UCDAVIS

CALIFORNIA NATIONAL PRIMATE RESEARCH CENTER
CENTRAL PLANT AND ENERGY IMPROVEMENTS PROJECT

Addendum to the
UC Davis 2018 Long Range Development Plan EIR

State Clearinghouse No. 2017012008

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LIST OF ABBREVIATIONS

2018 LRDP	University of California Davis 2018 Long Range Development Plan
AB	Assembly Bill
BMP	Best Management Practices
CBC	California Building Code
CEQA	California Environmental Quality Act
CNEL	community noise equivalent level
CNPRC	California National Primate Research Center
CO	carbon monoxide
dBA	A-weighted decibel
EIR	Environmental Impact Report
HCP	Habitat Conservation Plan
I-80	Interstate Highway 80
kVA	kilovolt-ampere
kW	kilowatt
lb/hr	pounds per hour
MBH	thousand British thermal units per hour
MND	mitigated negative declaration
NAHC	Native American Heritage Center
NCCP	Natural Community Conservation Plan
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
PEX	cross-linked polyethylene
Phase II Small MS4 Permit	General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems
PM_{10}	particulate matter with an aerodynamic diameter of 10 microns or smaller
$PM_{2.5}$	particulate matter with an aerodynamic diameter of 2.5 microns or smaller
PRC	Public Resources Code
Project	California National Primate Research Center Central Plant and Energy Improvements
READ	Renewable Energy Anaerobic Digester
ROG	reactive organic gases
SB	Senate Bill
sf	square feet
SR	State Route
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
the Program EIR	2018 LRDP EIR
UC	University of California
UPF	ultrafine particles
YSAQMD	Yolo-Solano Air Quality Management District

1 PROJECT INFORMATION

Project title:	California National Primate Research Center (CNPRC) Central Plant and Energy Improvements Project
Project location:	University of California, Davis, Yolo County
Lead agency's name and address:	The Regents of the University of California 1111 Franklin Street Oakland, CA 94607
Contact person:	Matt Dulcich, Director of Environmental Planning UC Davis Campus Planning and Environmental Stewardship 530.752.9597
Project sponsor's name and address:	University of California, Davis One Shields Avenue 436 Mrak Hall Davis, CA 95616-8678
Location of administrative record:	See Project Sponsor

Previously Certified 2018 LRDP Programmatic EIR: This addendum documents that none of the conditions described in Section 15162 of the State CEQA Guidelines have occurred and the Project will not have any significant effects that were not already discussed in the Programmatic Environmental Impact Report (EIR) for the University of California (UC) Davis 2018 Long Range Development Plan (2018 LRDP) (State Clearinghouse No. 2017012008). The 2018 LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected enrollment increases and expanded and new program initiatives. The 2018 LRDP and its EIR are available for review at the following locations:

- UC Davis Campus Planning and Environmental Stewardship in 436 Mrak Hall on the UC Davis campus
- Reserves at Shields Library on the UC Davis campus
- Yolo County Public Library at 315 East 14th Street in Davis
- Online at: https://environmentalplanning.ucdavis.edu/

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2 INTRODUCTION

2.1 PURPOSE OF THIS ADDENDUM

After certification of the environmental impact report (EIR) and adoption of the Long Range Development Plan (LRDP) for the UC Davis campus in 2018, the University has proposed the California National Primate Research Center (CNPRC) Central Plant and Energy Improvements Project (the "Project"). This Project is consistent with the land uses and intensities of development contemplated in the 2018 LRDP, but was not specifically described in the 2018 LRDP EIR. This addendum describes the Project, which would involve development and demolition activities associated with the replacement of the outdated and inefficient district heating and cooling systems at the CNRPC and evaluates how this modification to the 2018 LRDP is covered by the 2018 LRDP EIR. No subsequent CEQA document is necessary for this Project.

2.1.1 2018 Long Range Development Plan Environmental Impact Report

The 2018 LRDP is a comprehensive land use plan that guides physical development on campus to accommodate projected enrollment increases and expanded and new program initiatives (UC Davis 2018a). The UC Davis 2018 LRDP EIR (State Clearinghouse No. 2017012008) (UC Davis 2018b) was prepared in accordance with Section 15168 of the CEQA Guidelines and Public Resources Code Section 21094 and analyzed the environmental impacts of the 2018 LRDP. The 2018 LRDP EIR (Volume 1) analyzes full implementation of uses and physical development proposed under the 2018 LRDP and identifies measures to mitigate the significant adverse program-level and cumulative impacts associated with that growth (UC Davis 2018b).

The Project is consistent with the land uses identified in the 2018 LRDP; however, because this Project was not specifically identified in the 2018 LRDP and LRDP EIR, it would represent a minor modification to the LRDP involving decommissioning and partial demolition of the existing central plant, construction of a new modular building, installation of solar panels, and associated equipment and pipelines. This addendum utilizes a modified checklist format to document that the site-specific renovations are covered by the 2018 LRDP EIR pursuant to Section 15168(c) of the State CEQA Guidelines, which states, "subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared." Pursuant to Section 15168(c)(4), an agency should use "…a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR." The checklist is set up to document that none of the conditions described in CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR have occurred and an addendum to the 2018 LRDP EIR may be prepared (per CEQA Guidelines Section 15164).

The organization of project-specific environmental analysis in this addendum follows the same overall format of the 2018 LRDP EIR (Volume 1); however, it avoids repetition of general background and setting information, the regulatory context, overall growth-related information, as well as issues that were evaluated fully in the 2018 LRDP EIR that require no further analysis, including cumulative impacts and alternatives to the 2018 LRDP. Instead, this addendum evaluates the more detailed project-level information specific to the CNPRC Central Plant and Energy Improvements Project to document that the project activities are within the activities evaluated in the program EIR and that no subsequent EIR is required.

2.1.2 State CEQA Guidelines Regarding an Addendum

If, after certification of an EIR, minor technical changes or additions are necessary or none of the conditions described in CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR have occurred, an addendum to the EIR may be prepared.

