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April 25, 2018

The Honorable Holly J. Mitchell, Chair
Joint Legislative Budget Committee
1020 N Street, Room 553
Sacramento, California 95814

Dear Senator Mitchell:

Pursuant to Section 67504 of the Education Code, enclosed are summaries of the UC Davis 2018 Draft Long Range Development Plan (LRDP) and Draft LRDP Environmental Impact Report (EIR), for review by the Joint Legislative Budget Committee. Complete versions of these documents are available at the following website: http://campustomorrow.ucdavis.edu/.

If you have any questions regarding this report, Associate Vice President David Alcocer would be pleased to speak with you. He can be reached by telephone at (510) 987-9113, or by e-mail at david.alcocer@ucop.edu.

Yours very truly,

Janet Napolitano
President

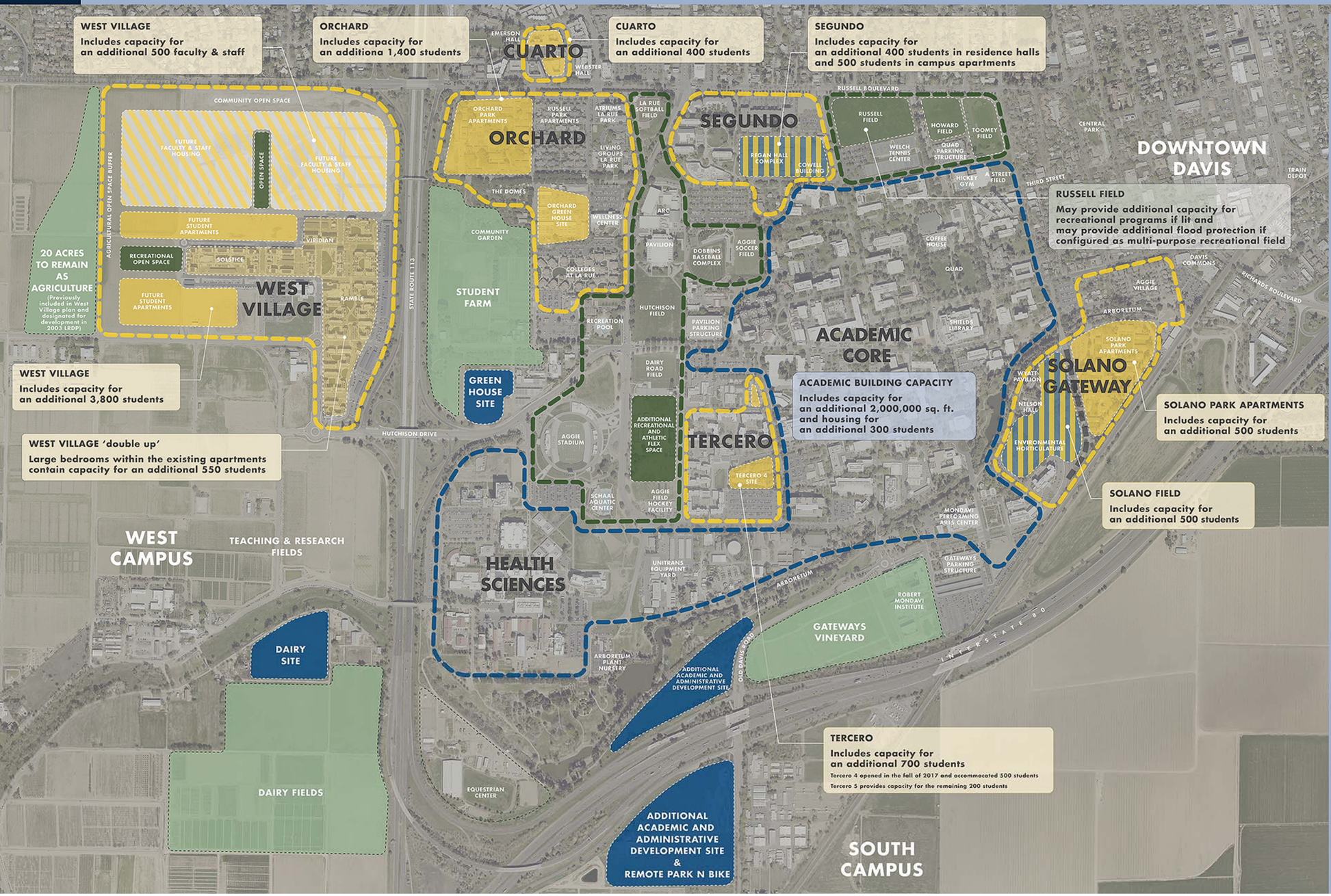
Enclosure

cc: Senate Budget and Fiscal Review
The Honorable Anthony J. Portantino, Chair
Senate Budget and Fiscal Review Subcommittee #1
(Attn: Ms. Anita Lee)
(Attn: Ms. Cheryl Black)
The Honorable Kevin McCarty, Chair
Assembly Budget Subcommittee #2
(Attn: Mr. Mark Martin)
(Attn: Mrs. Katie Sperla)
Ms. Jennifer Troia, Joint Legislative Budget Committee
Mr. Danny Alvarez, Secretary of the Senate
Ms. Tina McGee, Legislative Analyst's Office
Ms. Amy Leach, Office of the Chief Clerk of the Assembly
Ms. Diane Boyer-Vine, Legislative Counsel Bureau
Mr. E. Dotson Wilson, Chief Clerk of the Assembly
Mr. Jeff Bell, Department of Finance
Mr. Jack Zwald, Department of Finance
Ms. Tina McGee, Legislative Analyst's Office
Mr. Mac Taylor, Legislative Analyst's Office
Mr. Jason Constantouros, Legislative Analyst's Office
Chancellor Gary S. May
Vice Chancellor for Finance Kelly Ratliff
Associate Chancellor and Chief of Staff Karl Engelbach
Provost and Executive Vice President Michael Brown
Executive Vice President and Chief Financial Officer Nathan Brostrom
Associate Vice President Peggy Arrivas
Associate Vice President David Alcocer
Associate Vice President and Director Kieran Flaherty
Chief Policy Advisor and Executive Director Jenny Kao
Chief of Staff to the Chief Financial Officer Oren Gabriel

CAMPUS TOMORROW UCDAVIS

2018 DRAFT LONG RANGE DEVELOPMENT PLAN - April 2018

CAMPUS TOMORROW UCDAVIS



CAMPUS POPULATION PROJECTIONS

ENROLLMENT PROJECTION: 39,000

POTENTIAL NEW STUDENTS ON CAMPUS	5,175
STUDENTS ON CAMPUS IN 2016-17	33,825

EMPLOYMENT PROJECTION: 14,500

POTENTIAL NEW EMPLOYEES ON CAMPUS	2,135
EMPLOYEES ON CAMPUS IN 2016-17	12,365

ACADEMIC SPACE PROJECTION

SQUARE FOOTAGE PROJECTION: 11,500,000

POTENTIAL NEW SQUARE FOOTAGE	2,000,000
SQUARE FOOTAGE IN 2016-17	9,500,000

CAMPUS HOUSING PROJECTION

LRDP HOUSING PROJECTION SIGNIFICANTLY EXCEEDS POTENTIAL ENROLLMENT GROWTH

8,500 ADDITIONAL STUDENTS LIVING ON CAMPUS

CAMPUS APARTMENT PROJECTION: 11,755

POTENTIAL ADDITIONAL STUDENTS	7,425
STUDENTS IN 2016-17	4,330

RESIDENCE HALL PROJECTION: 6,576

POTENTIAL ADDITIONAL STUDENTS	1,088
STUDENTS IN 2016-17	5,488

FACULTY & STAFF HOUSING PROJECTION: 565

POTENTIAL ADDITIONAL FACULTY & STAFF	485
FACULTY & STAFF IN 2016-17	80

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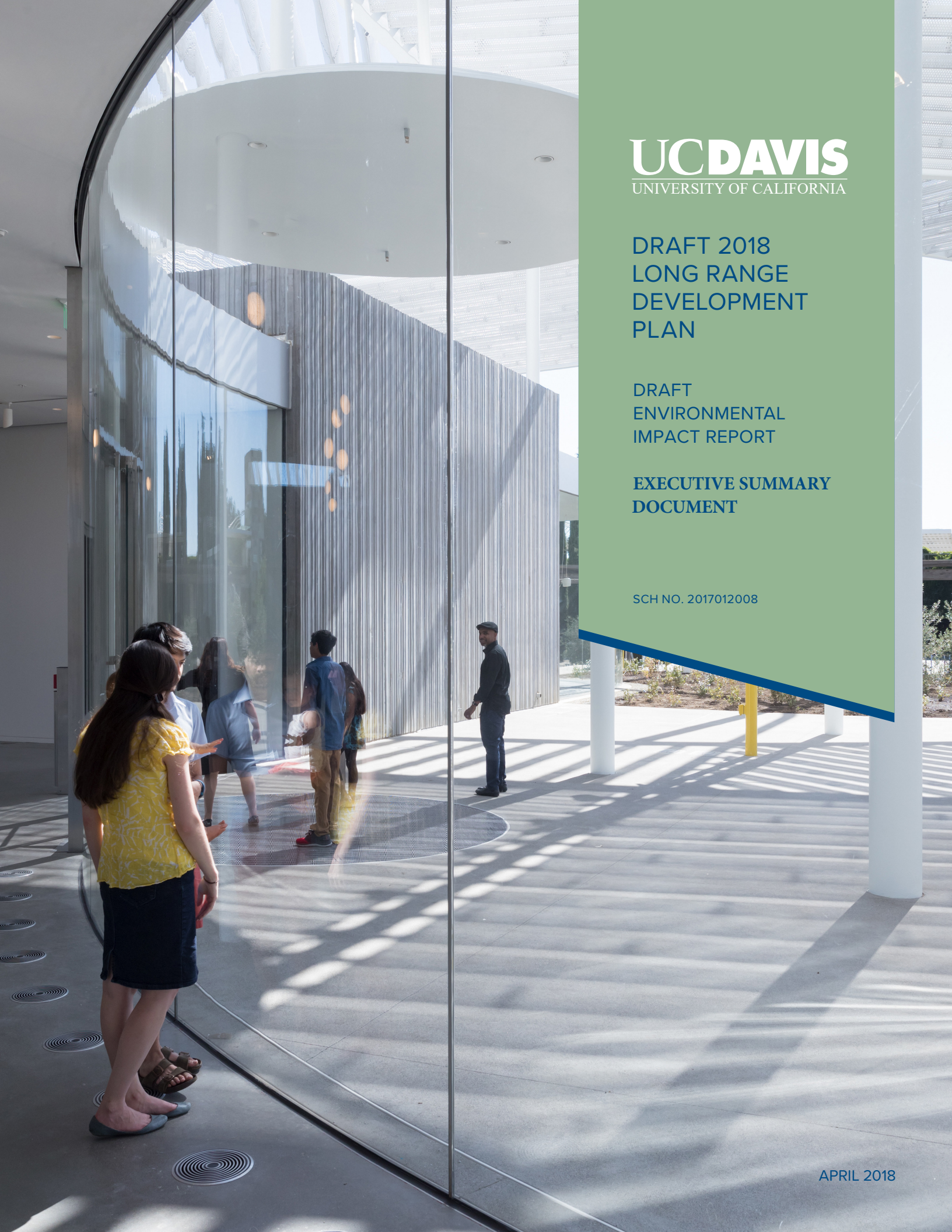

UC DAVIS
UNIVERSITY OF CALIFORNIA

DRAFT 2018 LONG RANGE DEVELOPMENT PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

EXECUTIVE SUMMARY DOCUMENT

SCH NO. 2017012008

APRIL 2018

PREFACE

The following document presents a summary of the potential environmental impacts associated with implementation of the University of California, Davis (UC Davis) 2018 Long Range Development Plan (LRDP) as evaluated in the Draft Environmental Impact Report (EIR) for the plan, as well as summaries of the potential project-specific environmental effects associated with two components of the 2018 LRDP: the West Village Expansion component and the Orchard Park Redevelopment component. The programmatic environmental analysis of the overall 2018 LRDP is provided in Volume 1 of the Draft EIR; the two project-specific components are described and evaluated at a project level in Volumes 2 (West Village Expansion) and 3 (Orchard Park Redevelopment) of the EIR, incorporating information from Volume 1 as relevant, and expanding upon this information as needed.

The Draft EIR is being circulated for a 45-day period of review and comment by the public and other interested parties, agencies, and organizations. A public hearing will be held on May 3, 2018 at 7 p.m. to receive input from agencies and the public on the Draft EIR. The public hearing will be held on the UC Davis campus at the International Center building at the southwest corner of Russell Boulevard and California Avenue. Copies of the Draft EIR and the 2018 LRDP are available at the following locations for review:

On-line: http://campustomorrow.ucdavis.edu/

Public Libraries:

- Davis: Mary L. Stephens Branch Library, 315 East 14th Street, Davis, CA 95616
- UC Davis: Shields Library, Shields Avenue, University of California
- Dixon: Dixon Public Library, 230 N. First St. Dixon, CA 95620
- Woodland: Woodland Public Library 250 First Street, Woodland, CA 95695
- West Sacramento: Arthur F. Turner Branch Library, 1212 Merkley Avenue, West Sacramento, CA 95691
- Winters: Winters Community Library, 708 Railroad Avenue, Winters, CA 95694

UC Davis (Draft EIR and associated reference materials): Office of Campus Planning and Environmental Stewardship, Suite 436 in Mrak Hall, north end of Mrak Hall Drive at UC Davis.

The public review period will conclude at 5:00 p.m. on May 29, 2018. All comments on the Draft EIR should be addressed to:

Matt Dulcich, AICP
Director of Environmental Planning
Campus Planning and Environmental Stewardship
University of California, One Shields Avenue
Davis, CA 95616
environreview@ucdavis.edu

EXECUTIVE SUMMARY

INTRODUCTION

This Executive Summary is provided in accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15123. It contains an overview of the programmatic analysis of the University of California, Davis (UC Davis) 2018 Long Range Development Plan (LRDP), which is contained in Volume 1 of the Environmental Impact Report (EIR). As stated in the State CEQA Guidelines Section 15123(a), "[a]n EIR shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be as clear and simple as reasonably practical." State CEQA Guidelines Section 15123(b) states, "[t]he summary shall identify: 1) each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; 2) areas of controversy known to the Lead Agency, including issues raised by agencies and the public; and 3) issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." Accordingly, this summary includes a brief synopsis of the 2018 LRDP and plan alternatives, environmental impacts and mitigation, areas of known controversy, and issues to be resolved during environmental review. Table ES-1 (at the end of this section) presents the summary of potential environmental impacts, their level of significance without mitigation measures, the mitigation measures, and the levels of significance following the implementation of mitigation measures.

Separate executive summaries have been prepared for two project-level evaluations, the West Village Expansion and Orchard Park Redevelopment projects, which are contained in Volumes 2 and 3. These projects are components of the 2018 LRDP and are evaluated at a project-level of detail in these separate volumes.

SUMMARY DESCRIPTION OF THE 2018 LRDP

The approximately 5,300-acre UC Davis campus is located in Yolo and Solano Counties. The campus is surrounded by extensive agricultural uses to the west and south and by residential, institutional, and commercial land uses in the city of Davis to the north and east. The campus comprises four general geographic areas: the central campus, the south campus, the west campus, and Russell Ranch.

The 2018 LRDP is intended to support the teaching, research, and public service missions of the UC. The plan's growth assumptions are based on campus population projections and an understanding of campus needs and goals. The 2018 LRDP represents the long-term planning document for the UC Davis campus, and it involves modifications to the previous land use plan established as part of the 2003 LRDP.

The 2018 LRDP planning effort anticipates that the on-campus student population could grow from approximately 33,825 (2016–2017 academic year) to approximately 39,000 by the 2030–2031 academic year. In response to this potential increase in the student population and anticipated increases in mission-based activities, UC Davis anticipates that its faculty and staff population could increase from approximately 12,365 to approximately 14,500 in the same time frame. To accommodate the increased population and respond to evolving higher education needs at UC Davis, the 2018 LRDP proposes the development of construction of an additional 2 million square feet of academic and administrative building space. Substantial additional on-campus housing will

also be developed to accommodate 100 percent of the new students as well as a portion of the existing campus population. The 2018 LRDP does not address planning or growth for UC Davis facilities outside of the Davis area, such as at the UC Davis Sacramento Medical Center, Tahoe Environmental Research Center, or Bodega Marine Laboratory.

