existing main line has adequate capacity (based on assumed project demand) to serve the proposed WHNRC by the time of occupancy.²⁸ However, this assumption will be reevaluated as more precise demand figures are developed. Construction impacts associated with installation of the proposed extension of wastewater collection lines (water quality, noise, air quality, transportation, biological resources and cultural resources) have been evaluated in the appropriate sections of this Tiered Initial Study. Therefore, impacts on wastewater collection system capacity are less than significant. No additional mitigation is required.

If anticipated future growth in the Health Sciences District were built out (in addition to the proposed project), it would result in exceeding the capacity of the existing campus wastewater collection system. The Campus will be undertaking planning efforts to determine what upgrades are necessary to provide adequate wastewater collection service to future buildings in the Health Sciences District. The nature of necessary upgrades has not been determined at the present time. Once infrastructure upgrade plans are refined, the Campus will conduct appropriate environmental analysis as part of a separate project.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that development allowed under the 1994 LRDP would result in increased generation of wastewater in the Davis area. This cumulative impact was considered less than significant because adequate capacity exists in the City to treat wastewater generated by cumulative growth in the City. The proposed project would contribute to, but not exceed wastewater generation associated with buildout of the 1994 LRDP because it is consistent with approved development. The proposed project's contribution (100 new employees of the 8,000 projected for the Campus to contribute to the population of 75,000 for the City of Davis) to this less than significant cumulative impact is so small that it is considered to be de minimis.

- e) Please see the discussion for Item 5.
- f) The proposed WHNRC would require domestic water that would be supplied by the Campus domestic/fire water system for which the deep aquifer is the source. Utility water, also needed by the proposed WHNRC, is derived from the shallow/intermediate aquifer.

Deep Aquifer

As described on page 4.3-2 of the 1997-98 Major Capital Improvement Projects DSEIR, total demand for water from the deep aquifer at buildout of the 1994 LRDP would be 1,115 of approximately 4 mgd. The proposed WHNRC would result in an increase in demand. However, that increased demand was anticipated under buildout of the 1994 LRDP and would contribute to but not exceed total demand.

As stated on page 4.14-11 of the 1994 LRDP DEIR:

The limited existing data regarding groundwater elevations and the capacity of the deep aquifer cannot be used to conclude that the aquifer is capable of recharging. On the other hand there is no evidence of any long-term groundwater depletion. The actual magnitude of the significance of the impact is unknown, because the status of the aquifer cannot be determined with available information. To ensure that this EIR takes a conservative approach the EIR assumes that the impact is significant and unavoidable.

The 1994 LRDP EIR concluded that impacts on the supply of the deep aquifer could be reduced in magnitude but the impact would remain significant and unavoidable. Implementation of the proposed WHNRC 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 addressed in the Findings and Overriding Considerations adopted by The Regents in connection with its approval of the 1994 LRDP.

Cumulative Impacts

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. This 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. The proposed project's contribution (approximately four mgd out of 223 mgd) to this cumulative impact is so small that it is considered to be de minimis. 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 1997-98 Major Capital Improvement Projects SEIR.

Shallow/Intermediate Aquifer

Landscape irrigation water is derived from the shallow/intermediate aquifer. There would be an increase in water demand from the shallow/intermediate aquifer as a result of development of the WHNRC associated with landscape irrigation. As described on page 4.14-13 of the 1994 LRDP DEIR (Impact 4.14-13), impacts to the shallow/intermediate aquifer associated with utility water use as a result of buildout of the 1994 LRDP were considered less than significant. Although not required, the 1994 LRDP EIR identified the following mitigation measures to further reduce utility water demand impacts on the shallow/intermediate aquifer:

- 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;*
 - (ii) *apply heavy applications of mulch to landscaped areas to reduce evaporation; and*
 - (iii) *use treated wastewater for landscape irrigation where feasible.*

Project operations would include water conservation measures such as the installation of low water use landscape, drip irrigation, irrigation control devices (to manage water application), and application of mulch, or other equally effective utility water conservation measures as required by 1994 LRDP EIR Mitigation Measure 4.14-3(a).

- 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.*

Facilities Services measures the static water levels in all utility wells in the fall and spring of each year. Data from the annual measurements is included in the Campus Water Management Plan for evaluation by the Water Management Task Force. In addition, the Agricultural Services Office continues to monitor spring and fall static water elevations in the shallow/intermediate aquifer. This activity has been ongoing for approximately 40 years. Annual precipitation and groundwater pumping and deliveries are also recorded. This information is used to help forecast annual water supplies and balance usage between groundwater and surface water supplies. Compliance with 1994 LRDP EIR Mitigation Measure 4.14-3(a) and continued compliance with Mitigation Measure 4.14-3(b) would ensure that impacts to the shallow/intermediate aquifer would remain less-than-significant. Therefore, significant shallow/intermediate aquifer 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that development allowed under the 1994 LRDP would result in increased demand for water from the shallow/intermediate aquifer in the Davis area. This cumulative impact was considered less than significant because groundwater levels have been constant and cumulative development is anticipated to demand less than 10 percent of the total water used from the aquifer. The proposed project would contribute to, but not

exceed demand for water from the shallow/intermediate aquifer associated with buildout of the 1994 LRDP because it is consistent with approved development. The proposed project's contribution (29,400 asf out of 1.75 million asf) to this less than significant cumulative impact is so small that it is considered to be de minimis.