Public Resources Code (PRC) Section 21166 and Sections 15162 through 15163 of the State CEQA Guidelines describe the conditions under which subsequent document would be prepared. In summary, when an EIR has been certified or a mitigated negative declaration (MND) adopted for a project, no subsequent document shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:

- substantial changes are proposed in the project that will require major revisions of the previous EIR or MND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- substantial changes occur with respect to the circumstances under which the project is undertaken that will require major revisions of the previous EIR or MND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR or MND was certified as complete was adopted, shows any of the following:
  - the project will have one or more significant effects not discussed in the previous EIR or MND;
  - significant effects previously examined will be substantially more severe than shown in the previous EIR or MND;
  - mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR or MND would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Section 15164 of the CEQA Guidelines provides that a lead agency may prepare an addendum to a previously adopted EIR if some changes or additions are necessary, but none of the conditions described above for Section 15162 calling for preparation of a subsequent document have occurred. CEQA allows lead agencies to restrict review of modifications to a previously approved project to the incremental effects associated with the proposed modifications, compared against the anticipated effects of the previously approved project at build-out.

Changes to the approved LRDP in connection with the Project and any altered conditions since certification of the EIR in July 2018 would:

- not result in any new significant environmental effects, and
- not substantially increase the severity of previously identified significant effects.

In addition, no new information of substantial importance has arisen that shows that:

- the Project would have new significant effects,
- the Project would have substantially more severe effects,
- mitigation measures or alternatives previously found to be infeasible would in fact be feasible, or
- mitigation measures or alternatives that are considerably different from those analyzed in the EIR would substantially reduce one or more significant effects on the environment.

As described in Chapter 3 of this document, "Project Description," and Chapter 4, "Coverage Under the 2018 LRDP and 2018 LRDP EIR," none of the conditions described above from Section 15162 calling for preparation of a subsequent document have occurred. Therefore, the differences between the approved LRDP, as described in the certified EIR, and the Project modifications now being considered constitute changes consistent with CEQA Guidelines Section 15164 that may be addressed in an addendum to the EIR.

2.2 ORGANIZATION OF THE ADDENDUM

This addendum is organized into the following chapters:

Chapter 1 – Project Information: provides a summary of information about the Project, including project location, lead agency, and contact information.

Chapter 2 – Introduction: summarizes the purpose of the addendum, the 2018 LRDP EIR, and this document's organization.

Chapter 3 – Project Description: includes a description of all elements of the Project triggering the addendum.

Chapter 4 – Coverage under the 2018 LRDP and 2018 LRDP EIR: describes the consistency of the Project with the 2018 LRDP and 2018 LRDP EIR, and includes an environmental checklist for each resource topic. This section of the addendum analyzes the potential effects on the existing physical environment from implementation of the proposed modifications, as compared to the approved 2018 LRDP. This analysis has been prepared to determine whether any of the conditions described above that would require preparation of a subsequent or supplemental EIR would occur as a result of the project modification.

Chapter 5 – Applicable 2018 LRDP EIR Mitigation Measures: lists measures from the 2018 LRDP EIR that are applicable to the Project.

Chapter 6 – References: lists references used in the preparation of this document.

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3 PROJECT DESCRIPTION

3.1 REGIONAL LOCATION

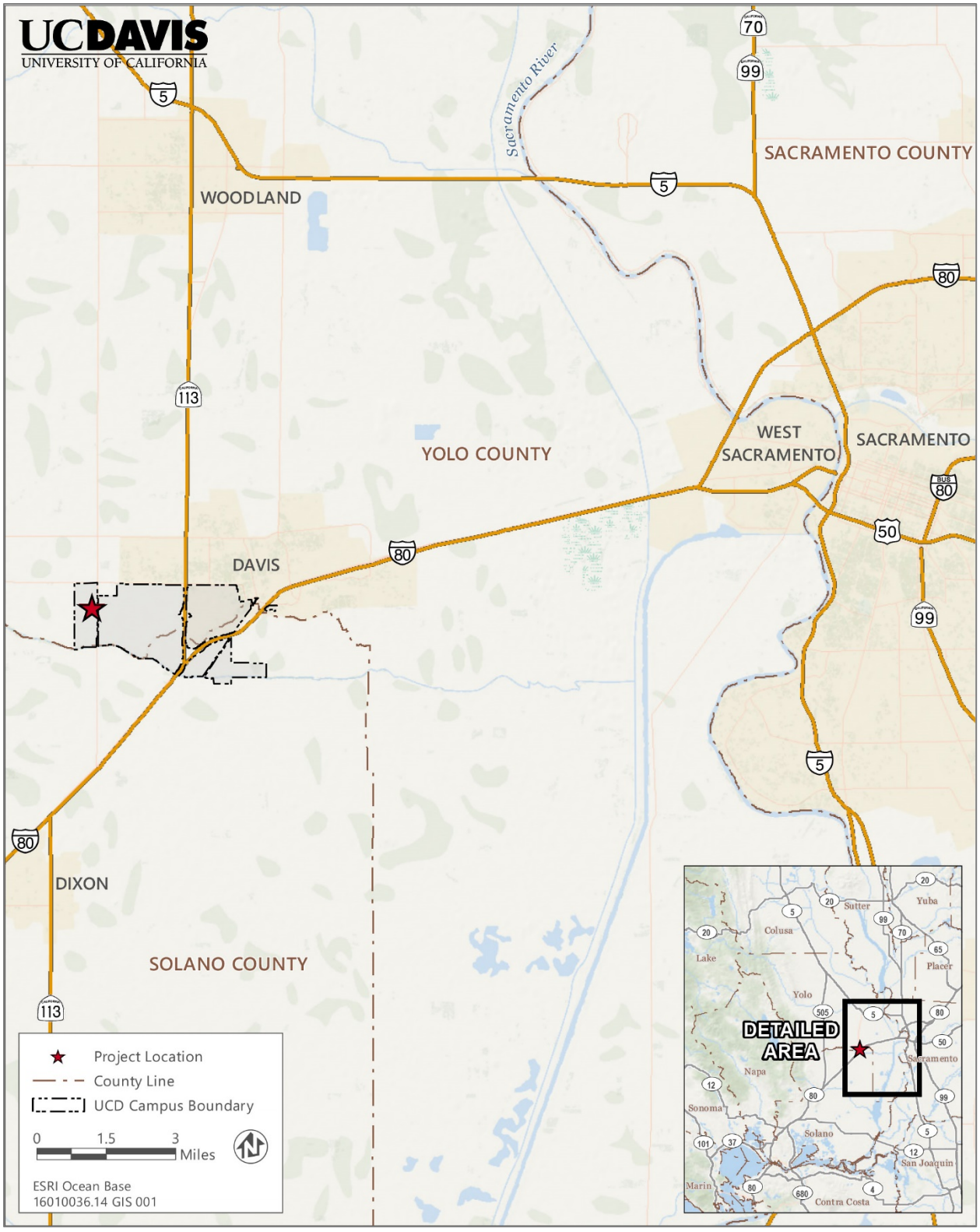
The approximately 5,300-acre UC Davis campus is located in Yolo and Solano Counties, approximately 72 miles northeast of San Francisco, 15 miles west of the city of Sacramento, and adjacent to the city of Davis (see Figure 3-1). The campus is composed of four geographical areas: the central campus, the south campus, the west campus, and Russell Ranch (see Figure 3-2). Most classroom-based academic, office, laboratory, and extracurricular activities occur within the central campus. The central campus consists of approximately 900 acres and is bounded approximately by Russell Boulevard to the north, State Route (SR) 113 to the west, Interstate Highway 80 (I-80) and the Union Pacific Railroad tracks to the south, and A Street to the east. The south campus is located south of I-80 and north of the South Fork of Putah Creek. The west campus is bounded by SR 113 to the east, Putah Creek to the south, Russell Boulevard to the north, and extends approximately one-half mile west of County Road 98 (Pedrick Road). The south and west campus units are contiguous with the central campus and are used primarily for field teaching and research and animal support uses. The approximately 1,600-acre Russell Ranch portion of the campus lies to the west, separated from the west campus by approximately one and one-half miles of privately-owned agricultural land. Russell Ranch was purchased in 1990 for campus uses including large-scale agricultural and environmental research, study of sustainable agricultural practices, and habitat mitigation. Russell Ranch is bordered roughly by County Road 96 on the east, Putah Creek on the south, Covell Boulevard on the north, and Russell Boulevard and privately-owned agricultural land on the west and northwest.