In addition to functioning as a program EIR for the potential overall enrollment and development proposed in the 2018 LRDP, the EIR functions as a project EIR for two student housing projects on the UC Davis campus. The first project (West Village Expansion), which is analyzed at a project level in Volume 2 of this EIR, involves constructing and operating student housing at the UC Davis West Village neighborhood. Up to 3,800 beds would be provided, primarily for transfer and undergraduate students, as well as a remote parking area south of I-80. In Volume 3, the EIR evaluates the second project (Orchard Park Redevelopment), which includes the redevelopment of the site of the former Orchard Park Apartments with up to 1,400 beds of additional student housing, primarily for students with families and graduate students. Refer to the respective summary chapters contained within Volumes 2 and 3 for more detailed descriptions of the respective projects.

OBJECTIVES OF THE 2018 LRDP

The planning goals for the 2018 LRDP are structured as three interrelated types of actions: support the academic enterprise, enrich community life, and create a sustainable future. Based on these planning goals, actions, and associated facility needs as outlined in the 2018 LRDP, UC Davis has developed the following CEQA project objectives for the 2018 LRDP:

- Create a dynamic environment for learning and discovery.
- Promote compact and clustered development of academic/administrative facilities where possible.
- Provide agricultural and environmental field research facilities close to the UC Davis central campus.
- Maintain a compact and connected academic core with a generous open space network.
- Maintain flexibility to accommodate new or expanded initiatives and programs.
- Promote compact and clustered development of housing facilities where possible.
- Increase on-campus housing opportunities and the proportion of students living on-campus.
- Promote affordable and accessible student and faculty/staff residential communities.
- Protect natural areas, including the Arboretum waterway and Putah Creek Reserve.
- Provide an environment to enrich campus life and serve the greater community.
- Further UC Davis as a leader in sustainability and efforts to meet the goals of the UC Carbon Neutrality Initiative.
- Foster long-term resiliency in response to climate change and the uncertainties of other social, economic, and environmental factors.
- Maximize transit, bike, and pedestrian access to the campus.
- Provide a healthy and interconnected natural and built environment.
- Monitor and adaptively manage future development on campus to reduce temporary construction and long-term impacts on any one particular area on or off campus.

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Pursuant to State CEQA Guidelines Section 15382, a significant effect on the environment is defined as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the plan, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." Chapter 3 of this Draft EIR describes in detail the significant environmental impacts that would result from implementation of the 2018 LRDP. Chapters 4 and 5 provide a discussion of cumulative and growth-inducing impacts, respectively. Table ES-1 summarizes the environmental impacts and mitigation measures discussed in these chapters.

SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

Section 21100(b)(2)(A) of the State CEQA Guidelines provides that an EIR shall include a detailed statement setting forth "in a separate section: any significant effect on the environment that cannot be avoided if the project is implemented." Accordingly, this section provides a summary of significant environmental impacts of the plan that cannot be mitigated to a less-than-significant level.

Chapter 3, "Existing Environmental Setting, Impacts, and Mitigation," provides a description of the potential environmental impacts of the plan and recommends various mitigation measures to reduce impacts, to the extent feasible. Chapter 4, "Cumulative Impacts," determines whether the incremental effects of this plan are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. After implementation of the recommended mitigation measures, most of the impacts associated with development of the plan would be reduced to a less-than-significant level. The following impacts are considered significant and unavoidable; that is, no feasible mitigation is available or the mitigation measures available were not sufficient to reduce the plan's impacts to a less-than-significant level. Note, this is only a summary of those impacts; it is important to review the discussions in Chapters 3 and 4 of this EIR to understand the full context of the impact determinations.

Implementation of the 2018 LRDP would result in the following significant unavoidable environmental impacts, following implementation of feasible mitigation measures:

- Impact 3.1-1: Result in a substantial adverse effect on a scenic vista.
- Impact 3.2-1: Convert agricultural uses, including lands designated as Important Farmlands, to non-agricultural use or involve changes in the existing environment that could result in conversion of Important Farmland to non-agricultural use.
- Impact 3.3-1: Construction-generated emissions of ROG, NOX, and PM10.
- Impact 3.3-2: Operational emissions of criteria air pollutants and precursor emissions.
- Impact 3.3-6: Land use compatibility with off-site sources of toxic air contaminants and ultrafine particulates.
- Impact 3.4-4: Impacts to historical resources.
- Impact 3.5-11: Conflict with local policies or ordinances related to the protection of biological resources.
- Impact 3.13-1: Directly or indirectly induce substantial population growth and housing demand.
- Impact 3.16-1: Freeway level of service impacts.
- Impact 3.16-2: Intersection level of service impacts.

- Impact 3.16-6: Cumulative impacts to freeway level of service.

In terms of cumulative impacts, significant and unavoidable cumulative impacts would occur with respect to agriculture and forest resources; air quality; archaeological, historical, and tribal cultural resources; and transportation, circulation, and parking.

ALTERNATIVES TO THE 2018 LRDP

State CEQA Guidelines Section 15126.6, as amended, mandates that all EIRs include a comparative evaluation of the proposed plan with alternatives to the plan that are capable of attaining most of the plan's basic objectives, but would avoid or substantially lessen any of the significant effects of the plan. CEQA requires an evaluation of a "range of reasonable" alternatives, including the "no project" alternative. The following alternatives are under consideration for the 2018 LRDP:

- **Alternative 1: No Project.** This alternative would involve the continued implementation of the 2003 LRDP. Planned growth as expressed in the 2003 LRDP would continue up to its planned capacity, which would primarily result in increases in faculty/staff.
- **Alternative 2: Reduced Development Program.** Under this alternative, UC Davis would implement a long-range campus plan with an overall reduction in planned campus development. Under this alternative, housing for approximately 8,000 students and 500,000 square feet (sf) of new academic/administrative space would be provided, compared to 9,050 student beds and 2,000,000 sf of new academic/administrative space under the 2018 LRDP.
- **Alternative 3: Net Student Growth Only.** Similar to Alternative 2, UC Davis would implement a long-range campus plan that reduces the anticipated level of development, compared to the 9,050 student beds and 2,000,000 sf of new academic/administrative space of the 2018 LRDP. This alternative would provide up to 5,200 student beds, which would correspond to the projected increase in student enrollment at UC Davis, and up to 500,000 sf of new academic/administrative space.
- **Alternative 4: 2018 LRDP with Additional Student Housing.** This alternative would include development of the campus similar to the 2018 LRDP with additional student housing development (approximately 2,200 beds) at the Nishi site, located southeast of the central campus, and additional beds at the West Village Expansion (1,800 beds) and Orchard Park (500 beds) beyond the 2018 LRDP. In total, implementation of this alternative would result in approximately 23,400 total student beds within the UC Davis campus, compared to the 18,868 total student beds with implementation of the 2018 LRDP.

The State CEQA Guidelines section 15126.6 states that an EIR should identify the "environmentally superior" alternative. "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Consistent with State CEQA Guidelines (California Code of Regulations Section 15126.6 [e][2]), because the environmentally superior alternative was identified as the No Project Alternative, another environmentally superior alternative shall be identified. Based on the environmental analysis contained in this Draft EIR, the environmentally superior alternative would be either the 2018 LRDP or Alternative 3, depending on decisions about the priority of types of environmental benefits and adverse effects by UC Davis. In essence, decision-makers must weigh the relative importance of greater construction-related impacts associated with the 2018 LRDP, compared to the greater operational impacts associated with Alternative 3. Nonetheless, each of the alternatives considered would result in long-term, significant and unavoidable environmental impacts. Therefore, the environmental impact differences between these two alternatives are not substantial enough that one is clearly superior over the others.

AREAS OF CONTROVERSY

In accordance with CEQA Statute Section 21092 and CEQA Guidelines 15082, a notice of preparation (NOP) was prepared and circulated on January 4, 2017, for a minimum 30-day period of public and agency comment. The original public review period was scheduled to end on February 3, 2017, but was extended to February 17, 2017. The NOP was submitted to the State Clearinghouse and the clerk-recorder for both Solano and Yolo counties. A public scoping session was held January 25, 2017 in Ballroom A of the UC Davis Conference Center; UC Davis staff were also available to answer questions at the February 8, 2017 City Council meeting. Appendix B contains the comment letters submitted in response to the NOP.

Based on the comments received during the NOP comment periods, the major areas of controversy associated with the plan are:

- housing, in particular the percentage of students living off-campus compared to other universities within the UC system. Local individuals and communities have expressed a desire for UC Davis to include more on-campus housing than was initially proposed as part of the NOP in January 2017;
- potential traffic impacts associated with continued growth of the UC Davis campus;
- impacts on local jurisdictions within the vicinity of UC Davis;
- concern regarding potential modifications to Russell Field;
- potential impacts to existing utilities and the need for expanded water supplies and wastewater treatment capacity;
- impacts to threatened and endangered species as a result of additional campus development; and
- impacts to agricultural resources, both direct and indirect.

All of the substantive environmental issues raised in the NOP comment letters and at the scoping meeting have been addressed or otherwise considered during preparation of this DEIR.

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
3.1 Aesthetics			
Impact 3.1-1: Result in a substantial adverse effect on a scenic vista. Implementation of the 2018 LRDP would result in the construction and operation of additional facilities within UC Davis and could result in alteration of views to the coastal range, west of campus. While new construction would be consistent with, and immediately adjacent to, existing development which has already altered long-distance views, further development could further preclude long-distance views. Therefore, this impact would be significant.	PS	No feasible mitigation measures are available.	SU
Impact 3.1-2: Degrade existing visual character or quality. Implementation of the 2018 LRDP would result in temporary and permanent visual changes throughout the UC Davis campus. New buildings and other development within UC Davis would require design review to ensure consistency with the existing character and quality of the campus and surrounding areas. Therefore, any impacts to visual character or quality would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.1-3: Create a new source of light or glare. Implementation of the 2018 LRDP would introduce new sources of light and glare associated with new buildings and facilities. Such lighting could contribute to indirect lighting/glare on adjacent land uses that could adversely affect daytime or nighttime views and result in additional skyglow. This impact is considered potentially significant.	PS	**Mitigation Measure 3.1-3a: Building surfaces.** UC Davis shall require the use of textured, non-reflective exterior surfaces and non-reflective (mirrored) glass during design review of all new/redeveloped structures. **Mitigation Measure 3.1-3b: Lighting fixtures.** UC Davis shall require all new outdoor lighting to utilize directional lighting methods with shielded and cutoff type light fixtures to minimize glare and upward directed lighting such that light spillover onto adjacent structures does not occur. Verification of inclusion in project design shall be provided at the time of design review.	LTS
3.2 Agriculture and Forestry Resources			
Impact 3.2-1: Convert agricultural uses, including lands designated as Important Farmlands, to non-agricultural use or involve changes in the existing environment that could result in conversion of Important Farmland to non-agricultural use. Implementation of the 2018 LRDP could result in the conversion of up to approximately 166 acres of Important Farmland to non-agricultural uses. Because implementation of the 2018 LRDP would result in a conversion of Important Farmland, this impact is considered significant.	S	**Mitigation Measure 3.2-1: Preservation of other campus agricultural land.** Prior to conversion of Important Farmland to non-agricultural uses for individual projects proposed under the 2018 LRDP, UC Davis shall preserve, in perpetuity, an equivalent acreage (up to 166 total acres for the 2018 LRDP) of Important Farmland within either Russell Ranch or lands adjacent to UC Davis west or south campus for agricultural purposes (including agricultural teaching and research). If acreage preserved through implementation of this mitigation measure is to also be considered in fulfillment of Mitigation Measure 3.5-4b (Compensation for loss of Swainson's hawk foraging habitat), it shall not be used as vineyards or orchards in perpetuity.	SU

NI = No impact B = Beneficial LTS = Less than significant PS = Potential significant S = Significant SU = Significant and unavoidable

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.2-2: Result in other loss or conversion of existing agricultural use. Development proposed under the 2018 LRDP could result in the direct loss or conversion of existing agricultural uses within UC Davis. However, because the 2018 LRDP primarily involves land use changes near existing urban areas and away from off-site agricultural areas, it is unlikely that the indirect conversion of land outside of campus boundaries would occur as a result of 2018 LRDP implementation. This impact is considered less than significant.	LTS	No mitigation measures are necessary.	LTS
3.3 Air Quality			
Impact 3.3-1: Construction-generated emissions of ROG, NO_X, and PM_{10}. Construction-generated emissions would potentially exceed YSAQMD's significance thresholds for ROG, NO_X, and PM_{10} during construction. Therefore, this impact would be potentially significant.	PS	**Mitigation Measure 3.3-1: Reduce construction-generated emissions of ROG, NO_X, and PM_{10}.** Land use development project implemented under the 2018 LRDP shall require its prime construction contractor to implement the following measures: 1) Use construction equipment with engines rated at Tier 3 or better. 2) Use no- or low-solids content (i.e., no- or low-VOC) architectural coatings with a maximum VOC content of 50 g/L. 3) Limit passenger vehicles (i.e., non-vendor and non-hauling vehicles) from being driven on extended unpaved portions of project construction sites. UC Davis shall provide off-site paved parking and compliant site-transport arrangements for construction workers, as needed. 4) Water all active construction sites at least twice daily. 5) Plant vegetative ground cover in disturbed areas as soon as possible. 6) Apply soil stabilizers on unpaved roads and inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days). 7) Establish a 15 mile-per-hour speed limit for vehicles driving on unpaved portions of project construction sites. UC Davis shall ensure that the implementation of this mitigation measure is consistent with the UC Davis stormwater program and the California Stormwater Quality Association *Stormwater BMP Handbook for New Development/Redevelopment* and does not result in off-site runoff as a result of watering for dust control purposes.	SU