- h) Operation of the proposed WHNRC would generate non-hazardous solid waste for disposal at the Campus Landfill, which would result in an increase in solid waste over existing conditions.

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 1, which will close in 2001. The daily permitted capacity of the Landfill is 500 tons per day. Permits are in place for an expansion to operate Waste Management Unit 2, which would be operational in 2001 when Waste Management Unit 1 is expected to close, and has an anticipated life to 2030.

As discussed on page 4-2 of the 1994 LRDP FEIR, the Campus Landfill has sufficient capacity to accommodate the increased quantity of solid waste generated by implementation of the 1994 LRDP, regardless of the closure date for Waste Management Unit 1. This assumes an annual growth rate of 1.8 percent, which represents approximately 60 tons per day of solid waste. The proposed WHNRC would not generate waste that exceeds the permitted capacity nor would it exceed 1994 LRDP solid waste projections because the proposed project is 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 WHNRC, and impacts would be less than significant. No additional mitigation is required.

Cumulative Impacts

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 buildout of the 1994 LRDP because it is consistent with approved development. The proposed project's contribution (100 new employees of the 8,000 projected for the Campus to contribute to the population of 75,000 for the City of Davis) to this less than significant cumulative impact is so small that it is considered to be de minimis.

Summary

The proposed WHNRC would not result in new or significant utilities and services impacts that have not been examined in the 1994 LRDP EIR. Implementation of 1994 LRDP EIR Mitigation Measures 4.14-4 and 4.14-3(a) and (b), and 1997-98 Major Capital Improvement Projects SEIR Mitigation Measures 4.3-4(a) and (b), will be implemented as part of the WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
14. AESTHETICS.				
<i>Would the proposal:</i>				
a. Affect valued elements of the Central Campus visual landscape?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Disrupt long-distance views from the Campus and surrounding areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or night time views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Visual quality and aesthetics are addressed in Section 4.11 of the 1994 LRDP DEIR, as amended by the LRDP FEIR; Section 4.7 of the WWTP Replacement Project DEIR, as amended by the WWTP FEIR; and Chapter 8 of the 1997-98 Major Capital Improvement Projects DSEIR, as amended by the FSEIR.

a-c) The proposed WHNRC facility would be located in the Health Sciences District part of the Central Campus, which is visually characterized by academic and support buildings that range from one to nine stories and undeveloped open space and landscape areas. The proposed WHNRC would consist of the construction of a two- to three- story building.

The 1994 LRDP (page 32) and the 1994 LRDP DEIR (page 4.11-4) identified visual elements in the Central Campus (which includes the proposed project site) of value to the Campus including: (1) the Quad; (2) the framework of tree-lined streets, particularly around the Quad; (3) the Arboretum and Arboretum Waterway; (4) shingle-sided buildings from the founding years of the University Farm; (4) buildings from the second era of campus development such as Hart Hall and Walker Hall; (6) the open, green lawns that face the community along Russell Boulevard and A street; and (7) bicycles. As further described on page 4.11-4 of the 1994 LRDP DEIR:

The 1994 LRDP contains the following objectives for visual resources:

Developed Resources

- 10. Employ site and design guidelines and a design review process for campus neighborhoods and buildings to sustain valued elements of the campus environment.

In addition, the following 1994 LRDP Planning Concepts will influence the visual character of the Campus:

1. Create positive environments for academic and social interaction.
3. Concentrate development.
4. Maintain the open character of the campus.
5. Build upon the historic pattern of campus development.
6. Plan district open spaces for campus neighborhoods.

Depending on the location, height, massing, design and landscaping, new structures developed under the 1994 LRDP could adversely affect valued visual characteristics of the Central Campus. The 1994 LRDP EIR included the following mitigation measures to reduce visual impacts to the Central Campus to a less-than-significant level:

- 4.11-1(a) *New structures in the Central Campus shall be designed to be compatible with those visual elements and policies identified in the LRDP.*
- 4.11-1(b) *Prior to approval of preliminary drawings, a Campus Design Review Board shall determine that the designs are consistent with the LRDP and applicable district planning guidelines for the district within which the new structure will be located.*
- 4.11-1(c) *Prior to siting any new structure on the Central Campus, the Campus shall identify major view corridors, taking into consideration the relationship of the view to each affected neighboring district.*
- 4.11-1(d) *The Campus Design Review Board shall review building designs to ensure that structures are not within major view corridors, except for structures that are designed to protect critical views.*

Consistent with 1994 LRDP EIR Mitigation Measure 4.11-1(a), the proposed WHNRC will be designed to extend the visual character of the Health Sciences District and the Central Campus consistent with the visual elements on page 32 of the 1994 LRDP because they would not have a direct or indirect effect on the identified visual elements. Consistent with 1994 LRDP EIR Mitigation Measure 4.11-1(b) through (c), the design of the project will be reviewed by the Campus Design Review and Advisory Work Group (formerly the Campus Design Review Board). This group is comprised of the Campus Architect, Campus Planner, and program representatives.