3.2 PROJECT SITE

The UC Davis CNPRC is located on the UC Davis west campus as shown on Figure 3-2. The west campus is contiguous with the central campus, and its landscape is dominated by field research lands beyond the developed core of the campus. The CNPRC is the only higher-density academic center located outside the boundaries of the central campus.

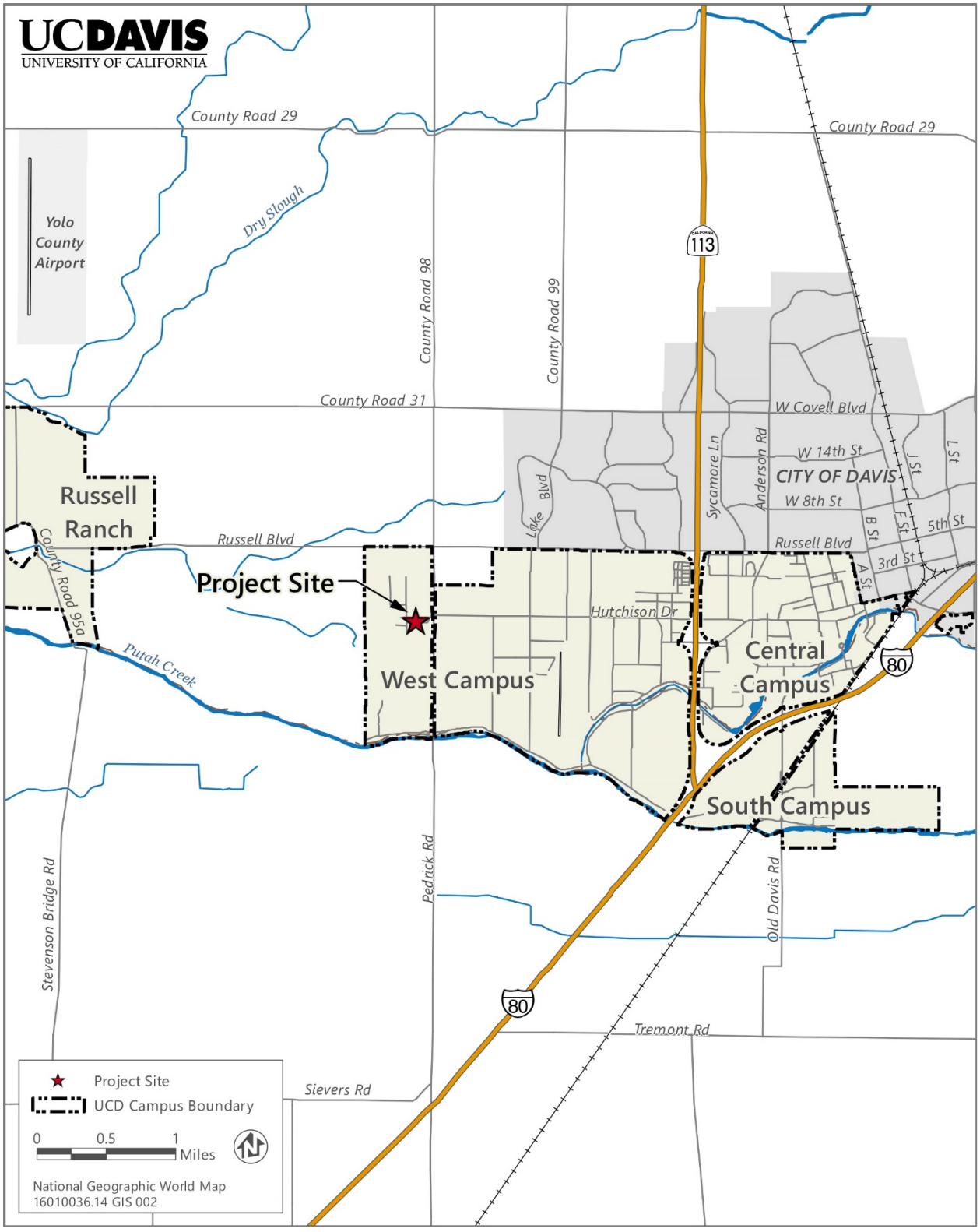
The project site is located within the footprint of the existing CNPRC, within the area designated as *Academic and Administrative* under the 2018 LRDP, located west of County Road 98 and approximately 2 miles west of the UC Davis main campus. As shown in Figure 3-3, several sites throughout the CNPRC would be included in the Project. The total 1.3-acre project area consists of existing vacant undeveloped fields, vacant parking areas, and the existing central plant. The location and surrounding uses of each project feature is listed below.