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.3-2: Operational emissions of criteria air pollutants and precursor emissions. Operational activities associated with the 2018 LRDP would result in long-term project-generated emissions of criteria air pollutants, particularly ROG and NO_X. Long-term, operational emissions could exceed YSAQMD significance thresholds for ROG and NO_X but would not exceed YSAQMD thresholds for PM_{10} and $PM_{2.5}$. Thus, long-term operational emissions of ROG and NO_X could conflict with the air quality planning efforts and contribute substantially to the nonattainment status of Yolo County with respect to the NAAQS and CAAQS for ozone. This would be a potentially significant impact.	PS	**Mitigation Measure 3.3-2: Reduce emissions of ROG and NO_X from mobile sources.** Mobile emissions at 2018 LRDP buildout account for nearly 10 tons per year of ROG and NO_X, respectively, with most emissions coming from trucks with two or more axles, including buses. UC Davis shall implement measures the following measures to the extent feasible: 1) Promote use of EV, carpool, transit vehicles to decrease emissions from passenger vehicles. 2) Provide carpool only parking spaces at close, desired parking locations to provide a premium parking location for carpool users and increase carpool-only parking spaces to meet demand. 3) Conversion of Unitrans buses to electric or other clean fuel to reduce criteria air pollutant emissions, 4) Promote EV or other clean fuel for vendors, especially those using trucks, to reduce ROG and NO_X emissions. 5) Work with vendors, especially those using trucks, to reduce the number of vendor trips made to the 2018 LRDP area through trip chaining, reducing the number of shipments, or other methods.	SU
Impact 3.3-3: Mobile-source CO concentrations. Long-term operation-related local mobile-source emissions of CO generated by the development on the 2018 LRDP area would not violate a standard or contribute substantially to an existing or projected air quality violation or expose sensitive receptors to substantial pollutant concentrations. As a result, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.3-4: Short-term construction emissions of toxic air contaminants. Construction-related activities would result in temporary, short-term project-generated emissions of TACs, particularly diesel PM. Overall construction TAC emissions would likely result health risks that are below YSAQMD thresholds. However, because of the variety of sensitive receptors located on the 2018 LRDP area (e.g., child care centers, outdoor athletic facilities), and because TAC-emitting construction activity could occur adjacent to sensitive receptors within the 2018 LRDP area during plan implementation, construction-related TAC emissions could expose sensitive receptors	PS	**Mitigation Measure 3.3-4: Reduce short-term construction-generated TAC emissions.** UC Davis shall require construction activities under the 2018 LRDP to follow YSAQMD recommended mitigation measures for construction exhaust emissions. To ensure sensitive receptors are not exposed to substantial TAC concentrations, UC Davis shall require its prime construction contractor to implement the following measures prior to project approval: 1) Locate operation of diesel-powered construction equipment as far away from sensitive receptors as possible; 2) Limit excess equipment idling to no more than 5 minutes;	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
to an incremental increase in cancer risk that exceeds 10 in one million or a HI greater than 1.0. This impact would be potentially significant.		3) Use construction equipment with engine ratings of Tier 3 or better (included in Mitigation Measure 3.3-1); and 4) Use electric, compressed natural gas, or other alternatively fueled construction equipment instead of the diesel counterparts, where available. In addition, for any construction site located within 150 feet of a childcare center or park/recreation field, UC Davis shall schedule the use of heavy construction equipment to times when children are not present. Alternatively, UC Davis shall arrange for temporary relocation of childcare facilities to areas outside of a 150-foot buffer or temporarily close available park space within the 150-foot buffer during operation of heavy construction equipment.	
Impact 3.3-5: Operational emissions of toxic air contaminants. The 2018 LRDP would result in additional sources of TACs (e.g., laboratories, boilers); however, the additional risks associated with these sources would not exceed YSAQMD thresholds of 10 in one million for cancer risk and a HI of 1 for the MEI. Therefore, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.3-6: Land use compatibility with off-site sources of toxic air contaminants and ultrafine particulates. The project would introduce receptors in close proximity to existing sources of TACs and UFPs. The level of health risk associated with exposure to TACs from on-site and surrounding off-site sources would not be substantial. However, residential receptors located closest to I-80 could be exposed to relatively high concentrations of UFPs generated by vehicles traveling on I-80 resulting in substantial levels of health risk. This would be a potentially significant impact.	PS	**Mitigation Measure 3.3-6: Reduce exposure of residences to TACs and UFPs.** For any proposed housing within 1,500 feet of I-80, UC Davis shall: 1) During preparation of project-specific environmental review, conduct ambient air measurements at the proposed housing location between January and March (for a period of up to 12 weeks) to determine UFP concentrations at a particular site. If measured concentrations do not exceed 12 µg/m^3, no further action is necessary, or 2) If concentrations exceed 12 µg/m^3 or if no monitoring is conducted, require the air filtration systems on all residential buildings to achieve a minimal removal efficiency of 95 percent for UFP (particulate matter with an aerodynamic diameter of 0.1 microns and smaller). Achieving a minimal removal efficiency of 95 percent may include, but not be limited to, the following: a) strategically located air intakes pursuant to requirements and recommendations of the American Society of Heating, Refrigeration, and Air-Conditioning Engineers; b) double-door entrances at the main entrances to buildings;	SU

NI = No impact B = Beneficial LTS = Less than significant PS = Potential significant S = Significant SU = Significant and unavoidable

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		c) high-volume, low-pressure drop air exchange systems that cause UFP to pass through multiple filters at a slow enough speed such that they attach to the surface of standard electrostatic filters; and/or d) The air filtration and mechanical airflow systems shall be properly maintained and, on an annual basis, tested documented by a qualified professional to ensure that the UFP filtration system is operating at a minimum 95 percent effectiveness.	
Impact 3.3-7: Exposure of sensitive receptors to odors. The 2018 LRDP would introduce new odor sources into the area, such as new research facilities, a composting facility, a biomass boiler, and diesel-related exhaust from delivery trucks. The new odor sources are similar to existing sources that operate in and near the Davis campus; however, depending on their location, the new potential odor sources could result in perceivable odors at nearby receptors. As a result, impacts would be potentially significant.	PS	**Mitigation Measure 3.3-7: Odor control for the proposed composting facility, biomass boiler, and expanded wastewater treatment plant.** UC Davis shall implement the following measures for the development of composting facility, biomass boiler, and modifications to the wastewater treatment plant: 1) Locate new/modified facilities and any organic matter storage piles, fuel storage, or open-air processes at least 1,000 feet from and downwind of the nearest sensitive receptors and academic building space; 2) Include operational provisions to guard against anaerobic activity in organic matter storage piles; and 3) Place odor controls surrounding the organic storage piles, as feasible.	LTS
3.4 Archaeological, Historical, and Tribal Cultural Resources			
Impact 3.4-1: Impacts to unique archaeological resources. Future development associated with the 2018 LRDP could be located on properties that contain known or unknown archaeological resources and ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources as defined in CEQA Guidelines Section 15064.5. This would be a potentially significant impact.	PS	**Mitigation Measure 3.4-1a: Identify and protect unknown archaeological resources.** During project-specific environmental review of development under the 2018 LRDP, the campus shall define each project's area of effect for archaeological resources. The campus shall determine the potential for the project to result in cultural resource impacts, based on the extent of ground disturbance and site modification anticipated for the proposed project. The campus shall determine the level of archaeological investigation that is appropriate for the project site and activity, as follows: ◢ Minimum: excavation less than 18 inches deep and less than 1,000 sf of disturbance (e.g., a trench for lawn irrigation, tree planting, etc.). Implement Mitigation Measure 3.4-1a(1). ◢ Moderate: excavation below 18 inches deep and/or over a large area on any site that has not been characterized as sensitive and is not suspected to be a likely location for archaeological resources. Implement Mitigation Measure 3.4-1a(1) and (2).	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		◢ Intensive: excavation below 18 inches and/or over a large area on any site that is within the zone of archaeological sensitivity identified in Exhibit 3.4-1, or that is adjacent to a recorded archaeological site. Implement Mitigation Measure 3.4-1a(1), (2), and (3). UC Davis shall implement the following steps to identify and protect archaeological resources that may be present in the project's area of effects: 1) For project sites at all levels of investigation, contractor crews shall be required to attend a training session prior to the start of earth moving, regarding how to recognize archaeological sites and artifacts and what steps shall be taken to avoid impacts to those sites and artifacts. In addition, campus employees whose work routinely involves disturbing the soil shall be informed how to recognize evidence of potential archaeological sites and artifacts. Prior to disturbing the soil, contractors shall be notified that they are required to watch for potential archaeological sites and artifacts and to notify the UC Davis Office of Campus Planning and Environmental Stewardship if any are found. In the event of a find, the campus shall implement item (5), below. 2) For project sites requiring a moderate or intensive level of investigation, a surface survey shall be conducted by a qualified archaeologist once the area of ground disturbance has been identified and prior to soil disturbing activities. For sites requiring moderate investigation, in the event of a surface find, intensive investigation will be implemented, as per item (3), below. Irrespective of findings, the qualified archaeologist shall, in consultation with the UC Davis Office of Campus Planning and Environmental Stewardship, develop an archaeological monitoring plan to be implemented during the construction phase of the project. If the project site is located within the zone of archaeological sensitivity or it is recommended by the archaeologists, the campus shall notify the appropriate Native American tribe and extend an invitation for monitoring. The frequency and duration of monitoring shall be adjusted in accordance with survey results, the nature of construction activities, and results during the monitoring period. A written report of the results of the monitoring will be prepared and filed with the appropriate Information Center of the California Historical Resources Information System. In the event of a discovery, the campus shall implement item (5), below.	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		3) For project sites requiring intensive investigation, irrespective of subsurface finds, the campus shall retain a qualified archaeologist to conduct a subsurface investigation of the project site, to ascertain whether buried archaeological materials are present and, if so, the extent of the deposit relative to the project's area of effects. If an archaeological deposit is discovered, the archaeologist will prepare a site record and a written report of the results of investigations and filed with the appropriate Information Center of the California Historical Resources Information System. If it is determined that the resource extends into the project's area of effects, the resource will be evaluated by a qualified archaeologist, who will determine whether it qualifies as a historical resource or a unique archaeological resource under the criteria of CEQA Guidelines § 15064.5. If the resource does not qualify, or if no resource is present within the project's area of effects, this will be noted in the environmental document and no further mitigation is required unless there is a discovery during construction. In the event of a discovery item (5), below shall be implemented. 4) If archaeological material within the project's area of effects is determined to qualify as an historical resource or a unique archaeological resource (as defined by CEQA), the UC Davis Office of Campus Planning and Environmental Stewardship shall consult with the qualified archaeologist to consider means of avoiding or reducing ground disturbance within the site boundaries, including minor modifications of building footprint, landscape modification, the placement of protective fill, the establishment of a preservation easement, or other means that will permit avoidance or substantial preservation in place of the resource. If avoidance or substantial preservation in place is not possible, the campus shall implement Mitigation Measure 3.4-1b. 5) If archaeological material is discovered during construction (whether or not an archaeologist is present), all soil disturbing work within 100 feet of the find shall cease. The UC Davis Office of Campus Planning and Environmental Stewardship shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the deposit, and assessment of the remainder of the site within the project area to determine whether the resource is	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		significant and would be affected by the project. Mitigation Measure 3.4-1a, steps (3) and (4) shall be implemented. **Mitigation Measure 3.4-1b: Protect known unique archaeological resources.** For an archaeological site that has been determined by a qualified archaeologist to qualify as a unique archaeological resource through the process set forth under Mitigation Measure 3.4-1a, and where it has been determined under Mitigation Measure 3.4-1a that avoidance or preservation in place is not feasible, a qualified archaeologist, in consultation with the UC Davis Office of Campus Planning and Environmental Stewardship, and Native American tribes as applicable, shall: 1) Prepare a research design and archaeological data recovery plan for the recovery that will capture those categories of data for which the site is significant, and implement the data recovery plan prior to or during development of the site. 2) Perform appropriate technical analyses, prepare a full written report and file it with the appropriate information center, and provide for the permanent curation of recovered materials. 3) If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion on the CRHR, the UC Davis Office of Campus Planning and Environmental Stewardship shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the proposed project that would allow the site to be preserved intact, such as project redesign, placement of fill, or project relocation or abandonment. If no such measures are feasible, the campus shall implement Mitigation Measure 3.4-1c. **Mitigation Measure 3.4-1c: Document unique archaeological resources.** If a significant unique archaeological resource cannot be preserved intact, before the property is damaged or destroyed, the UC Davis Office of Campus Planning and Environmental Stewardship shall ensure that the resource is appropriately documented. For an archaeological site, a program of research-directed data recovery shall be conducted and reported, consistent with Mitigation Measure 3.4-1a.	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.4-2: Substantial adverse change in the significance of a tribal cultural resource. Consultation with the Yocha Dehe Wintun Nation and the Cortina Indian Rancheria of Wintun Indians has resulted in no resources identified as tribal cultural resources as described under AB 52. However, it is possible that tribal cultural resources could be identified during analysis of subsequent projects. Compliance with PRC Section 21080.3.2 and Section 21084.3 (a) would make this impact less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.4-3: Impacts to human remains. Although unlikely, construction and excavation activities associated with project development could unearth previously undiscovered or unrecorded human remains, if they are present. Compliance with California Health and Safety Code Sections 7050.5 and 7052 and California Public Resources Code Section 5097 would make this impact less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.4-4: Impacts to historical resources. The 2018 LRDP proposes general types of campus development to support projected campus population growth and to enable expanded and new program initiatives, including the renovation of some existing buildings. This could result in damage to or destruction of a historic building or structure, thereby resulting in a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. This would be a potentially significant impact.	PS	**Mitigation Measure 3.4-4: Conduct project-specific level surveys and identify and implement measures to protect identified historic resources.** During project-specific environmental review of development under the 2018 LRDP, the campus shall define the project's area of effect for historic buildings and structures. The campus shall determine the potential for the project to result in historic resource impacts, based on the extent of ground disturbance and site modification anticipated for the proposed project. Before altering or otherwise affecting a building or structure 50 years old or older, the campus shall retain a qualified architectural historian to record it on a California Department of Parks and Recreation DPR 523 form or equivalent documentation, if the building has not previously been evaluated. Its significance shall be assessed by a qualified architectural historian, using the significance criteria set forth for historic resources under CEQA Guidelines Section 15064.5. The evaluation process shall include the development of appropriate historical background research as context for the assessment of the significance of the structure in the history of the University system, the campus, and the region. For buildings or structures that do not meet the CEQA criteria for historical resource, no further mitigation is required. For a building or structure that qualifies as a historic resource, the architectural historian and the campus shall consult to consider measures that would enable the	SU

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		project to avoid direct or indirect impacts to the building or structure. These could include preserving a building on the margin of the project site, using it "as is," or other measures that would not alter the building. If the project cannot avoid modifications to a historic building or structure: 1) If the building or structure can be preserved on site, but remodeling, renovation or other alterations are required, this work shall be conducted in compliance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings" (Weeks and Grimmer 1995). 2) If a significant historic building or structure is proposed for major alteration or renovation, or to be moved and/or demolished, the campus shall ensure that a qualified architectural historian thoroughly documents the building and associated landscaping and setting. Documentation shall include still and video photography and a written documentary record of the building to the standards of the Historic American Building Survey or Historic American Engineering Record, including accurate scaled mapping, architectural descriptions, and scaled architectural plans, if available. A copy of the record shall be deposited with the University archives, Shields Library Special Collections. The record shall be accompanied by a report containing site-specific history and appropriate contextual information. This information shall be gathered through site specific and comparative archival research, and oral history collection as appropriate. 3) If preservation and reuse at the site are not feasible, the historical building shall be documented as described in item (2) and, when physically and financially feasible, be moved and preserved or reused. 4) If, in the opinion of the qualified architectural historian, the nature and significance of the building is such that its demolition or destruction cannot be fully mitigated through documentation, the campus shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the proposed project that would allow the structure to be preserved intact. These could include project redesign, relocation or abandonment. If no such measures are feasible, the historical building shall be documented as described in item (2).	

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Table ES-1 Summary of Impacts and Mitigation Measures

<table>
<tr><th>Impacts</th><th>Significance before Mitigation</th><th>Mitigation Measures</th><th>Significance after Mitigation</th></tr>
<tr><td colspan="4">3.5 Biological Resources</td></tr>
<tr><td>Impact 3.5-1: Disturbance or loss of special-status plants.
Implementation of the 2018 LRDP could result in conversion of approximately 143 acres of undeveloped ruderal grassland habitat that may provide marginally suitable habitat for several special-status plants. Removal of this grassland habitat could, therefore, result in loss of special-status plants if they are present. Loss of special-status plants would be a potentially significant impact.</td><td>PS</td><td>Mitigation Measure 3.5-1a: Special-status plant surveys.
Prior to approval of specific projects under the 2018 LRDP, UC Davis shall have a qualified biologist evaluate the potential for special-status plant habitat at sites containing undeveloped, ruderal grassland habitat. Should suitable habitat for any of the species identified in Table 3.5-4 occur, a qualified botanist, at UC Davis's direction, shall conduct protocol-level surveys for the potentially occurring special-status plants that could be removed or disturbed by project activities during the blooming period for the plant(s) that could be present on-site. Protocol-level surveys will be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009). If special-status plants are not found, the botanist will document the findings in a letter report to CDFW and further mitigation will not be required.
Table 3.5-4 Normal Blooming Period for Special-Status Plants with Potential to Occur within the Plan Area
<table>
<tr><th>Species</th><th>Feb</th><th>Mar</th><th>Apr</th><th>May</th><th>Jun</th><th>Jul</th><th>Aug</th><th>Sep</th><th>Oct</th></tr>
<tr><td>Ferris' milk-vetch Astragalus tener var. ferrisiae</td><td></td><td></td><td>■</td><td>■</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>alkali milk-vetch Astragalus tener var. tener</td><td></td><td>■</td><td>■</td><td>■</td><td>■</td><td></td><td></td><td></td><td></td></tr>
<tr><td>heartscale Atriplex cordulata var. cordulata</td><td></td><td></td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td></tr>
<tr><td>brittlescale Atriplex depressa</td><td></td><td></td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td></tr>
<tr><td>round-leaved filaree California macrophylla</td><td></td><td>■</td><td>■</td><td>■</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>palmate-bracted bird's beak Cordylanthus palmatus</td><td></td><td></td><td></td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td></tr>
<tr><td>San Joaquin spearscale</td><td></td><td></td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td><td>■</td></tr>
</table></td><td>LTS</td></tr>
</table>

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation

Extriplex joaquinana										
Northern California black walnut *Juglans hindsii*										
Heckard's pepper-grass *Lepidium latipes* var. *heckardii*										
Baker's navarretia *Navarretia leucocephala* ssp. *bakeri*										
California alkali grass *Puccinellia simplex*										
Solano grass or Crampton's tuctoria *Tuctoria mucronata*										

Source: Data compiled by Ascent Environmental in 2017

Mitigation Measure 3.5-1b: Special-status plant avoidance.
If special-status plant species are found on a particular project site and are located outside of the permanent footprint of any proposed structures/site features and can be avoided, UC Davis will establish and maintain a 40-foot protective buffer around special-status plants to be retained to ensure avoidance.