Implementation of the proposed project would not adversely affect any of the valued visual elements identified in the 1994 LRDP for the Central Campus because it is not in the vicinity of these elements. Therefore, the proposed WHNRC would result in less-than-significant impacts associated with valued elements of the Central Campus, no impacts to long-distance views and would be compatible with the existing character of the area. No additional mitigation is required.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that cumulative growth under the 1994 LRDP, in conjunction with other development in the region, would contribute to a cumulative alteration of the rural character of Yolo and Solano Counties. This cumulative impact was considered significant and unavoidable. The proposed project would result in the conversion of an undeveloped portion of the Central Campus to developed uses. However, the proposed project site is surrounded by developed campus uses and would have a de minimis contribution to the conversion of the regions rural character 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.

- 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. Glare can be created from reflective building materials, such as windows or metallic architectural features. At night, artificial lighting can cause glare. The proposed WHNRC and parking lot would have night lighting. Lighting, however, currently exists around the existing buildings and in Parking Lots 53 and 54. Although there would be an increase in light and glare in the vicinity of the project, other Campus buildings and parking lots in the immediate area also create light and glare.

The 1994 LRDP EIR included the following mitigation measures to reduce light and glare impacts to a less-than-significant level:

- 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.

- 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 4.11-5(a).*

In accordance with Mitigation Measure 4.11-4(a), the Campus has developed guidelines. All lighting would be installed consistent with Campus Facilities Design Standards including cut-off lighting in buildings and focusing parking area lights down 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 impacts associated with the WHNRC would be reduced to less-than-significant levels and no additional mitigation is required.

Summary

The proposed WHNRC would not result in any new or significant adverse aesthetics impacts that have not already been examined in the 1994 LRDP EIR, and 1994 LRDP EIR Mitigation Measures 4.11-1(a) through (d) and 4.11-4 (b) would be implemented as part of the proposed WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
15. CULTURAL RESOURCES.				
<i>Would the proposal:</i>				
a. Cause a substantial adverse change in the significance of a historical resource which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or a local register of historic resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of a historic landscape feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Cause a substantial adverse change in the significance of a unique archaeological resource (i.e., an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it contains information needed to answer important scientific research questions, has a special and particular quality, such as being the oldest or best available example of its type, or is directly associated with a scientifically recognized important prehistoric or historic event or person)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Disturb or destroy a unique paleontological resource or site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Cultural resources are addressed in Section 4.10 of the 1994 LRDP DEIR, as amended by the LRDP FEIR.

- a) There are no buildings or historical resources on the WHNRC site. Therefore, no impact would occur.
- b) The proposed WHNRC would not involve demolition of landscape features meeting the requirements of historic significance. Therefore, no impact would occur.
- c,e) As discussed on page 4.10-9 of the 1994 LRDP DEIR, any time earth is disturbed, buried cultural resources can be damaged or destroyed. This risk is highest along the banks of tributaries and slough channels of Putah Creek. The proposed WHNRC site is located beyond

the archaeologically sensitive zone that borders Putah Creek. The WHNRC project site is in proximity, however, to site CA-YOL-134 which is located at the University Extension Center. Other archaeological sites within a mile of the project area include: CA-SOL-397, located at the Solano Park Apartments about one mile to the east; CA-YOL-118, located at 1st and A Street about one mile to the east; and P-48-000222, located about 3/4 mile southeast in the agricultural field adjacent to the Alumni Center.²⁹

The 1994 LRDP EIR identified the following mitigation measures to reduce the magnitude of damaging or destroying cultural resources:

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 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.

Due to the project's location relative to recorded sites, the WHNRC was considered to require an intensive level of investigation. Consistent with 1994 LRDP EIR Mitigation Measure 4.10-1(d), below, an archaeological and field survey of the project site was performed.

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.*

The archaeological investigation report, prepared specifically for the proposed WHNRC site, concluded that no archaeological resources were identified through surface survey and subsurface testing. No further archaeological work was recommended prior to construction. However, archaeological monitoring was recommended during construction of the WHNRC due to proximity to site CA-YOL-134. The level of monitoring activity should be based on the type of project activity in consultation with construction personnel and UC Davis staff.³⁰

Therefore, 1994 LRDP EIR Mitigation Measure 4.10-(d)(ii) and (iii) would be implemented to ensure that potential effects on unidentified archaeological resources are minimized:

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

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

- (iii) *Steps (i) through (iv) of item(b) [1994 LRDP EIR Mitigation Measure 4.10-1(b)] shall be implemented.*

LRDP EIR Mitigation Measure 4.10-1(b) requires the following:

- 4.10-1(b) (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 mitigations 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 and the designated descendant.*

Implementation of 1994 LRDP EIR Mitigation Measure 4.10-1(d)(ii) and (iii) would ensure that the required monitoring would be performed during site preparation for the WHNRC and construction activities so that potentially significant impacts would be reduced to less-than-significant levels. Therefore, significant cultural resources 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.

Cumulative Impacts

The 1994 LRDP EIR, as amended, concluded that development allowed under the 1994 LRDP could contribute to a cumulative loss of prehistoric and historic resources in Yolo and Solano Counties. This cumulative impact was considered significant and unavoidable. The proposed project would not contribute to the loss of prehistoric and historic resources because no archeological or historic resources were identified through surface surveys and subsurface testing. 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 1997-98 Major Capital Improvement Projects SEIR.