- The existing central plant is northeast of the Primate Center Animal Building, southeast of the Animal Wing, and west of the Primate Center Lab. Existing buildings and pavement surround the central plant.
- The proposed solar arrays would be installed on a vacant field, located just north of the existing quarantine building, east of the CNPRC south colony, south and west of vacant fields.
- The proposed modular building to house the new heating and cooling equipment would be located on the western portion of surface Parking Lot 31 south, north of vacant fields, east of a vacant field, south of the Center for Comparative Medicine, and west of vacant fields.
- Replacement parking is proposed just north of a vacant field, west of Parking Lot 31 west, south of the Primate Center Supply building, and east of CNPRC buildings. The site is currently paved and vacant.
- Additional replacement parking is proposed on a vacant field, located west of the existing lot 31 and the proposed central plant, and east of the future CNPRC lifespan offices.



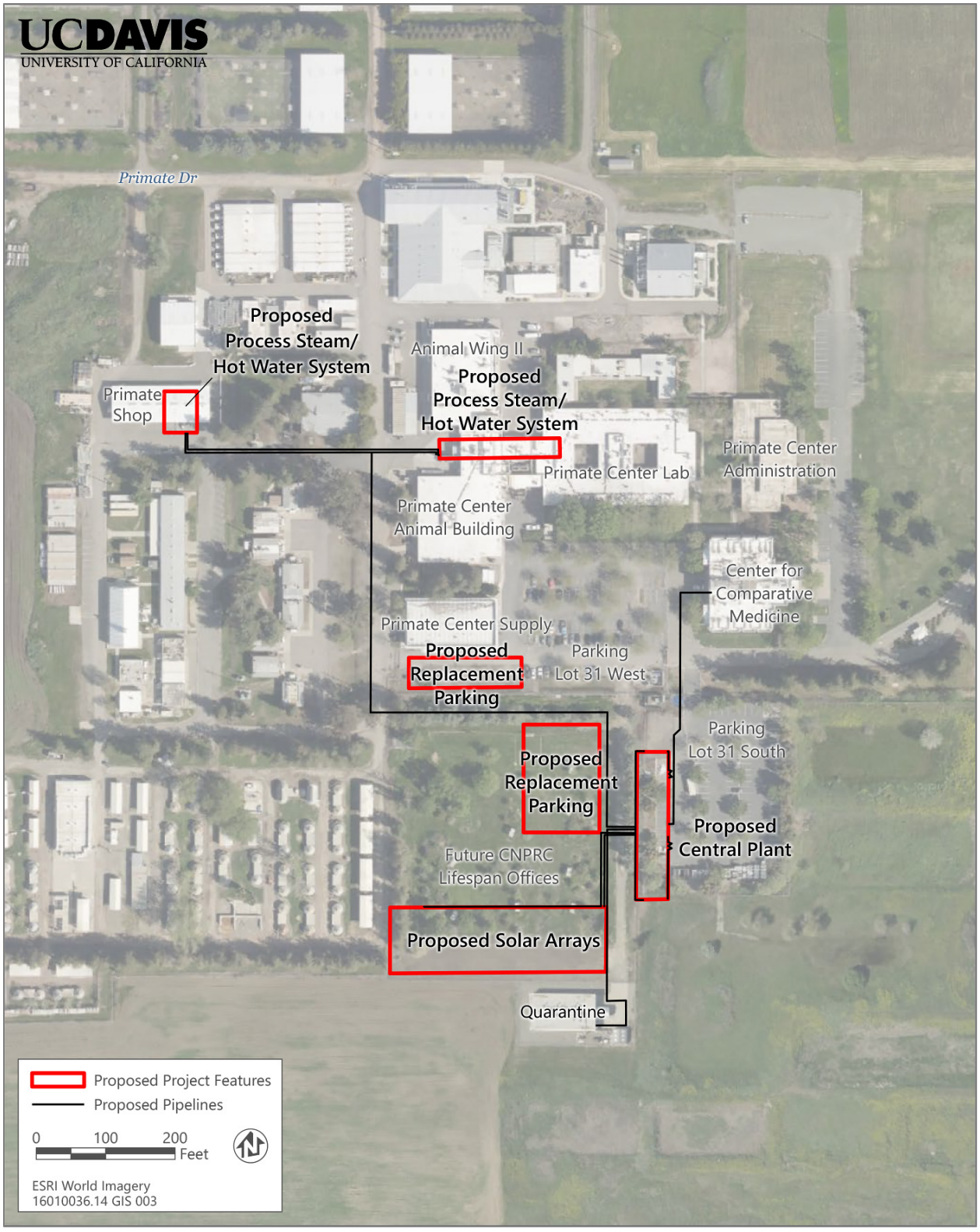
Source: Adapted by Ascent Environmental in 2019

Figure 3-1 Regional Location



Source: Adapted by Ascent Environmental in 2019

Figure 3-2 Project Location



Source: Adapted by Ascent Environmental in 2019

Figure 3-3 Project Site

3.3 PROPOSED PROJECT

The Project would replace the outdated and inefficient district heating and cooling system at the CNPRC, located on UC Davis' west campus. The Project would construct a new modular building that would house new heating and cooling equipment. The modular plant would consist of three bays of equipment. Two bays of the modular plant would each be up to 2,400 square feet (sf), and a third bay would be up to 1,200 sf. The Project would include new electric chillers with a cooling tower, and replacement of the existing steam boilers with new hot water boilers and hot water distribution piping. In addition, solar panels would be installed with a hot water storage tank and associated piping. The solar array would consist of 300 panels, that take up approximately 18,000 sf of area and are located southwest of the modular plant. The objectives of the Project are to lower operating costs, provide additional capacity for near-term growth within CNPRC, and to reduce the carbon footprint of the existing plant. The project site and energy improvement features are discussed in more detail below and are shown in Figure 3-4.

3.3.1 Project Elements

EXISTING CENTRAL PLANT

The existing central plant (approximately 1,500 sf) would be decommissioned, and the boiler and chiller would be demolished. Related hazardous material abatement would be performed in accordance with applicable laws and regulations.

PROPOSED CENTRAL PLANT

An approximately 3,225 sf one-story (approximate height of 14 feet) modular building would be constructed to house the new heating and cooling plant. Two new, 500-ton electric centrifugal chillers and four heat pumps would be installed, with space for three additional future heat pumps. Three flexible watertube style boilers would also be installed, as further described below. Figure 3-5 shows the proposed modular building and its associated features.

A new cooling tower (approximate height of 20 feet) would be constructed adjacent to the modular building, a new gas meter would be installed on the southern side of the building, and a 150,000-gallon thermal energy storage tank and 2,000-gallon propane tank would be installed south of the building. Additionally, two 1,000 kilovolt-ampere (kVA) transformers would be installed.