Mitigation Measure 3.5-1c: Special-status plant impact minimization measures.
If special-status plants are found during rare plant surveys and cannot be avoided, UC Davis will consult with CDFW and USFWS, as appropriate depending on species status, to determine the appropriate compensation to achieve no net loss of occupied habitat or individuals. Mitigation measures may include, but are not limited to, preserving and enhancing existing populations, creating off-site populations on mitigation sites through seed collection or transplantation at a 1:1 ratio, and restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat or individuals. Potential mitigation sites could include suitable locations within or outside of the campus. UC Davis will develop and implement a site-specific

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		mitigation strategy describing how unavoidable losses of special-status plants will be compensated. Success criteria for preserved and compensatory populations will include: 1) The extent of occupied area and plant density (number of plants per unit area) in compensatory populations will be equal to or greater than the affected occupied habitat. 2) Compensatory and preserved populations will be self-producing. Populations will be considered self-producing when: i) plants reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and II) reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity. 3) If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures will be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long term viable populations.	
Impact 3.5-2: Impacts to giant garter snake and western pond turtle. Implementation of the 2018 LRDP may involve conversion of ruderal grassland habitat and agricultural lands to urban uses, which could result in loss of upland nesting/overwintering habitat (ruderal grasslands) for giant garter snake and western pond turtle. This impact would be potentially significant.	PS	**Mitigation 3.5-2a: Giant garter snake avoidance and exclusion.** For any projects under the 2018 LRDP that would be located within 300 feet of Putah Creek or agricultural ditches, UC Davis will retain a qualified biologist who will conduct a field investigation prior to development to delineate giant garter snake aquatic habitat within a particular project's footprint and adjacent areas within 300 feet of the project's footprint. If it is determined that no giant garter snake habitat is present, then no mitigation is required. If it is determined that giant garter snake habitat is present, the following measures shall be implemented: 1) All construction activity within giant garter snake aquatic and upland habitat in and around the project site will be conducted between May 1 and September 15, the active period for giant garter snakes. This would reduce direct impacts on the	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		species because the snakes would be active and respond to construction activities by moving out of the way. 2) During construction, an approved biologist experienced with giant garter snake identification and behavior will be on site when construction activities within aquatic habitat or within 300 feet of aquatic habitat are taking place. The biologist will inspect the project site daily for giant garter snake prior to construction activities. The biologist will also conduct environmental awareness training for all construction personnel working on the project site on required avoidance procedures and protocols if a giant garter snake enters an active construction zone. 3) If construction activities will occur in giant garter snake aquatic habitat, aquatic habitat will be dewatered and then remain dry and absent of aquatic prey (e.g., fish and tadpoles) for 15 days prior to initiation of construction activities. If complete dewatering is not possible, the project applicant will consult with CDFW and USFWS to determine what additional measures may be necessary to minimize effects to giant garter snake. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing will be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent snakes from attempting to move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify the construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Giant garter snake habitat outside construction fencing will be avoided by all construction personnel. The fencing and the work area will be inspected by the approved biologist to ensure that the fencing is intact and that no snakes have entered the work area before the start of each work day. The fencing will be maintained by the contractor until completion of the project. If a giant garter snake is observed, the biologist will notify CDFW and USFWS immediately. Construction activities will be suspended within a 100-foot radius of the garter snake until the snake leaves the project site on its own volition. If necessary, the biologist will consult with CDFW and USFWS regarding appropriate procedures for relocation. If the animal is handled, a report will be submitted, including date(s), location(s),	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		habitat description, and any corrective measures taken to protect giant garter snake within one business day to CDFW and USFWS. The biologist will report any take of listed species to USFWS immediately. Any worker who inadvertently injures or kills a giant garter snake or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist. 4) All excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within giant garter snake modeled habitat will be inspected for giant garter snake by the approved biologist prior to being moved. 5) If erosion control is implemented within the project site, non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure snakes are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials. 6) UC Davis will ensure that there is no-net-loss of giant garter snake habitat by compensating for direct loss of habitat at a ratio of 1:1, either through the purchase of credits from a USFWS-approved conservation bank or on-site restoration/habitat construction within the UC Davis campus. **Mitigation Measure 3.5-2b: Western pond turtle pre-construction surveys and relocation.** Within 24 hours of the commencement of construction activities within 200 feet of suitable aquatic habitat for western pond turtle, a qualified biologist will inspect areas of anticipated disturbance for the presence of western pond turtle. The construction area will be re-inspected whenever a lapse in construction activity of two weeks or more has occurred. If pond turtles are found during the survey or observed within the construction area at any other time, they will be relocated by a qualified biologist to upstream or adjacent aquatic habitat that would not be disturbed by construction activity. If western pond turtle nests are identified in the work area during pre-	

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		construction surveys, a 300-foot no disturbance buffer will be established between the nest and any areas of potential disturbance. Buffers shall be clearly marked with temporary fencing. Construction will not be allowed to commence in the exclusion area until hatchlings have emerged from the nest, or the nest is deemed inactive by a qualified biologist (CDFW 2013).	
Impact 3.5-3: Impacts to Chinook salmon. Although implementation of the 2018 LRDP does not include any direct development or conversion of Putah Creek, it could result in construction activities being conducted within the Putah Creek channel, or the Putah Creek Riparian Reserve surrounding the channel. Additionally, construction activities conducted under the 2018 LRDP could result in the introduction of silt into Putah Creek, which could potentially affect special-status fish species. Impacts to Chinook salmon would be potentially significant.	PS	**Mitigation Measure 3.5-3: Chinook salmon avoidance.** For any construction or maintenance work conducted within Putah Creek or the Putah Creek Riparian Reserve, the following measures shall be implemented: 1) Work conducted within the creek will take place outside of the migration season (November 1 through December 31) to the extent feasible. 2) If construction activities are to be conducted in the water during the migration season: a) Silt curtains will be used at the construction location. b) Water quality will be evaluated during and after all in-water construction activities. The performance criteria will be no degradation of downstream water quality compared to upstream water quality. Water quality will be evaluated by a qualified environmental monitor using appropriate qualitative or quantitative measurements, including turbidity and temperature. Remedial measures will be implemented if downstream water quality is degraded. Remedial measures will include the following: i) Modification or suspension of in-water construction activities as appropriate; ii) Installation of additional sediment control devices; and iii) Additional monitoring to evaluate the water quality after measures are implemented. c) Silt fencing will be installed as appropriate along the edges of the creek to prevent excess fill from entering the water. All silt fences will be maintained and checked for efficacy as necessary, but not less frequently than one time per week.	LTS
Impact 3.5-4: Impacts to Swainson's hawk and other nesting raptors. Construction activities associated with implementation of the 2018 LRDP, such as ground disturbance, construction vehicles, and general presence of active construction crews, could disturb nesting Swainson's hawks, northern harriers, white-	S	**Mitigation Measure 3.5-4a: Avoidance of Swainson's hawk and other nesting raptors.** For any projects implemented under the 2018 LRDP that would require the removal of mature trees, the following measures will be implemented prior to initiation of	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
tailed kites and other special-status nesting raptors, potentially resulting in nest abandonment or failure, and mortality of chicks and eggs. Implementation of the 2018 LRDP would also involve the conversion of up to 270 acres of agricultural land and undeveloped ruderal grassland to urban uses, thus would result in the permanent loss of suitable foraging habitat for Swainson's hawk. This impact would be significant.		construction to avoid, minimize, and fully mitigate impacts to Swainson's hawk, as well as other special-status raptors: 1) Before tree removal occurs, a qualified biologist will determine whether it has been previously recorded or used as a Swainson's hawk or other special-status raptors nest tree. If it is not known to have supported Swainson's hawks or other special-status raptors in the past, the tree will be removed when no active nests are present, generally between September 2 and February 14 if feasible. If the tree to be removed is known to have supported nesting Swainson's hawk or other special-status raptors in the past, UC Davis will implement measures to prevent the potential the net loss of Swainson's hawk or other special-status raptors territories, which may include providing alternative nest trees or protected habitat. UC Davis will consult with CDFW prior to removal of the nest tree and obtain take authorization under Section 2081 of the Fish and Game Code if needed. 2) For construction activities, including tree removal, that begin between February 15 and September 1, qualified biologists will conduct preconstruction surveys for Swainson's hawk and other nesting raptors to identify active nests on and within 0.5 mile of the project site. The surveys will be conducted before the beginning of any construction activities between February 15 and September 1. 3) Impacts to nesting Swainson's hawks and other raptors will be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. Project activity will not commence within the buffer areas until a qualified biologist has determined, in coordination with CDFW, that the young have fledged, the nest is no longer active, or that reducing the buffer would not likely result in nest abandonment. CDFW guidelines recommend implementation of 0.25-mile-wide buffer for Swainson's hawk and 500 feet for other raptors, but the size of the buffer may be adjusted if a qualified biologist and UC Davis, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest. 4) Trees will not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree.	

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		Mitigation Measure 3.5-4b: Compensation for loss of Swainson's hawk foraging habitat. Project implementation under the 2018 LRDP includes conversion of up to approximately 270 acres of suitable foraging habitat for Swainson's hawk, including 128 acres of agricultural land and 143 acres of ruderal grassland. UC Davis shall mitigate the loss of 270 acres of suitable foraging habitat through establishment of mitigation lands (grassland habitat or agricultural land) near existing mitigation land, potentially at Russell Ranch, at a 1:1 ratio. Surplus acreage post-implementation of mitigation under the 2003 LRDP may be credited towards development under the 2018 LRDP in fulfillment of this mitigation. This mitigation plan is consistent with the Yolo Habitat Conservancy's Swainson's Hawk Interim Mitigation Fee Program which requires a 1:1 replacement ratio of foraging habitat acreage.	
Impact 3.5-5: Impacts to burrowing owl. Project implementation including construction activities such as ground disturbance, construction vehicles, and presence of construction crews could disturb nesting burrowing owls, potentially resulting in their abandonment, failure, or mortality of chicks and eggs. Project implementation includes conversion of approximately 143 acres of undeveloped ruderal grassland to urban uses, thus would result in the permanent loss of suitable habitat for burrowing owl. This impact would be potentially significant.	PS	**Mitigation Measure 3.5-5a: Burrowing owl avoidance and compensation.** For any construction projects implemented under the 2018 LRDP, the following measures will be implemented prior to initiation of construction to reduce impacts on burrowing owl: 1) UC Davis will retain a qualified biologist to conduct focused breeding and nonbreeding season surveys for burrowing owls in areas of suitable habitat (e.g., ruderal grassland, annual grassland, agricultural land, roadsides) on and within 1,500 feet of pending construction activities for a project under the 2018 LRDP. Surveys will be conducted prior to the start of construction activities and in accordance with Appendix D of CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). 2) If no occupied burrows are found, a letter report documenting the survey methods and results will be submitted to CDFW and no further mitigation will be required. 3) If an active burrow is found within 1,500 feet of pending construction activities that would occur during the nonbreeding season (September 1 through January 31), UC Davis will consult with CDFW regarding protection buffers to be established around the occupied burrow and maintained throughout construction. If occupied burrows are present that cannot be avoided or adequately protected with a no-disturbance buffer, a burrowing owl exclusion plan will be developed, as described in Appendix E of CDFW's 2012 Staff Report. Burrowing owls will not be	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		excluded from occupied burrows until the project's burrowing owl exclusion plan is approved by CDFW. The exclusion plan will include a plan for creation, maintenance, and monitoring of artificial burrows in suitable habitat. 4) If an active burrow is found during the breeding season (February 1 through August 31), occupied burrows will not be disturbed and will be provided with a protective buffer unless a qualified biologist verifies through noninvasive means that either: (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer will depend on the time of year and level disturbance as outlined in the CDFW Staff Report (CDFW 2012). The size of the buffer may be reduced if a broad-scale, long-term, monitoring program acceptable to CDFW is implemented so that burrowing owls are not detrimentally affected. Once the fledglings are capable of independent survival, the owls can be evicted and the burrow can be destroyed per the terms of a CDFW-approved burrowing owl exclusion plan developed in accordance with Appendix E of CDFW's 2012 Staff Report. 5) If active burrowing owl nests are found on the project site and are destroyed by project implementation, UC Davis will mitigate the loss of occupied habitat in accordance with guidance provided in the CDFW 2012 Staff Report, which states that permanent impacts to nesting, occupied and satellite burrows, and burrowing owl habitat will be mitigated such that habitat acreage and number of burrows are replaced through permanent conservation of comparable or better habitat with similar vegetation communities and burrowing mammals (e.g., ground squirrels) present to provide for nesting, foraging, wintering, and dispersal. UC Davis will retain a qualified biologist to develop a burrowing owl mitigation and management plan that incorporates the following goals and standards: a) Mitigation lands will be selected based on comparison of the habitat lost to the compensatory habitat, including type and structure of habitat, disturbance levels, potential for conflicts with humans, pets, and other wildlife, density of burrowing owls, and relative importance of the habitat to the species range wide. Mitigation for loss of burrowing owl habitat under the 2003 LRDP included establishment of mitigation lands within Russell Ranch, which is a feasible option for future mitigation under the 2018 LRDP.	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		b) If feasible, mitigation lands will be provided adjacent or proximate to the project site (e.g. Russell Ranch) so that displaced owls can relocate with reduced risk of take. Feasibility of providing mitigation adjacent or proximate to the project site depends on availability of sufficient suitable habitat to support displaced owls that may be preserved in perpetuity. c) If suitable habitat is not available for conservation adjacent or proximate to the project site, mitigation lands will be focused on consolidating and enlarging conservation areas outside of urban and planned growth areas and within foraging distance of other conservation lands. Mitigation may be accomplished through purchase of mitigation credits at a CDFW-approved mitigation bank, if available. If mitigation credits are not available from an approved bank and mitigation lands are not available adjacent to other conservation lands, alternative mitigation sites and acreage will be determined in consultation with CDFW. d) If mitigation is not available through an approved mitigation bank and will be completed through permittee-responsible conservation lands, the mitigation plan will include mitigation objectives, site selection factors, site management roles and responsibilities, vegetation management goals, financial assurances and funding mechanisms, performance standards and success criteria, monitoring and reporting protocols, and adaptive management measures. Success will be based on the number of adult burrowing owls and pairs using the site and if the numbers are maintained over time. Measures of success, as suggested in the 2012 Staff Report, will include site tenacity, number of adult owls present and reproducing, colonization by burrowing owls from elsewhere, changes in distribution, and trends in stressors. **Mitigation Measure 3.5-5b: Compensation for loss of burrowing owl habitat.** Implement Mitigation Measure 3.5-4b.	
Impact 3.5-6: Impacts to other special-status birds. Development under the 2018 LRDP would not require removal of riparian habitat, however implementation the 2018 LRDP could result in the conversion of approximately 143 acres of undeveloped ruderal grassland and 128 acres of	S	**Mitigation Measure 3.5-6: Tricolored blackbird avoidance.** With respect to any construction activities undertaken for a particular project under the 2018 LRDP, the following measures will be implemented to avoid or minimize loss of active tricolored blackbird or other bird nests:	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
agricultural land to urban uses, resulting in the potential loss of suitable habitat for tricolored blackbird. This impact would be significant.		1) To minimize the potential for loss of tricolored blackbird or other bird nests, vegetation removal activities will commence during the nonbreeding season (September 1 - January 31). If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation would be required. 2) Prior to removal of any vegetation, or any ground-disturbing activities between February 1 and August 31, a qualified biologist will conduct preconstruction surveys for nests on any or vegetation slated for removal, as well as for potential tricolored blackbird nesting habitat. The surveys will be conducted no more than 14 days before construction commences. If no active nests or tricolored blackbird colonies are found during focused surveys, no further action under this measure will be required. If active nests are located during the preconstruction surveys, the biologist will notify CDFW. If necessary, modifications to the project design to avoid removal of occupied habitat while still achieving project objectives will be evaluated and implemented to the extent feasible. If avoidance is not feasible or conflicts with project objectives, construction will be prohibited within a minimum of 100 feet of the outer edge of the nesting colony to avoid disturbance until the nest colony is no longer active.	
Impact 3.5-7: Impacts to valley elderberry longhorn beetle. Project construction activities, such as vegetation removal, could result in the loss of elderberry shrubs which are the primary habitat for the federally threatened valley elderberry longhorn beetle. Removal of or damage to elderberry shrubs occupied by valley elderberry longhorn beetle would be a significant impact.	S	**Mitigation Measure 3.5-7: Valley elderberry longhorn beetle avoidance.** The following measures will be implemented to avoid or minimize loss of elderberry shrubs, and valley elderberry longhorn beetle as a result of construction activities associated with the 2018 LRDP: 1) Prior to initiation of construction activities for a particular project under the 2018 LRDP, a qualified biologist will conduct surveys for valley elderberry longhorn beetle according to the protocol outlined in USFWS *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017b). The biologist will determine if there is a riparian area, elderberry shrubs, or known valley elderberry longhorn beetle records within 800 meters (2,526 feet) of the project site, and whether the project site is continuous with a historical riparian corridor. If the project site does not contain riparian habitat and does not contain elderberry shrubs within 50 feet, then no further action is required. 2) If the project site does not contain riparian habitat, but does contain elderberry shrubs, then the elderberry shrubs will be inspected for valley elderberry longhorn	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		beetle exit holes. If exit holes are not present the project applicant will consult with USFWS to discuss project details and potential impacts to elderberry shrubs, and will consider additional information, including occurrences of valley elderberry longhorn beetle within 800 meters of the project site, and proximity of the project site to existing and historic riparian corridors. 3) If riparian habitat is present within the project site and elderberry shrubs are present within 50 feet, then it is likely that the site is occupied by valley elderberry longhorn beetle. If the project site contains riparian habitat and elderberry shrubs are not present within 50 feet, the project applicant will consult with USFWS to discuss project details and potential impacts to elderberry shrubs, as presence of riparian habitat is indicative of historic valley elderberry longhorn beetle occupancy. 4) Impacts to valley elderberry longhorn beetle will be avoided and minimized by following the Conservation Measures outlined in the USFWS 2017 Framework for cases where elderberry shrubs can be retained and protected within 165 feet of the project footprint. 5) If elderberry shrubs are 165 feet or more from project activities, direct or indirect impacts are not expected. Shrubs will be protected during construction by establishing and maintaining a high visibility fence at least 165 feet from the drip line of each elderberry shrub. 6) If elderberry shrubs can be retained within the project footprint, project activities may occur up to 20 feet from the dripline of elderberry shrubs if precautions are implemented to minimize the potential for indirect impacts. Specifically, these minimization measures include: a) All areas to be avoided during construction activities will be fenced or flagged as close to construction limits as possible. b) A minimum avoidance area of at least 20 feet from the dripline of each elderberry plant will be maintained to avoid direct impacts that could damage or kill the plant. c) A qualified biologist will provide training for all contractors, work crews, and any on-site personnel on the status of valley elderberry longhorn beetle, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for non-compliance.	