- d) As identified on page 4.9-1 of the 1994 LRDP DEIR, subsurface soils in the Campus area encompassed by the 1994 LRDP are comprised of unconsolidated alluvial sediments deposited by Putah Creek over the last five million years. Fossilized remains have been found in soils of this type. Although not restricted to specific soil depths, such fossils would likely be encountered in large, deep excavations or contouring-type activities, such as those associated with mining, quarrying, or road building, in which substantial amounts of rock or unconsolidated materials are exposed. The likelihood of damaging or destroying paleontological resources at of the proposed project site is minimal because shallow soils at the site have already been highly

disturbed by existing infrastructure. Therefore, no impacts on paleontological resources are anticipated to occur.

Summary

The proposed WHNRC would not result in any new or significant cultural resource impacts that have not already been addressed in the 1994 LRDP EIR, and 1994 LRDP EIR Mitigation Measure 4.10-1(d) (ii) and (iii) will be implemented as part of the proposed WHNRC. All project-specific impacts are less than significant after mitigation. No additional mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
16. RECREATION.				
<i>Would the proposal:</i>				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Recreation issues are addressed in Section 4.13 of the 1994 LRDP DEIR, as amended by the LRDP FEIR.

- a) The proposed WHNRC would result in an increase in the employee population (approximately 100 new employees), as discussed under Item 2, Population and Housing. However, the increase would not be considered significant and would be within the growth projections of the 1994 LRDP. Population associated with the proposed USDA WHNRC and would incrementally contribute to, but would not exceed, the impact on recreational facilities previously identified in the 1994 LRDP EIR. The LRDP includes plans for the development of 20 acres of new athletic fields and 12 acres of new recreational facilities to accommodate project population growth under the 1994 LRDP. Since adoption of the 1994 LRDP, the Campus has constructed the new Dairy Road Recreation Fields to meet increased demand for recreation uses. Therefore, this impact would be less than significant, and no mitigation is required.
- b) Development of the new WHNRC does not include the construction of new recreational facilities and would not require expansion of existing facilities beyond the development included in the 1994 LRDP. Therefore, because no recreational facilities would be constructed which would result in an adverse physical effect on the environment, no impact would occur.

Cumulative Impacts

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 demand for parks and recreational facilities associated with buildout of the 1994 LRDP because it is consistent with approved development. The proposed project’s contribution (100 new employees of the 8,000 projected for the Campus to contribute to the population of 75,000 for the City of Davis) to these less than significant cumulative impacts is so small that it is considered to be de minimis.

Summary

The proposed WHNRC would not result in any new or significant recreation impacts that have not already been examined in the 1994 LRDP EIR. All project-specific impacts are less than significant. No mitigation is required.

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
17. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Does the project have environmental effects which will cause substantial adverse effects on	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issues	Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for Which 1994 LRDP EIR is Sufficient	No Impact
<p>human beings, either directly or indirectly? Disturb paleontological resources?</p>				

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 Environmental Checklist.

- | | |
|---|---|
| <input checked="" type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Utilities and Service Systems |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Aesthetics |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Cultural Resources |
| <input type="checkbox"/> Transportation/Circulation | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Mandatory Findings of Significance |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> None Identified |

VI. MITIGATION MEASURES

The following is a summary of the project-specific and 1994 LRDP EIR mitigation measures which would be implemented as part of the proposed project.

1. Land Use

1. *The Regents shall amend the 1994 LRDP land use map to change 2.2 acres of the proposed WHNRC site from Parking to High Density Academic and Administrative land use designation.*

4. Geology and Soils

- 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.*
- 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.*
- 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.*

5. Hydrology And Water Quality

- 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-storm water 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.*

- 4.8-5(a) *The Campus shall ensure that project design includes a combination of the following Best Management Practices (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 on 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 reduce irrigation runoff.*
- (vi) *Efficient irrigation systems 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.*

6. **Air Quality**

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 AQMD 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.*

4.5-3(a) *Implement Mitigation Measures 4.3-1 and 4.3-5.*

7. **Transportation/Circulation**

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 Road 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 / Covell 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.*

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.*

8. **Biological Resources**

4.7-1(a) *During the project planning phase, the Campus shall conduct a rare plant survey if the site was previously undeveloped. Surveys shall be conducted by qualified biologists in accordance with the most current DFG/USFWS guidelines or protocols and shall be conducted at the time of year when the plants in question are identifiable. (Identification periods are included in Table 4.7-1, however, survey timing for the various plant species is dependent in part on yearly rainfall patterns and is determined on a case-by-case basis).*

4.7-3(a) *The Campus shall continue to monitor the area around the Medical Sciences Complex for the presence or absence of burrowing owls.*

4.7-3(b) *The Campus, in consultation with the DFG, shall conduct a pre-construction breeding-season survey (approximately February 1 through August 31) of proposed project sites during the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist to determine if any burrowing owls are nesting on or directly adjacent to any proposed project site.*

If phased construction procedures are planned for the proposed project, the results of the above survey shall be valid only for the season when it is conducted.

4.7-3(c) *During the construction stage, the Campus in consultation with the DFG, shall avoid all burrowing owl nest sites potentially disturbed by project construction during the breeding season while the nest is occupied with adults and/or young. The occupied nest site shall be monitored by a qualified biologist to determine when the nest is no longer used. Avoidance shall include the establishment of a 300-foot to 500-foot diameter non-disturbance buffer zone around the nest site. Disturbance of any nest sites shall only occur outside of the breeding season and when the nests are unoccupied based on monitoring by a DFG approved biologist. The buffer zone shall be delineated by highly visible temporary construction fencing.*

Based on approval by DFG, pre-construction and pre-breeding season exclusion measures may be implemented to preclude burrowing owl occupation of the project site prior to project-related disturbance.