CHILLED WATER SYSTEM

A refurbished 500-ton chiller was recently relocated to the CNPRC, on the northwestern portion of Parking Lot 31 south, and is the existing primary chilled water generating asset. The proposed central plant would be constructed directly south of the existing 500-ton chiller and would include two new 500-ton chillers, with corresponding open circuit, cross flow cooling tower installed adjacent to the modular building.

SOLAR ARRAYS

A solar thermal system would be constructed to support the CNPRC heating system and to further the university's carbon reduction goals. A 300-panel solar array would be installed directly north of the quarantine building. The heating hot water system design would utilize the solar collectors as the

baseline heating solution. The output of the solar collectors would be directed to the evaporator side of a modular water source heat pump system.

HEATING HOT WATER SYSTEM

The output of the solar collectors would be directed to the evaporator side of a modular water source heat pump system that would feature four heat pumps at approximately 670 MBH output each with space provisions for three additional future heat pumps. The output of the heat pumps would be in the form of heating hot water at 140 degrees Fahrenheit that would be directed to the campus distribution and/or to the hot water thermal energy storage tank, depending upon load. The thermal energy storage tank would be an above ground, insulated, atmospheric design utilizing water as the storage media. The water storage capacity of the thermal energy storage tank would be approximately 150,000 gallons and would be capable of storing approximately 25,000,000 British thermal units.

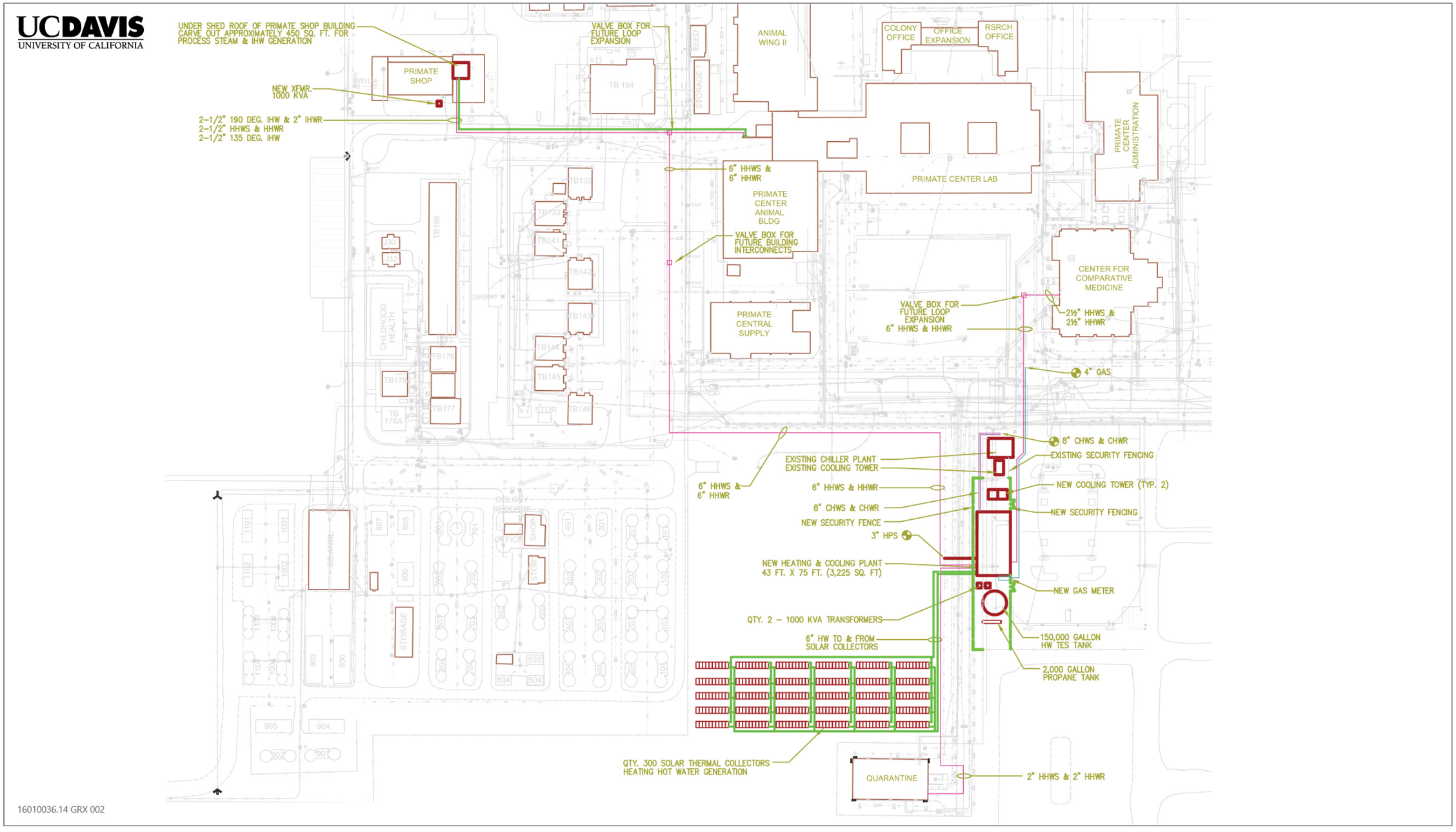
Three flexible watertube style boilers would be installed to provide backup and peaking heating hot water capacity when the solar thermal system cannot keep up with the load profile or is down for service. The three boilers would each have a heat input rating of 4,742 MBH and an output capacity of 3,984 MBH. The boilers would be equipped with three fuel trains to enable the boilers to fire on natural gas, READ facility biogas, or propane as a backup fuel. The gaseous fuel mixture would be designed to be either 100 percent natural gas or 100 percent biogas and not a variable blend of the two fuels. The backup propane system would consist of one 2,000 gallon above ground storage tank located adjacent to the new central plant. Due to the fact that the boilers would be designed to fire biogas at some point in the future, they would be designed such that they are prevented from operating in a condensing operating region. To keep the boilers from operating in a condensing region, the boilers would be installed in an isolated pumping loop with a heat exchanger that allows the boilers to operate a different operating temperature than the water being distributed to the CNPRC campus. The schematic arrangement of the boiler plant, heat pump system, and chilled water system is depicted in the central plant general arrangement in Figure 3-4.