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		d) A qualified biologist will monitor the work area at project-appropriate intervals to assure that all avoidance and minimization measures are implemented. The amount and duration of monitoring will depend on the project specifics and will be discussed with a USFWS biologist. e) As much as feasible, all activities that could occur within 165 feet of an elderberry shrub will be conducted outside of the flight season of the valley elderberry longhorn beetle (March – July). f) Trimming of elderberry shrubs will occur between November and February and will avoid removal of any branches or stems that are greater than or equal to 1 inch in diameter to avoid and minimize adverse effects to valley elderberry longhorn beetle. g) Project activities, such as truck traffic or other use of machinery, will not create excessive dust on the project site, such that the growth or vigor of elderberry shrubs is adversely affected. Enforcement of a speed-limit and watering dirt roadways are potential methods to minimize excessive dust creation. h) Herbicides will not be used within the drip-line of any elderberry shrub. Insecticides will not be used within 98 feet of any elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method. Mechanical weed removal within the drip-line of any elderberry shrub will be limited to the season when adults are not active (August – February) and will avoid damaging the elderberry. i) Erosion control will be implemented, and the affected area will be re-vegetated with appropriate native plants. 7) If elderberry shrubs cannot be avoided, compliance with the ESA and consultation with USFWS is required and may involve acquiring an incidental take permit through Section 10, or a take exemption through Section 7. All elderberry shrubs with stems greater than 1 inch in diameter that cannot be avoided or have been adversely affected by indirect damage to stems of the entire shrub will be transplanted. 8) No elderberry shrub will be removed or transplanted until authorization has been issued by USFWS and the project applicant has abided by all pertinent conditions of the incidental take permit or biological opinion.	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		9) Relocation of existing elderberry shrubs and planting of new elderberry seedlings and associated riparian species will be implemented according to the Framework (USFWS 2017b). The Framework uses presence or absence of exit holes, and whether the affected elderberry shrubs are located in riparian habitat to determine the number of elderberry seedlings or cuttings and associated riparian vegetation that would need to be planted as compensatory mitigation for affected valley elderberry longhorn beetle habitat. Compensatory mitigation may include purchasing credits at a USFWS-approved conservation bank, providing on-site mitigation, or establishing and protecting habitat for valley elderberry longhorn beetle.	
Impact 3.5-8: Impacts to special-status mammal species. Construction activities, including conversion of agricultural land to urban uses and removal of vegetation, trees, or buildings associated with projects undertaken consistent with the 2018 LRDP could result in loss of American badger and pallid bat. This impact would be significant.	S	**Mitigation Measure 3.5-8a: American badger preconstruction surveys and avoidance.** Prior to the commencement of construction within suitable grassland or agricultural habitat, a qualified wildlife biologist will conduct surveys of the ruderal grassland habitat and grain fields slated for conversion on-site to identify any American badger burrows/dens. These surveys will be conducted not more than 30 days prior to the start of construction. If occupied burrows are not found, further mitigation will be not required. If occupied burrows are found, impacts to active badger dens will be avoided by establishing exclusion zones around all active badger dens, within which construction related activities will be prohibited until denning activities are complete or the den is abandoned. A qualified biologist will monitor each den once per week to track the status of the den and to determine when a den area has been cleared for construction. **Mitigation Measure 3.5-8b: Bat preconstruction surveys, exclusion, and mitigation.** The following mitigation measure will apply to construction of the project to reduce impacts on bats: 1) Before commencing any structure or tree removal activities, a qualified biologist will conduct surveys for roosting bats. If evidence of bat use is observed, the species and number of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts. If no evidence of bat roosts is found, then no further study and no mitigation will be required. 2) If pallid bats are found, bats will be excluded from the roosting site before the tree or structure is removed. Exclusion efforts may be restricted during periods of	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young). Once, it is confirmed that bats are not present in the original roost site, the tree or structure may be removed. A mitigation program identifying exclusion methods and roost removal procedures will be developed by a qualified biologist in consultation with CDFW before implementation.	
Impact 3.5-9: Disturbance or loss of sensitive habitats (jurisdictional wetlands, riparian vegetation, aquatic habitat). Although implementation of the 2018 LRDP does not include direct development or conversion of Putah Creek or the Arboretum Waterway, development under the 2018 LRDP, including drainage improvement or maintenance projects, could affect these aquatic features by introducing sediment into Putah Creek or removing or damaging riparian vegetation. Impacts to wetlands, riparian habitat, and aquatic habitat from project construction activities would be potentially significant.	PS	**Mitigation Measure 3.5-9a: Delineation of potential waters.** Prior to construction on or within 100 feet of a project site that may contain wetlands, UC Davis will conduct a wetland delineation of the project site if wetlands are potentially present. UC Davis will submit this delineation report to USACE and will request a preliminary jurisdictional determination. Based on the jurisdictional determination, UC Davis will determine the exact acreage of jurisdictional wetlands, if any, would be filled as a result of project implementation. If wetland habitats or natural drainages are not delineated on the site, then further mitigation will not be required. However, if any jurisdictional wetland habitats or natural drainages are delineated on a project site, then further mitigation will be required. **Mitigation Measure 3.5-9b: Regulatory authorizations for impacts to jurisdictional wetlands.** Prior to any grading or construction activities within waters of the United States, the appropriate Section 404 permit will be obtained for any project-related impacts. Any waters of the United States that would be affected by project development will be replaced or restored on a "no-net-loss" basis (i.e., a minimum of a 1:1 ratio) in accordance with USACE mitigation guidelines (or the applicable USACE guidelines in place at the time of construction). In association with the Section 404 permit (if applicable) and prior to the issuance of any grading permit, Section 401 Water Quality Certification from the RWQCB will be obtained. **Mitigation Measure 3.5-9c: Regulatory authorizations for impacts to aquatic or riparian habitats within CDFW jurisdiction.** The following measures will be implemented to avoid or compensate for the loss or degradation of stream or riparian habitat, ensure consistency with Fish and Game Code Section 1602, and further reduce potential adverse effects on riparian habitats: 1) UC Davis will notify CDFW before commencing any activity within the bed, bank, or riparian corridor of any waterway. If activities trigger the need for a Streambed	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		Alteration Agreement, the proponent will obtain an agreement from CDFW before commencing any ground-disturbing activity that may affect the waterway. UC Davis will conduct construction activities in accordance with the agreement, including implementing reasonable measures in the agreement necessary to protect the fish and wildlife resources, when working within the bed or bank of waterways that function as a fish or wildlife resource or in riparian habitats associated with those waterways. 2) UC Davis will compensate for permanent loss of riparian habitat at a minimum of a 1:1 ratio through contributions to a CDFW-approved wetland mitigation bank or through the development and implementation of a Compensatory Stream and Riparian Mitigation and Monitoring Plan for creating or restoring in-kind habitat in the surrounding area. If mitigation credits are not available, stream and riparian habitat compensation may include, but are not limited to, the establishment of riparian vegetation on currently unvegetated bank portions of streams affected by the project and/or the enhancement of existing riparian habitat through removal of nonnative species, where appropriate, and planting additional native riparian plants to increase cover, continuity, and width of the existing riparian corridor along streams in the project site and surrounding areas. Construction activities and compensatory mitigation will be conducted in accordance with the terms of a streambed alteration agreement as required under Section 1602 of the Fish and Game Code. 3) The Compensatory Stream and Riparian Mitigation and Monitoring Plan will include the following: a) identification of compensatory mitigation sites and criteria for selecting these mitigation sites; b) in kind reference habitats for comparison with compensatory riparian habitats (using performance and success criteria) to document success; c) monitoring protocol, including schedule and annual report requirements (Compensatory habitat will be monitored for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the success criteria identified in the approved mitigation plan have been met, whichever is longer.);	