6.5-3 *In addition, to the compensation for the loss of Swainson's hawk foraging habitat identified in the 1994 LRDP EIR Mitigation Measure 4.7-5, the Campus shall also convert either the approximately 55 acres of existing orchards adjacent to Putah Creek at the Russell Ranch or a portion of the 85-acre designated habitat restoration and research area to cover type suitable for burrowing owl nesting habitat.*

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 would 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 would no longer be considered as a Swainson's hawk nest site subject to this mitigation.

- 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 DFG, 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.

- 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.

- 4.7-5 *As Agricultural Land and Ruderal/Annual Grassland habitat is converted to Campus development under the 1994 LRDP EIR, the Campus will compensate for the loss of Swainson's hawk foraging habitat at a 1:1 ratio of acres lost to acres preserved through the implementation of one or a combination of the following methods.*

- *Approximately 40 acres of Cropland habitat in the "C" tract adjacent to the Putah Creek Reserve on the West Campus will remain Campus agricultural research uses but will be under land use restrictions that will ensure cropland cover types that are suitable as Swainson's hawk foraging habitat. No incompatible uses such as orchards, vineyard, or development will be allowed in the areas set aside for Swainson's hawk foraging habitat. However, normal crop rotations may periodically result in unsuitable cover types of annual crops.*
- *Approximately 20 acres of land within the North Fork Cutoff that currently support livestock enclosures will be restored to a woodland and grassland habitat. No livestock shall be allowed within the restoration area.*
- *Approximately 55 acres of existing orchards adjacent to Putah Creek at the Russell Ranch will be removed, converted to a cover type suitable for Swainson's hawk foraging, and added to the Putah Creek Reserve.*
- *Approximately 85 acres at the Russell Ranch that have been designated as a habitat restoration and research area will include the establishment of cover types that are suitable Swainson's hawk foraging habitat.*

2. *Based on approval by the California Department of Fish and Game, owls using burrows on or adjacent to the project site could be relocated to a nearby natural or an artificial burrow.*

10. **Hazards and Hazardous Materials**

- 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.*

- 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.*

- 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 to ensure satisfactory compliance.*

11. **Noise**

- 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.*
- 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.*

12. **Public Services**

- 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.*
- 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.*
- 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 needs; or*
- (c) *expand mutual aid assistance from adjacent jurisdictions.*

13. Utilities and Service Systems

- 4.3-4(a) *Prior to occupancy, as an alternative to developing new utility water wells, the Campus shall ensure adequate utility water is available by implementing one of the following, or equally effective measures: develop an alternative surface water supply; develop additional storage capacity; reuse treated wastewater for landscape irrigation; and/or modify the landscape irrigation schedule.*
- 4.3-4(b) *Prior to completion of construction drawings, the Campus shall evaluate the proposed point of connection to determine if the existing utility water distribution system has adequate capacity. If adequate capacity does not exist at the point of connection to meet peak utility water flow requirements, an alternative point of connection shall be identified where adequate capacity exists.*
- 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;*
 - (ii) *apply heavy applications of mulch to landscaped areas to reduce evaporation; and*
 - (iii) *use treated wastewater for landscape irrigation where feasible.*
- 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.*

14. Aesthetics

- 4.11-1(a) *New structures in the Central Campus shall be designed to be compatible with those visual elements and policies identified in the LRDP.*
- 4.11-1(b) *Prior to approval of preliminary drawings, a Campus Design Review Board shall determine that the designs are consistent with the LRDP and applicable district planning guidelines for the district within which the new structure will be located.*
- 4.11-1(c) *Prior to siting any new structure on the Central Campus, the Campus shall identify major view corridors, taking into consideration the relationship of the view to each affected neighboring district.*
- 4.11-1(d) *The Campus Design Review Board shall review building designs to ensure that structures are not within major view corridors, except for structures that are designed to protect critical views.*
- 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 4.11-5(a).*

15. Cultural Resources

- 4.10-1(d) *For sites requiring intensive investigation, the following steps shall be taken.*
 - (ii) *A qualified archaeologist shall be present during grading and excavation, as deemed appropriate.*
 - (iii) *Steps (i) through (iv) of item(b) [1994 LRDP EIR Mitigation Measure 4.10-1(b)] shall be implemented.*

LRDP EIR Mitigation Measure 4.10-1(b) requires the following:

- 4.10-1(b) (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 mitigations 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 and the designated descendant.*

VII. LIST OF AGENCIES AND PERSONS COMMENTING

The following individuals submitted letters that contained comments on the Draft Tiered Initial Study.

LETTER 1 Terry Roberts
Senior Planner, State Clearinghouse
Governor's Office of Planning and Research
1400 Tenth Street
Sacramento, CA, 95814
October 15, 1999

LETTER 2 Jim Atone
Associate Planner
Yolo-Solano Air Quality Management District
1947 Galileo Court, Suite 103
Davis, CA, 95616
October 5, 1999

LETTER 3 Yolo County Department of Public Health, Environmental Health Services
10 Cottonwood Street
Woodland, CA, 95695
October 11, 1999

VIII. RESPONSES TO COMMENTS

The following pages include the comment letters followed by responses to the comments in each letter. Each letter and each comment within a letter has been given a number. Responses are numbered so that they correspond to the appropriate comment. For example, the first comment on Comment Letter 1 is numbered 1-1.