HEATING HOT WATER DISTRIBUTION PIPELINES

The heating hot water produced by the solar collector heat pumps system and the backup boilers would be distributed to four current CNPRC building loads via a network of underground distribution piping. The pipelines would extend approximately 0.65 mile in length and would be 6-inch and smaller in diameter. The piping would be made from flexible cross-linked polyethylene (PEX) material and the system insulation would either be a fully pre-insulated system, field insulation with “clamshell” polyurethane sections, or field insulation using Gilsulate powder insulation. Insulation of the PEX carrier pipe would be determined during the detailed design (“Working Drawing” phase) of the project. Pipeline routes throughout the CNPRC would be within already developed areas along existing paths and roadways, as shown in Figure 3-3 and Figure 3-4.

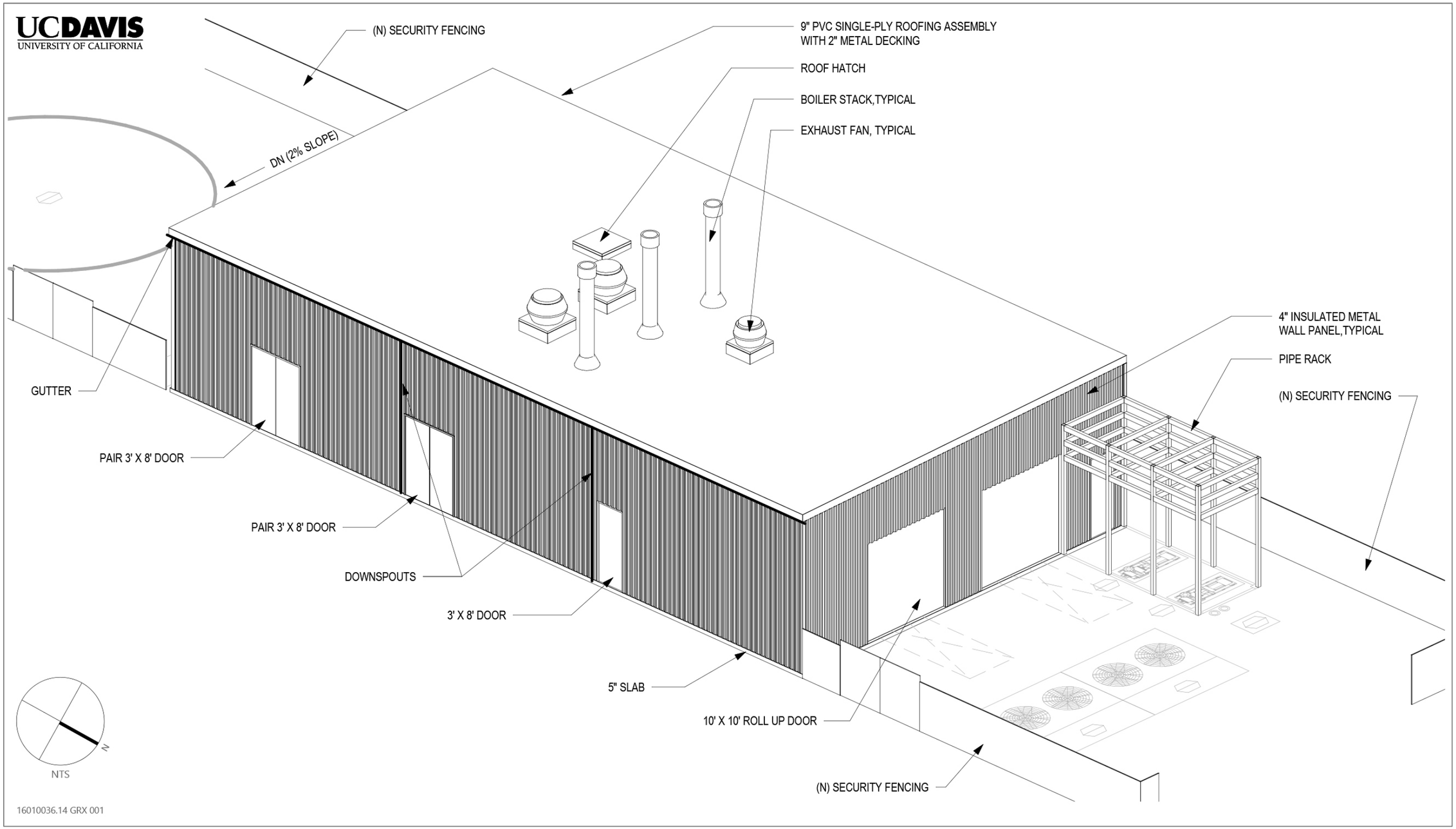
PROCESS STEAM SYSTEM

The CNPRC campus features numerous process steam loads that would remain active after the heating medium is changed to hot water. The process loads consist of four cage wash machines, ten autoclaves, and three glass washers. The three largest cage wash machines would be converted to hot water operation. The cage wash machine at the quarantine building is considered to be too late in its useful life to justify the investment. Conversion of the cage wash machines to hot water operation would remove close to 60 percent of the required process steam load. The remaining 40 percent is comprised of nine autoclaves and three glass washers which are spread throughout three different CNPRC buildings and must be served by high pressure steam.



Source: Image prepared and provided by Gobbledegook in 2019

Figure 3-4 UC Davis CNPRC Central Plant and Energy Improvements Site Plan



Source: Image prepared and provided by RMW Architecture & Interiors in 2019

Figure 3-5 UC Davis CNPRC Central Plant and Energy Improvements Modular Building 3D View

Three 210 kilowatt (kW) electric steam boilers, each generating about 690 pounds per hour (lb/hr) of high-pressure steam at 100 pounds per square inch gauge would be installed in the primate shop building to serve the five autoclaves, including the large Getinge unit in the Animal Wing II.

Two 180-kW electric boilers, producing about 530 lb/hr of high-pressure steam each would be installed to provide steam loads for the four autoclaves and three glass washers located within the Center for Comparative Medicine lab building. The two new electric boilers would be placed within the Center for Comparative Medicine lab building on the same pad on which the hydronic heating boiler sits but would be removed.

The third and final location for remaining process steam loads is the quarantine building which contains one large autoclave and one cage wash machine. The autoclave is due to be replaced by CNPRC but would be replaced with a like capacity unit. The cage wash machine and the autoclave have a similar peak steam demand with the autoclave requiring 930 lb/hr and the cage wash machine requiring 1,030 lb/hr. CNPRC operations indicated that the operation of both the autoclave and the cage washer are limited as both are backups to equipment at other locations. For this reason, it was agreed that an operational restriction in which the two units would not be allowed to operate simultaneously would be acceptable to CNPRC operations. This still leaves a process steam load of roughly 1,000 lb/hr that needs to be supported. For this load, two new 320 kW electric boilers along with the appropriate feedwater systems and water treatment would be installed at the new central plant a couple hundred feet away and intercept the existing underground steam line to feed the quarantine building.