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		d) ecological performance standards, based on the best available science and including specifications for native riparian plant densities, species composition, amount of dead woody vegetation gaps and bare ground, and survivorship; at a minimum, compensatory mitigation planting sites must achieve 80% survival of planted riparian trees and shrubs by the end of the five-year maintenance and monitoring period or dead and dying trees will be replaced and monitoring continued until 80 percent survivorship is achieved; e) corrective measures if performance standards are not met; f) responsible parties for monitoring and preparing reports; and g) responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions. **Mitigation Measure 3.5-9d: Avoidance of sensitive habitat.** Before construction activities commence, all sensitive areas (e.g., wetlands, natural drainages, riparian vegetation) located within 100 feet of a particular project's construction site will be flagged or fenced with brightly visible construction flagging and fencing under the direction of the qualified biologist to require that grading, excavation, or other ground-disturbing activities will not occur within these areas. This delineation will be consistent with and incorporate the USACE-approved preliminary jurisdictional determination or verified jurisdictional determination. Foot traffic by construction personnel will also be limited in these areas to prevent the introduction of invasive or weedy species. Periodic inspections during construction will be conducted by the monitoring biologist to maintain the integrity of exclusion fencing/flagging throughout the period of construction involving ground disturbance.	
Impact 3.5-10: Interference with nurseries and wildlife corridors. Implementation of the 2018 LRDP would not result in the direct disturbance or conversion of Putah Creek or its associated riparian habitat, the primary wildlife corridor within the project site, to urban uses. As a result, implementation of the 2018 LRDP is not anticipated to substantially interfere with existing wildlife corridors, and impacts would be less than significant.	LTS	Mitigation measures are not required.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.5-11: Conflict with local policies or ordinances related to the protection of biological resources. Implementation of the 2018 LRDP could result in the removal of trees recognized to meet UC Davis standards for important trees. Removal of Heritage or Specimen trees within the plan area would result in a significant impact.	S	**Mitigation Measure 3.5-11: Tree surveys and tree removal mitigation.** Before a project is approved, UC Davis will perform a tree survey of the project site. The Office of Campus Planning and the Office of Environmental Stewardship and Design and Construction Management will provide input about tree classifications and will modify project design to avoid important trees if feasible. If a project cannot avoid an important tree, the following measures will apply: 1) If a project would necessitate removal of a heritage tree, replacement plantings of the same species will be provided by UC Davis at a ratio of 3:1 within two years of removal. 2) If a project would necessitate removal of a Specimen Tree, the project will relocate the tree if feasible, or will replace the tree with the same species or species of comparable value (relocation or replacement will occur within the project site if feasible).	SU
Impact 3.5-12: Conflict with the provisions of an adopted habitat conservation plan. Project implementation within the plan area would be consistent with the proposed Yolo County HCP/NCCP and the Solano County MSHCP. This would be a less-than-significant impact.	LTS	Mitigation measures are not required.	LTS
3.6 Energy			
Impact 3.6-1: Result in unnecessary, inefficient, and wasteful use of energy. Implementation of the 2018 LRDP would increase electricity and natural gas consumption at the site relative to existing conditions during construction activities, as well as long-term operational activities. However, the energy needs for construction would be temporary and not require additional capacity or increase peak or base period demands for electricity or other forms of energy. The 2018 LRDP is committed to meeting the UC Sustainable Practices Policy and the UC Davis Campus Design Guidelines (including achievement of LEED Gold) in all new/renovated facilities, which is designed to reduce the wasteful use of materials (through recycling building materials) and increase building energy efficiently. Therefore, implementation of the 2018 LRDP would not result in wasteful, inefficient, and unnecessary consumption of energy, and impacts would be less than significant.	LTS	No mitigation measures are necessary.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.6-2: Conflict, or create an inconsistency, with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects related to energy. The 2018 LRDP would be required to comply with increasingly stringent building and vehicle efficiency standards that would reduce energy consumption to be consistent with applicable plans, policies, and regulations. The 2018 LRDP would also include design features that would reflect UC Davis's goal to meet the UC Carbon Neutrality Initiative, as written into the UC Sustainable Practices Policy Green Building and Climate Action targets. Thus, this impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
3.7 Geology, Soils, and Seismicity			
Impact 3.7-1: Risk of exposure of people or buildings to seismic ground shaking. UC Davis is within the vicinity of areas where large earthquakes may originate, but is not directly in an Alquist-Priolo Earthquake Fault Zone, or a Seismic Hazard Zone mapped pursuant to the Seismic Hazards Mapping Act. In the event of an earthquake strong enough to produce shaking on campus, project components could be subjected to ground shaking. Proposed project structures would be designed and constructed in accordance with the current seismic safety and structural design requirements set forth in the CBC. Therefore, there would be no substantial risk of loss, injury, death, or property damage from strong seismic shaking associated with new development under the 2018 LRDP. For these reasons, the project would have a less-than-significant impact related to exposure of people or structures to seismic hazards.	LTS	No mitigation measures are necessary.	LTS
Impact 3.7-2: Potential for liquefaction caused by an earthquake. The UC Davis campus is located in a seismically active area with soils that could be susceptible to liquefaction and structural settlement in the event of an earthquake. The campus eliminates these hazards through compliance with the CBC, which includes geotechnical investigations of sites prior to development; and implementation of structural design features to eliminate the risk of liquefaction. This results in a less-than-significant impact with respect to exposure.	LTS	No mitigation measures are necessary.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.7-3: Potential for construction activities to disturb soils and result in erosion or loss of topsoil. Construction of individual projects would involve clearing and grading at projects sites and trenching in areas where utility infrastructure would be laid. Campus projects would have to comply with relevant National Pollutant Discharge Elimination System (NPDES) permits, including the General Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit) and the General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Phase II Small MS4 Permit), which require soil erosion control measures. In addition, individual projects would be designed such that there would be minimal disturbance to existing vegetation, especially redevelopment projects where existing landscaping can be preserved or enhanced. The result would be a less-than-significant impact on soil erosion.	LTS	No mitigation measures are necessary.	LTS
Impact 3.7-4: Potential for soil erosion associated with long-term operations and maintenance activities. Implementation of the project would involve changes to the existing stormwater infrastructure at sites where there is redevelopment, and new stormwater infrastructure at new development sites. While the 2018 LRDP projects, like prior development projects on the UC Davis campus, would be regulated by the Phase II Small MS4 Permit program, this program would not necessarily reduce or eliminate the collection of flows during high precipitation events or during wet times of the year. Large quantities of overland flow could result in rill or gully erosion and decrease soil stability and productivity. This would be a potentially significant impact.	PS	**Mitigation Measure 3.7-4: Manage stormwater flows to reduce soil erosion.** Prior to approval of individual projects proposed under the 2018 LRDP, UC Davis shall conduct a drainage study in the vicinity of the site proposed for development to determine if the development could produce additional runoff that may exceed the capacity of campus stormwater infrastructure, cause localized ponding to worsen, or increase the potential for property damage from flooding. Recommendations identified in the drainage study shall be incorporated into project design such that any projected increase in surface water runoff is detained/retained in accordance with applicable requirements and does not exceed current flow rates. Measures may include, but are not limited to, installation of detention/retention basins to capture and manage water, installation of water-retaining landscaping or green-roof features, modifications to existing stormwater capture/conveyance systems, and/or other measures at project-level or campus-wide to capture and manage stormwater.	LTS
Impact 3.7-5: Expansive or otherwise unstable soils. UC Davis is host to several soil units with a high shrink-swell potential. Development on these soils with implementation of 2018 LRDP projects could result in damage to building foundations. However, compliance with the CBC, including the provision for a pre-development geotechnical investigation and implementation of structural design features to eliminate weak soil characteristics would result in a less-than-significant impact related to hazardous soil characteristics.	LTS	No mitigation measures are necessary.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.7-6: Exposure of campus structures to the effects of subsidence. Subsidence on campus related to groundwater withdrawals from the shallow/intermediate aquifers has been observed and documented. While groundwater extractions from the shallow/intermediate aquifer is not expected to increase with implementation of the 2018 LRDP, continued long-term use of this water for campus needs will continue to promote regional subsidence trends. The regional nature of this subsidence is not expected to have localized, acute effects on individual structures or infrastructure. Additionally, clay compaction from groundwater withdrawal would be mitigated through compliance with the CBC, which requires geotechnical investigations and appropriate engineering measures including excavation and placement of fill, where appropriate. Consequently, the effects of subsidence on campus would have a less-than-significant impact.	LTS	No mitigation measures are necessary.	LTS
Impact 3.7-7: Have soils incapable of adequately supporting the use of septic tanks. Replacement or construction of new septic systems is a matter of public health and safety, and permitting through Yolo or Solano county, as applicable, would be required. Continued compliance with the Tier 2 Local Agency Management Program policy as required by AB 885 would ensure that this impact will be less than significant.	LTS	No mitigation measures are necessary.	LTS
3.8 Greenhouse Gas Emissions and Climate Change			
Impact 3.8-1: Considerably contribute to climate change through plan-generated greenhouse gas emissions. While the 2018 LRDP would increase development and population within the campus, the 2018 LRDP would result in UC Davis campus emissions four percent below 1990 levels by 2020 and 59 percent below 1990 levels by 2030, which exceeds the state GHG reduction targets proportionally applied to UC Davis. Therefore, the 2018 LRDP contribution to climate change from GHG emissions would be less than significant.	LTS	No mitigation measures are necessary.	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.8-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Implementation of the 2018 LRDP would achieve targets established in the UC Sustainable Practices Policy through anticipated planning and policy actions. As achievement of the Sustainable Practices Policy would meet or exceed statewide targets for 2030 and not impede the ability to achieve statewide 2050 targets, including continued implementation of SACOG's MTP/SCS, the 2018 LRDP would not conflict with an applicable plan, policy, or regulations intended to reduce GHG emissions.	NI	No mitigation measures are necessary.	NI
3.9 Hazards and Hazardous Materials			
Impact 3.9-1: Create a significant hazard through the routine transport, use, or disposal of hazardous materials. Construction and operation of the development identified in the 2018 LRDP would result in transport, use, and disposal of hazardous materials to and from the plan area. Adherence to existing regulations and compliance with safety standards would result in a less-than-significant impact.	LTS	No mitigation measures are necessary.	LTS
Impact 3.9-2: Result in the release of hazardous materials from a site of known or potential contamination. Due to the proximity of documented contamination sites, historical land use, and proximity to a major roadway and UPRR tracks, there is potential for contamination to be encountered during construction. Because the plan area could be affected by undocumented contamination that has not been characterized or remediated, this would be a potentially significant impact.	PS	**Mitigation Measure 3.9-2a: Site-specific investigation and work plan implementation.** Where initial investigations indicate the potential for contamination, UC Davis shall conduct soil sampling within the boundaries of the plan area prior to initiation of grading or other groundwork. This investigation will follow the American Society for Testing and Materials standards for preparation of a Phase II Environmental Site Assessment and/or other appropriate testing guidelines. If the results indicate that contamination exists at levels above regulatory action standards, then the site will be remediated in accordance with recommendations made by applicable regulatory agencies, including YCEHD, RWQCB, and DTSC. The agencies involved shall depend on the type and extent of contamination. Based on the results and recommendations of the investigation described above, UC Davis shall prepare a work plan that identifies any necessary remediation activities, including excavation and removal of on-site contaminated soils, and redistribution of clean fill material within the plan area. The plan shall include measures that ensure the safe transport, use, and disposal of contaminated soil removed from the site.	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		Mitigation Measure 3.9-2b: Hazardous materials contingency plan. Prior to initiation of grading or other groundwork, UC Davis shall provide a hazardous materials contingency plan to Campus Safety Services and YCEHD, as appropriate. The plan will describe the necessary actions that would be taken if evidence of contaminated soil or groundwater is encountered during construction. The contingency plan shall identify conditions that could indicate potential hazardous materials contamination, including soil discoloration, petroleum or chemical odors, and presence of underground storage tanks or buried building material. If at any time during the course of construction, evidence of soil and/or groundwater contamination with hazardous material is encountered, UC Davis shall immediately halt construction and contact Campus Safety Services and YCEHD. Work shall not recommence until the discovery has been assessed/treated appropriately (through such mechanisms as soil or groundwater sampling and remediation if potentially hazardous materials are detected above threshold levels) to the satisfaction of YCEHD, RWQCB, and DTSC (as applicable). The plan, and obligations to abide by and implement the plan, shall be incorporated into the construction and contract specifications of the project. **Mitigation Measure 3.9-2c: Minimization of hazards during demolition.** Minimize potential for accidental release of hazardous materials during demolition. Prior to demolition of existing structures, UC Davis shall complete the following: 1) Locate and dispose of potentially hazardous materials in compliance with all applicable federal, state, and local laws. This shall include: 1) identify locations that could contain hazardous residues; 2) remove plumbing fixtures known to contain, or potentially containing, hazardous materials; 3) determine the waste classification of the debris; 4) package contaminated items and wastes; and 5) identify disposal site(s) permitted to accept such wastes. 2) Provide written documentation to the appropriate County (Yolo or Solano) department that asbestos testing and abatement, as appropriate, has occurred in compliance with applicable federal, state, and local laws. 3) Provide written documentation to the appropriate County (Yolo or Solano) department that lead-based paint testing and abatement, as appropriate, has been completed in accordance with applicable state and local laws and regulations. Abatement shall include the removal of lead contaminated soil	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		(considered soil with lead concentrations greater than 400 parts per million in areas where children are likely to be present). If lead-contaminated soil is to be removed, UC Davis shall submit a soil management plan to YCEHD.	
Impact 3.9-3: Expose people or the environment to a significant hazard associated with release of a potentially hazardous substance along existing transportation corridors. The 2018 LRDP includes development of academic and administrative land uses, campus infrastructure, and student housing in close proximity to the UPRR line, which is used to transport potentially hazardous and flammable materials. Construction and operation of the 2018 LRDP would not increase the hazard associated with operation of the highway and railroad, but would increase the number of people potentially exposed to hazardous conditions. This would be a less-than-significant impact.	LTS	No mitigation measures are necessary.	LTS
Impact 3.9-4: Result in handling of hazardous or acutely hazardous materials within 0.25 mile of an existing or proposed school. Although hazardous materials and waste could be handled within 0.25 mile of an existing or proposed school as a result of implementation of the 2018 LRDP. Handling, storage, and disposal of hazardous materials associated with the 2018 LRDP would be subject to campus safety programs and procedures. This impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.9-5: Result in a safety hazard for people residing or working in the plan area because of proximity to airports. Safety hazards associated with airports are generally related to construction of tall structures and the creation of wildlife attractants (e.g., wetlands, golf courses, and waste disposal operations) that could interfere with airplane flight paths. Under the 2018 LDRP, no land use conflicts such as tall buildings or wildlife attractants would be constructed. Thus, this impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.9-6: Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Implementation of projects identified in the 2018 LRDP could result in short-term, temporary impacts to street traffic because of roadway improvements and potential extension of construction activities into the right-of-way. This could result in a reduction in the number of lanes or temporary closure of certain street segments. Any such impacts would be limited to the construction period and would affect only adjacent streets or intersection. This would be a potentially significant impact.	PS	**Mitigation Measure 3.9-6. Prepare and implement site-specific construction traffic management plans.** UC Davis shall prepare and implement site-specific construction traffic management plans for any construction effort that would require work within existing roadways. To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways during construction activities. At any time only a single lane is available due to construction-related road closures, the campus shall provide a temporary traffic signal, signal carriers (i.e., flag persons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway, the campus shall provide appropriate signage indicating alternative routes. To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, the campus shall inform emergency services, including the UC Davis Police Department, UC Davis Fire Department, and American Medical Response, of the closures and alternative travel routes.	LTS
3.10 Hydrology and Water Quality			
Impact 3.10-1: Construction-related water quality impacts. Construction activities associated with implementation of the UC Davis 2018 LRDP would expose bare soil to rainfall and stormwater runoff, which could accelerate erosion and result in sedimentation of stormwater and, eventually, waterbodies. The plan would be required to comply with the General Construction Permit and Phase II Small MS4 Permit, and their attendant stormwater protections. In addition, UC Davis provides a comprehensive stormwater program through UC Davis EHS for development projects. This program exists to ensure compliance with applicable laws and implementation of BMPs on the ground during construction. Consequently, implementation of the 2018 LRDP would not be expected to contribute substantial loads of sediment or other pollutants to stormwater or waterbodies and would result in a less-than-significant impact.	LTS	No mitigation measures are necessary.	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.10-2: Long-term water quality impacts. New impervious surfaces from development of the 2018 LRDP would result in new sources of stormwater runoff and contamination, as well as an increased risk of erosion and sedimentation. However, the campus is covered under the Phase II Small MS4 Permit, which requires management of long-term stormwater discharges and implementation of pollution protection measures. These management practices are enforced under the campus stormwater management program and ensure long-term protection related to stormwater pollution. Permit coverage and compliance with the stormwater management program would result in less-than-significant impacts associated with long-term water quality impacts.	LTS	No mitigation measures are necessary.	LTS
Impact 3.10-3: Violate water quality standards – waste discharge. Expansion of the campus population and campus facilities under the 2018 LRDP would result in an increase in the amount of wastewater generated. It is expected that the types of chemical constituents in wastewater would remain approximately the same with implementation of the 2018 LRDP. By continuing to adhere to the provisions of NPDES permit CA0077895, it is expected that the wastewater treatment plant would continue to comply with waste discharge requirements, and therefore impacts associated with water quality standards would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.10-4: Impacts to deep aquifer groundwater supply and recharge. UC Davis will continue to draw domestic water from the six campus wells in the deep aquifer, during Term 91 conditions and to supplement water from the Woodland-Davis Clean Water Agency, for campus use. However, campus use of groundwater supplies would not substantially affect the available supplies within or ability for recharge of the deep aquifer. Impacts would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.10-5: Impacts to shallow/intermediate aquifer groundwater supply and recharge. While implementation of the 2018 LRDP is not expected to increase groundwater withdrawals from the shallow/intermediate aquifer, recharge infiltration patterns could be affected by the increase in development. However, new impervious surfaces from the conversion of open space to other uses represent a small fraction of total campus lands, and lands within the Putah Creek watershed, which feeds the underlying aquifer through recharge. Therefore, the result would be a less-than-significant impact on shallow/intermediate aquifer supply and recharge.	LTS	No mitigation measures are necessary.	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.10-6: On-site and off-site flood-related impacts. New development on campus would result in an overall increase in impervious surfaces and produce changes to site-specific stormwater infrastructure. If new stormwater infrastructure is not appropriately designed to accommodate site runoff, or existing campus infrastructure cannot accommodate increased flows from new development, impacts related to local and off-site flooding would be significant.	S	**Mitigation Measure 3.10-6: Implement project-level stormwater controls.** Implement Mitigation Measure 3.7-4.	LTS
Impact 3.10-7: Placement of housing or other structures within a regulated floodplain. Portions of the plan area are located within a floodplain, however, no new student, or faculty and staff housing is proposed within the 100-year floodplain. The 2018 LRDP may involve the construction of addition academic and administrative facilities within the far western portion of west campus. Should that occur and in the event of a 100-year flood, there would be increased exposure to the risk of loss and flood damage. Therefore, the impact associated with a 100-year flood event would be potentially significant.	PS	**Mitigation Measure 3.10-7: Design of new construction to minimize the risk of flooding in the event of a 100-year flood.** New construction within the 100-year floodplain shall be designed to be elevated above the base flood elevation predicted under a 100-year flood event. UC Davis shall require site-specific studies to be conducted to ascertain the height to which floodwaters would be expected to rise. These studies shall inform fill and grading requirements for new development within the floodplain and any requirements/recommendations from the site-specific studies shall be incorporated into design. Where elevating projects is not possible, buildings shall be designed to wet floodproof the lowest elevation floors and utility systems.	LTS
Impact 3.10-8: Dam failure inundation. Although UC Davis is located within the inundation area of the Monticello Dam, such that up to two meters of water would be present in certain areas of campus for a period of approximately 24 hours, the dam structure is managed by the state and federal agencies and is capable of withstanding strong seismic shaking. As a result, the risk of inundation from a failure of the Monticello Dam is considered less than significant.	LTS	No mitigation measures are necessary.	LTS
3.11 Land Use and Planning			
Impact 3.11-1: Conflict with applicable land use plans, policies, or existing zoning adopted for the purposes of avoiding or mitigation of an environmental effect. Implementation of the 2018 LRDP would not conflict with existing land use, policies, or zoning. Because the UC holds jurisdiction over campus-related projects, projects carried out by UC Davis would be consistent with the 2018 LRDP. Further, potential conflicts with adjacent land use, policies, or zoning are not anticipated. Therefore, impacts associated with land use, policies, or zoning would be less than significant.	LTS	No mitigation measures are necessary.	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
3.12 Noise			
Impact 3.12-1: Construction noise. Implementation of the 2018 LRDP would result in construction activities associated with the development and modernization of on-campus housing and academic and administrative facilities to accommodate future growth in the student, faculty, and staff populations. Although construction activities would be intermittent and temporary in nature, construction noise levels may still impact nearby noise sensitive land uses and could result in human disturbance. As a result, this impact would be significant.	S	**Mitigation Measure 3.12-1: Reduce construction noise.** For all construction activities, UC Davis shall implement or incorporate the following noise reduction measures into construction specifications for contractor(s) implementation during project construction: 1) Construction activity shall be limited to the daytime hours between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 8:00 p.m. on weekends and holidays, where possible. 2) All construction equipment and equipment staging areas shall be located as far as possible from nearby noise-sensitive land uses, and/or located to the extent feasible such that existing or constructed noise attenuating features (e.g., temporary noise wall or blankets) block line-of-site between affected noise-sensitive land uses and construction staging areas. 3) All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturer recommendations. Equipment engine shrouds shall be closed during equipment operation. 4) Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site) where feasible and consistent with building codes and other applicable laws and regulations. 5) Stationary noise sources such as generators or pumps shall be located 100 feet away or more from noise-sensitive land uses, as feasible. 6) Loud construction activity (i.e., construction activity such as jackhammering, concrete sawing, asphalt removal, and large-scale grading operations) shall not be scheduled during finals week and preferably during holidays, summer/winter break, Thanksgiving break, and spring break. 7) No less than one week prior to the start of construction activities at a particular location, notification shall be provided to academic, administrative, and residential uses located within 100 feet of the construction site. 8) When construction would occur within 100 feet of on-campus housing and may result in temporary noise levels in excess of 86 dBA L_{max} at the exterior of the	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		adjacent housing structure, temporary noise barriers (e.g., noise-insulating blankets or temporary plywood structures) shall be erected that reduce construction-related noise levels to less than 86 dBA L_{max} at the receptor. 9) For any construction activity that must extend beyond the daytime hours of 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 8:00 p.m. on weekends and occur within 1,120 feet of a building where people sleep, UC Davis shall ensure that interior noise levels of 45 dBA L_{max} are not exceeded at any receiving land use by not exceeding 70 dBA L_{max} at the receiving land use property line. Typical residential structures with windows closed achieve a 25-30 dBA exterior-to-interior noise reduction (Caltrans 2002). Thus, using the lower end of this range, an exterior noise level of 70 dBA L_{max} would ensure interior noise levels do not result in an increased risk for sleep disturbance. To achieve this performance standard, the following measures shall be implemented: a) Use of noise-reducing enclosures and techniques around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors). b) Installation of temporary noise curtains installed as close as possible to the boundary of the construction site within the direct line of sight path of the nearby sensitive receptor(s) and consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side. The noise barrier layer shall consist of rugged, impervious, material with a surface weight of at least one pound per square foot. c) Retain a qualified noise specialist to conduct noise monitoring to ensure that noise reduction measures are achieved the necessary reductions such that levels at the receiving land uses do not exceed exterior noise levels of 70 dBA L_{max}. Exceedances of noise standards shall result in immediate halt of construction until additional noise-reduction measures are implemented.	
Impact 3.12-2: Increases in non-transportation noise sources. New buildings may include new stationary noise sources and equipment (e.g., mechanical equipment, backup generators), and loading docks that, depending on location of new and existing sensitive land uses, could result in noise levels that disturb people while sleeping or substantial increases in noise over existing levels. This impact would be significant.	S	**Mitigation Measure 3.12-2: Reduce noise exposure from new stationary noise sources.** During project design of individual projects proposed under the 2018 LRDP, UC Davis shall review and ensure that external mechanical equipment, including HVAC units associated with new/renovated buildings, incorporates features designed to reduce noise to below 63 dB L_{eq} at any nearby building where people sleep. Design features	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		may include, but are not limited to, locating equipment within equipment rooms or enclosures that incorporate noise reduction features, such as acoustical louvers, and exhaust and intake silencers. Equipment enclosures shall be oriented so that major openings (i.e., intake louvers, exhaust) are directed away from nearby noise-sensitive receptors.	
Impact 3.12-3: Exposure of sensitive receptors to existing noise and vibration levels. The 2018 LRDP would result in additional development of new buildings, including student housing. Although, new development would not result in any increase in airport, rail, or stadium noise, future planned development could locate new sensitive land uses in close proximity (i.e., within 750 feet) to existing rail lines, potentially resulting in sleep disturbance at these new uses. This impact would be significant.	S	**Mitigation Measure 3.12-3: Reduce vibration and noise effects from existing rail lines on new development.** For any building to be constructed within 750 feet of existing rail lines, and prior to final site plans or construction, a site-specific noise and vibration assessment shall be conducted by a qualified acoustical engineer or noise specialist to ensure that the proposed land use is compatible with existing noise and vibration levels. Specifically, any residential building where people sleep shall be designed to ensure interior noise levels do not exceed 45 dBA CNEL and interior vibration levels are minimized, in compliance with FTA's recommended levels of 72 VdB. The study shall also evaluate sleep disturbance considering SEL noise levels from trains and horns. Measures that can be incorporated include isolation strip foundations, insulated windows and walls, sound walls or barriers, distance setbacks, or other construction or design features that would reduce vibration and noise to acceptable levels.	LTS
Impact 3.12-4: Exposure of new and existing sensitive receptors to operational project-generated traffic noise. Population growth and development would result in some increases in traffic on local and regional roadways. New student housing would be located near existing roadways as development of the 2018 LRDP occurs. However, increases in traffic would not result in substantial increases in noise and existing ambient noise levels are below acceptable levels. This impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
3.13 Population and Housing			
Impact 3.13-1: Directly or indirectly induce substantial population growth and housing demand. Implementation of the 2018 LRDP would accommodate an increase in student enrollment, non-UC employees, and UC Davis faculty/staff. The 2018 LRDP would provide on-campus housing to accommodate the increase in campus population, as	S	No feasible mitigation measures are available.	SU