Gray Davis
GOVERNOR

Governor's Office of Planning and Research State Clearinghouse

STREET ADDRESS: 1400 TENTH STREET ROOM 222 SACRAMENTO, CALIFORNIA 95814
MAILING ADDRESS: P.O. BOX 3044 SACRAMENTO, CA 95812-3044
916-445-0613 FAX 916-323-3018 www.opr.ca.gov/clearinghouse.html



Loretta Lynch
DIRECTOR

October 15, 1999

Sid England
University of California, Davis
One Shields Avenue
Davis, CA 95616

Subject: USDA WHNRC Building
SCH#: 99092060



Dear Sid England:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period closed on October 14, 1999, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the eight-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts
Senior Planner, State Clearinghouse

**Document Details Report
State Clearinghouse Data Base**

SCH# 99092060
Project Title USDA WHNRC Building
Lead Agency University of California, Davis

Type neg Negative Declaration
Description The University of California, Davis proposes to construct the United States Department of Agriculture (USDA) Western Human Nutrition Research Center (WHNRC) building in the Health Sciences District of the Central Campus.

Lead Agency Contact

Name Sid England
Agency University of California, Davis
Phone 530-752-2432 **Fax**
email
Address One Shields Avenue
City Davis **State** CA **Zip** 95616

Project Location

County Yolo
City Davis
Region
Cross Streets Health Sciences Drive & Hutchison Drive
Parcel No.
Township

Proximity to:

Highways 113 & I-80
Airports University / Yolo
Railways Union Pacific
Waterways Putah Creek
Schools Davis Joint Unified School District
Land Use Designated at Parking and Transportation corridor in the UC Davis Long Range Development Plan

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 2; Office of Historic Preservation; Department of Parks and Recreation; Caltrans, District 3; Department of Health Services; Regional Water Quality Control Bd., Region 5 (Sacramento); Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission

Date Received 09/15/1999 **Start of Review** 09/15/1999 **End of Review** 10/14/1999

**LETTER 1: GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, STATE
CLEARINGHOUSE**

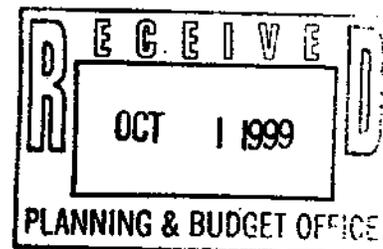
Comment noted. This letter indicates that the Campus has met the requirements for the review of the Draft Tiered Initial Study.



947 Galileo Court, Suite 103 • Davis, California 95616

(530) 757-3650 • (800) 287-3650 • Fax (530) 757-3670

October 5, 1999



Richard F. Keller
Planning and Budget Office
University of California, Davis
One Shields Avenue
Davis, CA 95616

SUBJECT: Comments on Draft Tiered Initial Study/Proposed Mitigated Negative Declaration for USDA Western Human Nutrition Research Center

Dear Mr. Keller:

Thank you for the opportunity to comment on the Draft Tiered Initial Study/Proposed Mitigated Negative Declaration for USDA Western Human Nutrition Research Center.

Below are the District's Comments:

Chapter VI, Mitigation Measures:

6. Air Quality

It is recommended that mitigation measures 4.5-1 a, b, and d be amended as follows:

- a) All unpaved construction areas shall be sprinkled with water or other dust control agents during dust generating activities and dry windy weather to prevent visible dust emissions.
- b) Trucks hauling dirt and debris shall be adequately covered to prevent spillage and visible dust emissions.
- c) No change recommended.
- d) On site stockpiles of excavated materials shall be covered or watered to prevent visible dust emissions.

7. Transportation/Circulation

The following additional mitigation measure is recommended under this section:

Adequate bicycle parking facilities shall be provided for the project and designed under consultation with the UCD Transportation and Parking Services, Bicycle Facilities Unit.

2-2

Thank you for consideration of the District's comments.

If you have any questions, I can be reached at (530) 757-3653.

Sincerely,



Jim Antone
Associate Planner

LETTER 2: YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

Response to Comment 2-1

As discussed on pages 40 and 41 of this Initial Study, the 1994 LRDP EIR identified Mitigation Measures 4.5-1(a) through (d) to reduce the short-term generation of PM₁₀ emissions. The intent of the mitigation measures is to reduce the potential impact from fugitive dust during construction activities on most individual projects to a less-than-significant level. The impact identified in the LRDP EIR was considered significant and unavoidable because as discussed on page 4.5-18 of the 1994 LRDP DEIR, for projects that involve large-scale grading, and for multiple, simultaneous projects in close proximity on the Campus, fugitive dust emissions could still occur even with implementation of required mitigation measures.

The commenter recommends modifications to 1994 LRDP EIR Mitigation Measures 4.5-1(a), (b) and (d) that would require complete elimination of all visible dust. The campus agrees with the intent of suggested changes, and it is consistent with the intent of 1994 LRDP EIR Mitigation Measures 4.5-1(a) through (d). Effective implementation of 1994 LRDP EIR Mitigation Measures 4.5-1 (a) through (d) would accomplish the same goal. However, the existing wording of the mitigation measures recognizes that on some projects, complete elimination of visible dust may not be attainable.