INDUSTRIAL HOT WATER SYSTEM

Currently, industrial hot water is generated in a steam fired tank style heater located in the existing boiler plant. The industrial hot water is generated at 135 degrees Fahrenheit and is used for three main uses; feed water to the automatic cage washing machines, manual cage washdown, and laboratory use. A second stream of industrial water at 185 – 190 degrees Fahrenheit would also be required to supply the three largest cage wash machines with water hot enough to enable the removal of high-pressure steam supply.

The primary means of producing the 135 degrees Fahrenheit industrial hot water would be through a heat exchanger that would pass the 140 degrees Fahrenheit heating hot water on the opposing side of the heat exchanger. Since the heating hot water load would be supplied for many hours of the year from the solar thermal collector system, the 135 degrees Fahrenheit industrial hot water would indirectly be produced by the solar thermal system for many hours of the year. The hot water heat exchanger would be backed up by an instantaneous hot water heater in the event that the heating hot water system is either unavailable or cannot satisfy the load. The energy source for the instantaneous hot water heater would be electric resistance heating.

The 190 degrees Fahrenheit industrial hot water stream cannot be produced entirely from the heating hot water system. The 190 degrees Fahrenheit industrial hot water would be produced using the 135 degrees Fahrenheit industrial hot water as its feed source instead of producing from industrial cold water. The usage rate for 190 degrees Fahrenheit hot water is estimated to peak at about 1,000 gallons per hour and the energy source for the 190 degrees Fahrenheit industrial hot water would be electric resistance heating. All the equipment for generation of both the 135 degrees Fahrenheit and the 190 degrees Fahrenheit industrial hot water loads would be housed at the primate shop building under the shed roof (in the same location as the electric boilers.)

REPLACEMENT PARKING

The modular building proposed to house the new cooling and heating equipment would be constructed on an existing parking lot within the CNPRC. To offset the parking spaces lost, replacement parking is proposed on a vacant field, located west of the existing Parking Lot 31 and the proposed central plant, and east of the future CNPRC lifespan offices. Replacement parking would be provided at a 1:1 ratio, resulting in no parking space loss within the CNPRC upon completion of the Project.

CONSTRUCTION SCHEDULE AND STAGING

Construction of the Project is anticipated to begin in late 2020 or early 2021 and is estimated to be complete by late 2021. Project construction would take approximately 11 months and the remaining portion of Parking Lot 31 South or other paved areas would be used for temporary construction staging of equipment and contractor parking.

3.3.2 Population

The Project would not remove or add any new residential units, academic or office buildings. Operation of the central plant and associated solar array would be maintained by existing campus staff and the Project would not result in any new students, employees, or additional visitors to campus. Campus population would not change and would remain within the 2018 LRDP growth projects as evaluated in the 2018 LRDP EIR.

3.3.3 Sustainability Goals

The proposed Project would support the UC system carbon reduction and neutrality goals by moving toward full electrification of the CNPRC. The new chilled water system would entirely remove the reliance on the absorption chiller system for cooling and would provide a reduction in electrical consumption of approximately 39 percent.

The heating and industrial hot water systems are currently being supported from high-pressure steam produced in the existing steam boilers, with the exception of the Center for Comparative Medicine lab building which features its own heating hot water boiler. The heating and industrial hot water loads consumed 894,275 therms of natural gas and produced approximately 10.5 million pounds of carbon dioxide emissions from October 2016 through September 2017. The Project would move the majority of these loads to renewable and/or electrification sources. A combination of the solar thermal collector and electric heat pump system would supply approximately 46 percent of the total annual heating load for the CNPRC buildings. Per the current design, the remaining 54 percent of the annual space heating load would be satisfied using the gas fired heating hot water boilers. However, the groundwork has been laid for full elimination of the CNPRC carbon emissions either through the future use of READ facility biogas to replace the natural gas usage or through expansion of the Solar thermal (and potentially geothermal) heat pump system. In addition, the modernization of the buildings airside systems utilizing code mandated exhaust heat energy recovery systems would reduce the heating load profile dramatically and could, in and of itself, result in the elimination of the need to run the peaking/backup heating hot water boilers.

4 COVERAGE UNDER THE 2018 LRDP AND 2018 LRDP EIR

To determine the Project's coverage with the 2018 LRDP and 2018 LRDP EIR, the following questions must be answered:

- Are the objectives of the Project consistent with the objectives adopted for the 2018 LRDP?
- Are the changes to campus population associated with the Project included within the scope of the 2018 LRDP's population projections?
- Is the proposed location of the Project in an area designated for this type of use in the 2018 LRDP?
- Is the Project included in the amount of the development projected in the 2018 LRDP?
- Have the conditions described in State CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR occurred?

Sections 4.1 through 4.4 document the Project's coverage by and consistency with the objectives, population projections, land use designations, and development projections contained in the 2018 LRDP. Section 4.5 contains a detailed examination of environmental topics documenting that the Project is within the scope of the environmental impact analysis in the 2018 LRDP EIR and none of the conditions described in CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR have occurred.

4.1 2018 LRDP OBJECTIVES

The overall objective of the 2018 LRDP is to support the teaching, research, and public service missions of the UC. The 2018 LRDP planning goals are structured as three interrelated types of actions: support the academic enterprise, enrich community life, and create a sustainable future. The Project would support these 2018 LRDP objectives as follows:

Support the Academic Enterprise: The Project would replace the outdated and inefficient heating and cooling system at the CNPRC. The new heating and cooling equipment and associated solar array would lower operating costs, provide additional capacity for near-term planned growth within the CNPRC, and reduce the carbon footprint of the plant. The Project would support the LRDP objective to plan for longevity through the investment in new infrastructure. The Project would improve the operations of academic facilities on campus and ultimately help to support a successful academic enterprise.

Enrich Community Life: The Project would indirectly support the enrichment of community life by replacing outdated and inefficient infrastructure with new energy efficient equipment, including the installation of solar arrays. The reduction in emissions would support environmental protection objectives and would suppurate an environment worthy of affection. In addition, a reduction in operating costs, increase in capacity, and high-quality energy efficient infrastructure benefits UC Davis students and staff.