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
well as to accommodate existing students. Substantial population growth would, therefore be induced, leading to physical effects on the environment (addressed throughout this EIR), some of which would be unavoidable. Therefore, this impact would be considered significant.			
3.14 Public Services			
Impact 3.14-1: Impacts on fire facilities. Increased population and development under the 2018 LRDP could increase demand for fire services. However, implementation of the 2018 LRDP would not modify existing service area boundaries such that increases in demand would not result in the need for additional fire protection facilities beyond those anticipated as part of the 2018 LRDP, the construction of which could result in significant environmental impacts. Therefore, this impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.14-2: Impacts on police facilities. Increased population and development under the 2018 LRDP could increase demand for police services. However, implementation of the 2018 LRDP would not modify existing service area boundaries such that increases in demand would not result in the need for additional police protection facilities beyond those anticipated as part of the 2018 LRDP, the construction of which could result in significant environmental impacts. Therefore, this impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.14.3: Impacts on schools. The increase in campus population that is expected to occur under the 2018 LRDP would result in an increased demand for schools. However, enrollment for DJUSD has declined in 7 of the last 11 years and existing schools would have adequate capacity to accommodate the increase in students. No new facilities would be needed. Therefore, this impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.14-4: Impacts on other public facilities. The increase in campus population that is expected to occur under the 2018 LRDP could result in an increased demand for public facilities such as libraries. However, this increase in demand is covered as part of the 2018 LRDP and is not expected to	LTS	No mitigation measures are necessary.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
result in the need for new or expanded public facilities. Therefore, this impact would be less than significant.			
3.15 Recreation			
Impact 3.15-1: Impacts on campus recreation facilities. The increase in population under the 2018 LRDP would increase demand for recreation facilities. However, maintenance of existing on-campus recreation facilities would be increased as needed, and several new recreation facilities would be constructed as part of the 2018 LRDP to off-set increases in demand for recreational facilities. Therefore, this impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.15-2: Impacts on off-campus recreation facilities. Because the population growth under the 2018 LRDP would be located on campus, the increased demand for recreation facilities would primarily be for on-campus facilities. The new on-campus population would be adequately served by campus recreation facilities. Therefore, the 2018 LRDP is not expected to cause substantial deterioration of off-campus recreation facilities. This impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
3.16 Transportation, Circulation, and Parking			
Impact 3.16-1: Freeway level of service impacts. Implementation of the 2018 LRDP would increase local and regional vehicle travel, which would contribute to unacceptable LOS F conditions on I-80. This impact would therefore be significant.	S	**Mitigation Measure 3.16-1: Implement TDM strategies to reduce vehicle trips on I-80.** UC Davis shall institute transportation demand management (TDM) strategies to reduce campus-related peak hour vehicle trips on I-80. Effective TDM strategies include those that would reduce commute and business vehicle travel to and from campus on I-80, including increased transit services, carpool incentive programs, flexible work hours, and remote working options. The implementation of TDM strategies would lessen the 2018 LRDP's contribution to unacceptable LOS F conditions on I-80 under future year conditions.	SU
Impact 3.16-2: Intersection level of service impacts. Implementation of the 2018 LRDP would increase local and regional vehicle travel, which would contribute to unacceptable LOS F conditions on I-80. This impact would therefore be significant.	S	**Mitigation Measure 3.16-2a: Implement TDM strategies to reduce vehicle trips at the SR 113/Hutchison Drive interchange.** UC Davis shall institute programs to reduce the expected commute and business trips utilizing the Hutchison Drive/SR 113 on- and off-ramps as well as strategies to reduce peak hour vehicle trips between the central campus and west campus on Hutchison	SU

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		Drive. Examples include increased transit services, shifting service vehicles to use the Garrod Drive overcrossing of SR 113, promotion of bike use between West Village and the central campus, carpool incentive programs, flexible work hours and remote working options. The growth at West Village accounts for most of the increase (approximately 280 trips) in the stop-controlled northbound left-turn volume during the p.m. peak hour between 2030 no project and 2030 plus 2018 LRDP conditions. This movement is largely responsible for the high intersection delays. These trips tend to be longer distance commute trips using SR 113 and I-80. As such, TDM strategies that increase the seat utilization of existing private vehicles, organized car or vanpools, and public transit services would be the most effective. **Mitigation Measure 3.16-2b: Modify SR 113/Hutchison Drive interchange.** Every two years, UC Davis shall monitor and analyze traffic conditions at the SR 113/Hutchison Drive interchange. Additionally, during its standard environmental review process, UC Davis shall forecast and analyze traffic conditions at the SR 113/Hutchison Drive interchange for individual development projects proposed under the 2018 LRDP that are expected to affect operations at the interchange. When the SR 113/Hutchison Drive ramp terminal intersections are found to operate below the intersection level of service significance threshold, or when a project-level analysis indicates that the project would cause operations to fall below the intersection level of service significance threshold, the SR 113/Hutchison Drive interchange shall be modified to increase the capacity of the ramp terminal intersections and to modify uncontrolled turning movements that conflict with bicycle and pedestrian movements as specified in WVE Mitigation Measure 3.16-4a. Potential modifications include ramp widening and alignment changes plus the addition of ramp approach turn lanes, traffic signals, or roundabouts. Both ramp terminal intersections meet peak hour signal warrants with the project. Implementation of signals alone would be sufficient to provide acceptable peak hour traffic operations. Since the interchange is owned and operated by Caltrans, any improvements will be subject to Caltrans review, project development procedures, and approval.	