Response to Comment 2-2

The commenter recommends an additional mitigation measure to ensure that adequate bicycle parking facilities be provided in consultation with Transportation and Parking Services (TAPS), Bicycle Facilities Unit. Even though the proposed project is a USDA facility, project design will still be subject to campus design review. As part of this standard review process, TAPS will have an opportunity to comment on the adequacy of bicycle parking facilities. Furthermore, as stated on page 58 of this Tiered Initial Study, the project area would be planned to include adequate bicycle parking at the building.



**YOLO COUNTY DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH SERVICES**

10 Cottonwood St.
Woodland, CA 95695
(530) 666-8646

**LAND USE PROJECT EVALUATION
PROJECT DESCRIPTION**

Title: WESTERN HUMAN NUTRITION RESEARCH CENTER

Type: DRAFT TIERED INITIAL STUDY

Location: UCD - CENTRAL CAMPUS

Applicant: UCD APN: N/A

Date Received by E.H.: 9/16/99

Environmental Health has evaluated/reviewed the above referenced project proposal and would like to comment as follows:

APPEARS SATISFACTORY.

-Continued on Next Page-

Environmental Health Recommends:

- Approval of Project.
- Approval with Conditions:

- EIR ND

- No Recommendation until the following additional information is available for evaluation:

- Other:

- This project requires no further review or evaluation by Environmental Health.

Our office has has not previously reviewed an application on any portion of this project.

PROJECT EVALUATED BY: Paul Fitzmaurice

DATE: 9/23/99

**LETTER 3: YOLO COUNTY DEPARTMENT OF PUBLIC HEALTH,
ENVIRONMENTAL HEALTH SERVICES**

Comment noted. This letter indicates that Environmental Health Services has reviewed the Draft Tiered Initial Study and finds it to be satisfactory.

IX. MITIGATION MONITORING PROGRAM

CEQA requires that a Lead Agency establish a program to report on and monitor measures adapted as part of the environmental review process to mitigate or avoid significant effects on the environment. This Mitigation Monitoring Program (MMP) is designed to ensure that the mitigation measures identified in the Tiered Initial Study are implemented. Applicable mitigation measures from the 1994 LRDP EIR and the 1997-98 Major Capital Improvement Projects SEIR will be implemented as part of the USDA Western Human Nutrition Research Center Project pursuant to the previous MMPs adopted by the Regents on September 23, 1994 and July 17, 1998, respectively.

The MMP, as outlined in the following table, describes monitoring and reporting procedures, monitoring responsibilities, and monitoring schedules for all mitigation measures identified in the Tiered Initial Study. The MMP table is organized by topic in the same order as the topics are addressed in the Tiered Initial Study.

A variety of campus entities have been assigned monitoring responsibilities under this MMP. All monitoring actions, once completed, would be reported (in writing) to the UC Davis Planning and Budget Office, which would maintain mitigation monitoring records for the proposed project. The MMP will be considered by the Campus in conjunction with project review and will be included as a condition of project approval.

The components of this table are addressed briefly below.

Project Specific Mitigation Measures: The project-specific mitigation measures are taken verbatim from the Tiered Initial Study, in the same order that they appear in the Tiered Initial Study.

Monitoring and Reporting Procedure: Identifies the action(s) that must be completed for the mitigation measure to be considered implemented.

Mitigation Timing: Identifies the timing for implementation of each action. Each entry in the table begins with a two-letter code. These codes indicate when the mitigation measure must be implemented in the typical project cycle in order to effectively accomplish the intended outcome. The meaning of these codes is as follows:

DA - Design Approval

CO - Construction

Monitoring Responsibilities: Identifies UC Davis office responsible for undertaking the required action and monitoring the mitigation measure. When more than one office has responsibility, each office is listed.

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This Mitigation Monitoring Program (MMP) is designed to ensure that the mitigation measures identified in the Tiered Initial Study are implemented. Applicable mitigation measures from the 1994 LRDP EIR and the 1997-98 Major Capital Improvement Projects SEIR will be implemented as part of the USDA Western Human Nutrition Research Center Project pursuant to the previous MMPs adopted by the Regents on September 23, 1994 and July 17, 1998, respectively.

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A variety of campus entities have been assigned monitoring responsibilities under this MMP. All monitoring actions, once completed, would be reported (in writing) to the UC Davis Planning and Budget Office, which would maintain mitigation monitoring records for the proposed project. The MMP will be considered by the Campus in conjunction with project review and will be included as a condition of project approval.

The components of this table are addressed briefly below.

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DA - Design Approval
CO - Construction

Monitoring Responsibilities: Identifies UC Davis office responsible for undertaking the required action and monitoring the mitigation measure. When more than one office has responsibility, each office is listed.