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		Mitigation Measure 3.16-2c: Implement TDM strategies to reduce vehicle trips at the First Street/D Street and Russell Boulevard/Fifth Street/B Street intersections. The First Street/D Street and Russell Boulevard/Fifth Street/B Street intersections and the adjacent intersections are part of the downtown grid street system. This network is limited in terms of physical modification or expansion due to right-of-way constraints. As such, reducing vehicle delays for these intersections will require UC Davis to implement its TDM program to reduce vehicle travel to and from campus. TDM strategies that shift people from driving to walking and bicycling within the Davis community, particularly TDM efforts that would reduce vehicle travel within the Davis downtown area around the affected intersections, would be effective in this area. **Mitigation Measure 3.16-2d: Implement TDM strategies to reduce vehicle trips on Old Davis Road.** UC Davis shall institute TDM strategies to reduce campus-related peak hour commute and business vehicle trips using the segment of Old Davis Road between I-80 and First Street. Examples include increased transit services, shifting the timing of service vehicles from peak periods, promotion of bike use for employees and students during peak periods, management of parking lot access along Old Davis Road, carpool incentive programs, flexible work hours, and remote working options. **Mitigation Measure 3.16-2e: Upgrade Old Davis Road between I-80 and First Street to an arterial.** Implement 2018 LRDP Mitigation Measure 3.16-7, which will monitor traffic volumes and upgrade the segment of Old Davis Road between I-80 and First Street to arterial status under both 2030 and 2036 plus project conditions. Unacceptable roadway operations can be attributed to substantial growth in on- and off-campus student housing within the immediate vicinity of the affected roadway segment, as well as the incompatibility between the existing roadway segment design and anticipated peak hour vehicle, bicycle, and pedestrian traffic demand. These factors would be present under both 2030 and 2036 plus 2018 LRDP conditions.	
Impact 3.16-3: Impacts to transit service and facilities. Implementation of the 2018 LRDP would increase demand for transit, which may require investments in additional transit service and/or facilities to maintain the level and quality of service necessary to retain and expand ridership. Failure to maintain	S	**Mitigation Measure 3.16-3a: Monitor transit service performance and support transit improvements.** Currently, Unitrans regularly monitors transit service performance and adjusts service levels, as feasible, according to established service standards. Unitrans shall continue	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
quality service could lead to losses of ridership and increases in travel by other modes (e.g., automobiles) that could result in environmental effects such as increased emissions. Implementation of the 2018 LRDP would increase automobile, transit, bicycle, and pedestrian trips to, from, and within the UC Davis campus, which would increase the competition for physical space between the modes to meet both operational and safety objectives related to transit. This impact would therefore be significant.		to implement this monitoring and service change process annually over the duration of the 2018 LRDP implementation. UC Davis shall work with Unitrans staff to identify and support the implementation of transit service and/or facility improvements necessary to adhere to established service standards and, in turn, maintain a high quality customer experience so as not to deter existing and potential ridership. Potential transit improvements include modifying existing transit routes or adding new routes to serve areas of the campus underserved by transit, adding service capacity (through increased headways and/or larger vehicles) to prevent chronic overcrowding, improving terminal facilities to accommodate additional passengers and transit vehicles, and improving coordination between transit providers. Transit improvements shall result in service performance that meets the capacity standard established in the most up-to-date City of Davis Short Range Transit Plan. Currently, this standard requires Unitrans to maintain acceptable loading conditions (fewer than 150 percent of seated capacity) on more than 95 percent of all bus trips and for more than 90 percent of bus passengers. Transit facility and roadway improvements shall be designed and constructed in accordance with industry best practices and applicable UC Davis, City of Davis, and State of California standards. Improvements shall be implemented or constructed in a manner that would not physically disrupt existing transit service or facilities (e.g., additional bus service that exceeds available bus stop or transit terminal capacity) or otherwise adversely affect transit operations. **Mitigation Measure 3.16-3b: Monitor transit-related collisions and implement countermeasures to minimize potential conflicts with transit service and facilities.** During the 2018-2019 academic year and every two years thereafter, UC Davis shall record on-campus collisions involving a transit vehicle and establish a transit vehicle collision rate. The rate should be sensitive to transit provider, location context (e.g., campus core area versus West Village) and facility type (e.g., intersection versus segment). UC Davis shall determine the on-campus transit vehicle collision rate as part of its biennial mitigation monitoring program established in the LRDP EIR. In instances where the rate increases from the prior observation period, UC Davis shall develop and implement countermeasures that address collision hot-spots and common primary collision factors. UC Davis shall also identify and develop	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		countermeasures for locations where the change in the mix of travel patterns and behavior is determined to be incompatible with the facility as designed. Potential countermeasures include physically separating modes in shared operating environments, particularly high- versus low-speed travel modes, and increased education and enforcement. At a minimum, UC Davis shall include the following locations in the mitigation monitoring program: ◢ Silo Terminal, ◢ Memorial Union Terminal, ◢ La Rue Road, ◢ Hutchison Drive, ◢ Howard Way, ◢ Sage Street, and ◢ Russell Boulevard. Transit facility and roadway improvements that intend to minimize conflicts between transit vehicles and other travel modes shall be designed and constructed in accordance with industry best practices and applicable UC Davis, City of Davis (for facilities within the City of Davis), and State of California standards. Improvements shall be implemented or constructed in a manner that would not physically disrupt existing transit service or facilities or otherwise adversely affect transit operations.	
Impact 3.16-4: Impacts to bicycle facilities. Implementation of the 2018 LRDP would increase bicycle travel on the UC Davis campus, which could generate bicycle volumes that physically disrupt the use of existing facilities. Implementation of the 2018 LRDP would increase automobile, transit, bicycle, and pedestrian trips to, from, and within the UC Davis campus, which would increase the competition for physical space between the modes. As recognized in the UC Davis Bicycle Plan, the high volume of bicycle use already causes mixing of cyclists and pedestrians at certain times of day on existing facilities, which increases the risk of collisions. This impact would therefore be significant.	S	**Mitigation Measure 3.16-4: Monitor bicycle-related collisions to implement countermeasures minimizing potential conflicts with bicycle facilities.** During the 2018-2019 academic year and every two years thereafter, UC Davis shall record on-campus bicycle volumes and collisions involving bicyclists and establish a bicycle collision rate. The rate should be sensitive to context (e.g., campus core area versus West Village) and facility type (e.g., intersection versus segment). UC Davis shall determine the on-campus bicycle collision rate as part of its biennial mitigation monitoring program established in the LRDP EIR. In instances where the rate increases from the prior observation period, UC Davis shall develop and implement countermeasures designed to reduce the rate and primary collision factors. UC Davis shall also identify and develop countermeasures for locations where the change in	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		the mix of travel patterns and behavior is determined to be incompatible with the facility as designed. Potential countermeasures include the following: ◢ construct physically separated facilities for each mode in shared operating environments (particularly high- versus low-speed travel modes), ◢ restrict select modes in certain areas where one mode is prioritized over another to minimize collision potential, ◢ widen existing facilities, ◢ construct new facilities, ◢ increase the number of bicycle parking facilities and distribute them to minimize crowding on connecting bicycle facilities, ◢ consider TDM measures that would alter demand to minimize collision potential, ◢ enforcement of 'rules of the road' per the California Vehicle Code and applicable University policies, ◢ education of existing and prospective bicyclists to give people the skills and abilities to ride, ◢ control class schedules and passing periods to minimize effects of peak bicycle traffic, and ◢ expand core area restrictions on service vehicles. Anticipated increases in bicycle activity would be concentrated near focal points for students and staff activities, including new on-campus housing developments, existing and new academic and recreational facilities (e.g., classrooms, lecture halls, athletic fields) in the core campus area, off-campus activity centers (e.g., Downtown Davis, University Mall) and along bicycle facilities connecting activity generators. Therefore, at a minimum, UC Davis shall include the following locations in the mitigation monitoring program: ◢ core campus area; ◢ La Rue Road between Russell Boulevard and Old Davis Road; ◢ SR 113 bike/pedestrian overcrossing, Orchard Park Circle, and Orchard Road; ◢ Sprocket Bikeway;	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		◢ California Avenue between Russell Boulevard and Old Davis Road; ◢ Hutchison Drive between Sage Street and Old Davis Road; ◢ Old Davis Road between I-80 and First Street; ◢ Howard Way between Russell Boulevard and North Quad; ◢ Third Street between A Street and Downtown Davis; ◢ First Street between A Street and Downtown Davis; ◢ Russell Boulevard corridor between SR 113 and Downtown Davis (including intersections with north-south roadways, especially those involving campus connections); and ◢ West Village. Bicycle facility and roadway improvements that intend to minimize conflicts between bicyclists and other travel modes shall be designed and constructed in accordance with applicable UC Davis, City of Davis, and State of California standards. As an optional mitigation action, UC Davis could prepare an Active Transportation Master Plan that identifies the expected locations and types of bicycle improvements that may be necessary to accommodate growth resulting from the 2018 LRDP. Potential modifications to the existing transportation network for active transportation modes should be based on, but not limited to, the following objectives: ◢ desired level of traffic stress (LTS) or user experience, and ◢ the need for physical separation between the modes (to address either volume or speed differentials). The plan should include an implementation program that identifies the prioritization and sequencing of improvements as they relate to specific on-campus facilities (e.g., new student dorms). The plan should be flexible to respond to changing conditions during implementation of the 2018 LRDP, and should contain optional strategies and improvements that can be applied to specific problems that arise as 2018 LRDP implementation proceeds. UC Davis should develop the plan in consultation with the City of Davis and work with the City to implement plan elements as needed during 2018 LRDP implementation. As another optional mitigation action, for specific development projects proposed under the 2018 LRDP, UC Davis could conduct detailed site access and circulation	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		review to better understand the potential project effects on the bicycling environment. This review could occur at the time of project-specific CEQA approval. From those studies, UC Davis should identify appropriate project elements or mitigation measures to address adverse project effects on the bicycling environment. Potential mitigation measures include improving existing bicycle facilities, constructing parallel bicycle facilities, or other physical improvements that would reduce the potential for conflicts between bicyclists and other modes of transportation.	
Impact 3.16-5: Impacts to pedestrian facilities. Implementation of the 2018 LRDP would increase pedestrian travel on and off the UC Davis campus, which could generate pedestrian volumes that physically disrupt the use of existing facilities. Implementation of the 2018 LRDP would increase automobile, transit, bicycle, and pedestrian trips to, from, and within the UC Davis campus, which would increase the competition for physical space between the modes, which increases the risk of collisions. This impact would therefore be significant.	S	**Mitigation Measure 3.16-5: Monitor pedestrian-related collisions implement countermeasures minimizing potential conflicts with pedestrian facilities.** During the 2018-2019 academic year and each two years thereafter, UC Davis shall record on-campus pedestrian volumes and collisions involving pedestrians and establish a pedestrian collision rate. The rate should be sensitive to context (e.g., campus core area versus West Village) and facility type (e.g., intersection versus segment). UC Davis shall determine the on-campus pedestrian collision rate as part of its biennial mitigation monitoring program established in the LRDP EIR. In instances where the rate increases from the prior observation period, UC Davis shall develop and implement countermeasures to reduce the rate and address primary collision factors. UC Davis shall also identify and develop countermeasures for locations where the change in the mix of travel patterns and behavior is determined to be incompatible with the facility as designed. Potential countermeasures include the following: ◢ construct physically separated facilities for each mode in shared operating environments (particularly high- versus low-speed travel modes), ◢ restrict select modes in certain areas where one mode is prioritized over another to minimize collision potential, ◢ widen existing facilities, ◢ construct new facilities, and ◢ consider TDM measures that would alter demand to minimize collision potential. Anticipated increases in pedestrian activity would be concentrated near focal points for students and staff activities, including new on-campus housing developments, existing and new academic and recreational facilities (e.g., classrooms, lecture halls,	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		athletic fields) in the core campus area, off-campus activity centers (e.g., Downtown Davis, University Mall) and along pedestrian facilities connecting activity generators. Therefore, at a minimum, UC Davis shall include the following locations in the mitigation monitoring program: ◢ core campus area; ◢ La Rue Road between Russell Boulevard and Old Davis Road; ◢ SR 113 bike/pedestrian overcrossing, Orchard Park Circle, and Orchard Road; ◢ Sprocket Bikeway; ◢ Hutchison Drive between Sage Street and Old Davis Road; ◢ Old Davis Road between I-80 and First Street; ◢ Howard Way between Russell Boulevard and North Quad; ◢ Third Street between A Street and Downtown Davis; ◢ First Street between A Street and Downtown Davis; ◢ Russell Boulevard corridor between SR 113 and Downtown Davis (including intersections with north-south roadways, especially those involving campus connections); and ◢ West Village. Pedestrian facility and roadway improvements that intend to minimize conflicts between pedestrians and other travel modes shall be designed and constructed in accordance with applicable UC Davis, City of Davis, and State of California standards. As an optional mitigation action, UC Davis could prepare an Active Transportation Master Plan that identifies the expected locations and types of pedestrian improvements that may be necessary to accommodate growth resulting from the 2018 LRDP. Potential modifications to the existing transportation network for active transportation modes should be based on, but not limited to, the following objectives: ◢ desired pedestrian level of service or user experience; and ◢ the need for physical separation between the modes (to address either volume or speed differentials). The plan should include an implementation program that identifies the prioritization and sequencing of improvements as they relate to specific on-campus facilities (e.g., new student dorms). The plan should be flexible to respond to changing conditions	

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		during implementation of the 2018 LRDP, and should contain optional strategies and improvements that can be applied to specific problems that arise as 2018 LRDP implementation proceeds. UC Davis should develop the plan in consultation with the City of Davis and work with the City to implement plan elements as needed during 2018 LRDP implementation. As another optional mitigation action, for specific development projects proposed under the 2018 LRDP, UC Davis could conduct detailed site access and circulation review to better understand the potential project effects on the pedestrian environment. This review could occur at the time of project-specific CEQA approval. From those studies, UC Davis should identify appropriate project elements or mitigation measures to address adverse project effects on the pedestrian environment. Potential mitigation measures include improving existing pedestrian facilities, constructing parallel pedestrian facilities, or other physical improvements that would reduce the potential for conflicts between pedestrians and other modes of transportation.	
Impact 3.16-6: Cumulative impacts to freeway level of service. Implementation of the 2018 LRDP would increase local and regional vehicle travel under cumulative conditions, which would contribute to unacceptable LOS F conditions on I-80. This impact would therefore be significant.	S	**Mitigation Measure 3.16-6: Implement TDM strategies to reduce vehicle trips on I-80.** Implement 2018 LRDP Mitigation Measure 3.16-1.	SU
Impact 3.16-7: Cumulative impacts to local roadway segment level of service. Under cumulative conditions, the 2018 LRDP would generate new vehicle trips that would cause an impact to roadway segment LOS. Therefore, this impact would be significant.	S	**Mitigation Measure 3.16-7: Upgrade Old Davis Road between I-80 and First Street to an arterial.** Every two years, UC Davis shall monitor and analyze traffic conditions on Old Davis Road between I-80 and First Street. Additionally, during its standard environmental review process, UC Davis shall forecast and analyze traffic conditions on Old Davis Road between I-80 and First Street for individual development projects proposed under the 2018 LRDP that are expected to affect operations on the roadway segment. When the segment of Old Davis Road between I-80 and Fist Street is found to operate below the level of service significance threshold, or when a project-level analysis indicates that the project would cause operations to fall below the level of service significance threshold, UC Davis shall upgrade Old Davis Road between I-80 and First Street from collector to arterial status. Physical and operational characteristics of arterial roadways include:	LTS

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Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		◢ Improved access control, ◢ Removal of all-way stops and installation of traffic signals or roundabouts, as warranted, per UC Davis design standards, ◢ Lane additions at intersection approaches and; ◢ Enhanced control or physical separation of conflicting vehicular, bicycle, and pedestrian movements. Examples of specific improvements that would help transition Old Davis Road towards arterial status include the installation of a roundabout at the Old Davis Road/Arboretum Drive intersection and the construction of a grade-separated crossing for the / Arboretum Trail located north of Arboretum Waterway at Old Davis Road (in place of the stop-controlled intersection at Old Davis Road / Hutchison Drive). UC Davis could also consider a realignment of Old Davis Road immediately south of First Street in order to adequately accommodate the arterial roadway features listed above. Although a significant impact is not identified for the segment of Old Davis Road north of I-80, arterial improvements along this segment would facilitate improved operations at upstream/downstream locations along the corridor. Upgrading this segment of Old Davis Road to arterial status would improve p.m. peak hour operations to an acceptable LOS D under cumulative conditions. The ultimate improvements shall be determined through the UC Davis project development process involving alternatives evaluation and any environmental impact review required under CEQA. Cumulative roadway improvements should be designed to operate at the boundary of LOS E/F.	
Impact 3.16-8: Cumulative impacts to transit service and facilities. The 2018 LRDP, together with the mitigation measures identified for implementation up through the 2030-2031 academic year, would not cause a considerable contribution to cumulative transit impacts in 2036. This impact would therefore be less than significant.	LTS	**Mitigation Measure 3.16-8a: Monitor transit service performance and support transit improvements.** Implement 2018 LRDP Mitigation Measure 3.16-3a. **Mitigation Measure 3.16-8b: Monitor transit-related collisions and implement countermeasures to minimize potential conflicts with transit service and facilities.** Implement 2018 LRDP Mitigation Measure 3.16-3b.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.16-9: Cumulative impacts to bicycle facilities. The 2018 LRDP, together with the mitigation measures identified for implementation up through the 2030-2031 academic year, would not cause a considerable contribution to cumulative bicycle impacts in 2036. This impact would therefore be less than significant.	LTS	**Mitigation Measure 3.16-9: Monitor bicycle-related collisions and implement countermeasures to minimize potential conflicts with bicycle facilities.** Implement 2018 LRDP Mitigation Measure 3.16-4.	LTS
Impact 3.16-10: Cumulative impacts to pedestrian facilities. The 2018 LRDP, together with the mitigation measures identified for implementation up through the 2030-2031 academic year, would not cause a considerable contribution to cumulative pedestrian impacts in 2036. This impact would therefore be less than significant.	LTS	**Mitigation Measure 3.16-10: Monitor pedestrian-related collisions and implement countermeasures to minimize potential conflicts with pedestrian facilities.** Implement 2018 LRDP Mitigation Measure 3.16-5.	LTS
3.17 Utilities and Service Systems			
Impact 3.17-1: Impacts on water supply. Implementation of the 2018 LRDP would generate an additional demand for water, but would not require water supplies in excess of existing entitlements and resources, or result in the need for new or expanded entitlements. This impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.17-2: Require construction of new/expanded water infrastructure. Implementation of the 2018 LRDP could require new water connections or expanded water conveyance systems. However, beyond projects identified as part of the plan, the 2018 LRDP would not require or result in the construction of new or expanded water supply or treatment facilities, the construction of which could cause significant environmental effects. This impact is considered less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.17-3: Require construction of new/expanded wastewater infrastructure to comply with applicable wastewater treatment requirements. Implementation of the 2018 LRDP would not exceed the available capacity of existing wastewater infrastructure nor would it require the construction or expansion of wastewater treatment facilities or conveyance systems that could cause significant environmental effects. This impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.17-4: Impacts to solid waste facilities and compliance with regulations related to solid waste. Implementation of the 2018 LRDP would increase solid waste generation at the campus. However, adequate landfill capacity is available at local and regional landfills to accommodate additional solid waste generated by the project. Compliance with the UC Sustainable Practices Policy would continue to reduce landfill contributions, consistent with CIWMA, AB 341, SB 1374, AB 1826, and SB 1383. This impact would therefore be less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.17-5: Impacts to chilled water and steam facilities. Implementation of the 2018 LRDP would not result in deficiencies and lack of capacity within the UC Davis chilled water and steam infrastructure nor would it require the construction or expansion of existing systems that could cause significant environmental effects. This impact is considered less than significant.	LTS	No mitigation measures are necessary.	LTS
Impact 3.17-6: Demand for energy services and facilities the construction of which would result in significant environmental impacts. Existing on-site electrical infrastructure and natural gas infrastructure is expected to be sufficient to serve the 2018 LRDP. Energy facilities would meet the 2018 LRDP's energy needs. Thus, this impact would be less than significant.	LTS	No mitigation measures are necessary.	LTS

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