UNIVERSITY OF CALIFORNIA, DAVIS USDA WESTERN HUMAN NUTRITION RESEARCH CENTER MITIGATION MONITORING PROGRAM			
Project-Specific Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing	Mitigation Responsibility
Land Use and Planning			
1. <i>The Regents shall amend the 1994 LRDP land use map to change 2.2 acres of the proposed WHNRC site from Parking to High Density Academic and Administrative land use designation.</i>	Verify and document that The Regents amend the 1994 LRDP.	Prior to DA	Planning and Budget
Biological Resources			
2. <i>Based on approval by the California Department of Fish and Game, owls using burrows on or adjacent to the project site could be relocated to a nearby natural or an artificial burrow.</i>	Verify that owls have been relocated.	Prior to CO	Planning and Budget

X. DETERMINATION

Pursuant to Sections 15152 and 15168 of the CEQA Guidelines, this 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 this evaluation, I find as follows:

- 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 impacts previously identified in the 1994 LRDP EIR, and the project will otherwise result in no new significant impacts. Further, 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 effects not previously addressed in the 1994 LRDP EIR, but there is no substantial evidence that such effects 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.
- I find that 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 potentially significant impacts not previously identified in the 1994 LRDP EIR, but proposed project specific mitigation measures would reduce the effect of such impacts to a point where clearly no significant effects 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, 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.

Signature

Date

ENDNOTES

-
1. City of Davis, *Draft Environmental Impact Report*, October 1987, page 24.
 2. Yolo County Community Development Department, *Yolo County General Plan, Part 2: Description and Data*, July 1983, p.9.
 3. Wallace, Kuhl and Associates, Inc., *Preliminary Geotechnical Engineering Report, UCD Medical Sciences II*, University of California, Davis, November 10 1998, pg. 2.
 4. Wallace, Kuhl and Associates, Inc., *Preliminary Geotechnical Engineering Report, UCD Medical Sciences II*, University of California, Davis, November 10 1998, pg. 2.
 5. ENSR Consulting and Engineering, *Health Risk Assessment of Emissions to Air from Long Range Development Plan*, February 1994.
 6. Jones & Stokes Associates, Inc., *Updated Health Risk Assessment of Air Emissions Generated at the University of California, Davis*, October 1996, p. 1, in: University of California, Davis, *Wastewater Treatment Plant Replacement Project Draft Environmental Impact Report*, October 1996, Appendix G.
 7. Jones & Stokes Associates, Inc., *Updated Health Risk Assessment of Air Emissions Generated at the University of California, Davis*, October 1996, Table 8-1, in: University of California, Davis, *Wastewater Treatment Plant Replacement Project Draft Environmental Impact Report*, October 1996, Appendix G.
 8. Ibid.
 9. University of California, Davis, *UC Davis 1997-8 Major Capital Improvement Projects Draft Supplemental Environmental Impact Report*, State Clearinghouse No. 97122016, March 1998, p. 8-22.
 10. Jones and Stokes Associates, Inc., "Special-Status Plant Survey on the U.C. Davis Campus", letter to Sid England, UC Davis Office of Planning and Budget, May 13, 1998.
 11. Ibid.
 12. University of California, Davis, *UC Davis Major Capital Improvement Projects Draft Supplemental Environmental Impact Report*, State Clearinghouse No. 97122016, March 1998.
 13. Jones and Stokes Associates, Inc., "Special-Status Plant Survey on the U.C. Davis Campus", letter to Sid England, UC Davis Office of Planning and Budget, May 13, 1998.
 14. Brian Oatman, Manager, Environmental Protection, Health Sciences Subdistrict Planning: memo to Sid England, UC Davis Office of Planning and Budget, May 28, 1998.
 15. Noise measurement taken by UC Davis Environmental Health and Safety on February 23, 1999.
 16. To calculate L_{dn} , 10 dBA is added to the measurement to account for nighttime noises.

-
17. UC Davis, *Center for the Arts Performance Hall and South Entry Roadway and Parking Improvements, Draft Tiered Initial Study*, September 1998.
 18. Ibid.
 19. UC Davis Facility Services, *UC Davis Project Planning Guide Electrical Improvements: Phase 2B Project*.
 20. UC Davis, *Center for the Arts Performance Hall and South Entry Roadway and Parking Improvements, Draft Tiered Initial Study*, September 1998.
 21. Joel T. Swift, UC Davis, written correspondence with Eric Rainbolt, UC Davis Office of Planning and Budget, January 1999.
 22. Joel T. Swift, UC Davis, written correspondence with Eric Rainbolt, UC Davis Office of Planning and Budget, January 1999.
 23. Joel T. Swift, UC Davis, written correspondence with Eric Rainbolt, UC Davis Office of Planning and Budget, January 1999.
 24. Joel T. Swift, UC Davis, written correspondence with Eric Rainbolt, UC Davis Office of Planning and Budget, January 1999.
 25. Joel T. Swift, UC Davis, written correspondence with Eric Rainbolt, UC Davis Office of Planning and Budget, January 1999.
 26. Jerry O'Hearn, UC Davis Architects and Engineers, personal communication with Eric Rainbolt, UC Davis Office of Planning and Budget, March 12, 1999.
 27. UC Davis, *Center for the Arts Performance Hall and South Entry Roadway and Parking Improvements, Draft Tiered Initial Study*, September 1998.
 28. Joel T. Swift, UC Davis, written correspondence with Eric Rainbolt, UC Davis Office of Planning and Budget, January 1999.
 29. Pacific Legacy, *Archaeological Investigation for the Health Sciences Subdistrict Planning Project*, April 1998.
 30. Ibid.