Create a Sustainable Future: The Project would comply with the UC Policy on Sustainable Practices and would meet the campus baseline as applicable to the Project. The new CNPRC Central Plant would reduce greenhouse gas emissions through the implementation of energy efficient infrastructure systems and installation of on-site renewable electricity supplies. The Project is consistent with UC Davis sustainability and conservation efforts.

4.2 2018 LRDP CAMPUS POPULATION

The 2018 LRDP anticipates that student enrollment may grow from 34,734 in 2017-2018 (academic year) to approximately 39,000 students by 2030-2031, an increase of 4,266 students, as shown in Table 4-1. However, the Project would not introduce new students and would not contribute to an increase in campus student population growth.

The campus faculty and staff population is projected to increase under the 2018 LRDP from approximately 12,631 in 2017-2018 to approximately 14,500, an increase of 1,869. The Project would be maintained by existing campus staff and would not contribute to an increase in campus faculty and staff population growth. The total campus population would not exceed that contemplated in the 2018 LRDP as shown in Table 4-1, below.

The Project is therefore within the scope of the 2018 LRDP population projections.

Table 4-1 UC Davis 2018 LRDP Population Projections

	2018 LRDP EIR Projections for 2030	2017-2018 Actual	Available Growth Capacity
Student Enrollment	39,000[1]	34,734	4,266
Employment	14,500	12,631	1,869
Los Rios Davis Community College Center	1,230	615	615
Dependents (of UC residents)	1,949	460	1,489
Non-UC employees (USDA, daycare, third-party support staff, mixed use, K-12)	590	285	305
Total Campus Population	57,269	48,725	8,544

Notes: 2018 LRDP = 2018 Long Range Development Plan; UC = University of California; USDA = U.S. Department of Agriculture.

1. Three-quarter average headcount of Davis-based student population.

Source: UC Davis 2018a

4.3 2018 LRDP LAND USE DESIGNATION

The project site is within the footprint of the existing CNPRC, which is designated as *Academic and Administrative* by the 2018 LRDP. The Project would provide new campus utilities which is an allowable use within the *Academic and Administrative* land use. The 2018 LRDP describes infrastructure land use designations as networked systems that span other land use designations. The Project would be consistent with the 2018 LRDP designation.

4.4 2018 LRDP CAMPUS UTILITY SPACE

The 2018 LRDP proposes a 41 acre increase in campus utility infrastructural space, from 245.16 acres to 286.15 acres. The Project would increase campus utility space by 1.3 acres and would construct a modular building approximately 3,225 sf in size. As such, the Project would utilize 3.2 percent of the increase in campus utility space projected in the 2018 LRDP. The Project would support the University's effort to improve infrastructure, lower operating costs, and provide additional capacity for near-term planned growth, and would not exceed the campus utility space contemplated in the 2018 LRDP.

4.5 ENVIRONMENTAL REVIEW OF PROJECT ACTIVITIES

UC Davis has determined that, in accordance with PRC Section 21166 and Section 15164 of the State CEQA Guidelines, minor technical changes or additions to the EIR are necessary to address the modifications to the approved LRDP. An addendum to a certified EIR is prepared when changes to a project are required, and the changes:

- will not result in any new significant environmental effects, and/or
- will not substantially increase the severity of previously identified effects.

The analysis of environmental effects provided below addresses the same impacts addressed in the 2018 LRDP EIR. The environmental analysis evaluates whether, for each environmental resource topic (e.g., land use, traffic, air quality), there are any changes in the project or the circumstances under which it would be undertaken that would result in new or substantially more severe environmental impacts than considered in the 2018 LRDP EIR. The University has defined the column headings in the environmental checklist as follows:

Impact Examined in the 2018 LRDP EIR?: "Yes" is stated where the potential impacts of the Project were examined in the 2018 LRDP EIR. This document summarizes and cross references the relevant analysis in the 2018 LRDP EIR.

Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?: This question is answered with a "yes" or "no," as substantiated by the discussion provided below the table. If the response is "yes," additional CEQA analysis is required.

Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?: This question is answered with a "yes" or "no," as substantiated by the discussion provided below the table. If the response is "yes," additional CEQA analysis is required.

Do Mitigation Measures in the 2018 LRDP EIR Address/Resolve Impacts?: This question is answered with a "yes," "no," or "N/A," as substantiated by the discussion provided below the table. The answer N/A indicates there was no potential impact under the 2018 LRDP EIR and the Project does not change the impact conclusion. The 2018 LRDP EIR mitigation measures are summarized and cross referenced, and the mitigation measures applicable to the Project are summarized in Section 6 of this addendum.

4.5.1 Aesthetics

Section 3.1 of the 2018 LRDP EIR evaluates the impacts of campus growth under the 2018 LRDP on aesthetics by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Aesthetics Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Have a substantial adverse effect on a scenic vista?	Yes	No	No	N/A
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Yes	No	No	N/A
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	Yes	No	No	N/A
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) The 2018 LRDP EIR identified significant and unavoidable impacts to scenic long-distance views from the UC Davis west campus (2018 LRDP EIR Impact 3.1-1). This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP. The project site is located in the southeast portion of the existing CNPRC on the west campus. The project site is adjacent to existing facilities to the north and east, and open fields to the west and south. However, views of the project site from surrounding roadways, such as County Road 98, are severely obstructed by existing vegetation. Furthermore, the proposed cooling tower would be approximately 20-ft tall and the modular building would be approximately 14-ft tall, which would not obstruct area views. The Project would not obstruct existing views of the Coast Range to the west or any scenic vista. The Project would not contribute to 2018 LRDP EIR Impact 3.1-1, no new or substantially more severe impacts would occur, and no mitigation would be required.

b) As explained in Section 3.1.3 of the 2018 LRDP EIR, I-80 and SR 113, the highways in the vicinity of the campus, are not designated as state scenic highways. Neither the campus nor the project site is located near a state scenic highway. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

c) Consistent with 2018 LRDP EIR Impact 3.1-2 (less than significant), the Project would modify the existing visual character and quality of the CNPRC by constructing new structures within a vacant field. However, the Project would be located adjacent to existing development and would be partially located on an existing parking lot and within existing buildings. The UC Davis design review process would require consideration of and consistency with adjacent land uses. The Project would be consistent with the *Academic & Administrative* land use and would conserve

the existing pattern of academic and research facilities and infrastructure within the existing CNPRC. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

d) The 2018 LRDP EIR found that 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 (2018 LRDP Impact 3.1-3; less than significant with mitigation). The Project would result in minor sources of new interior and exterior lighting, which would be consistent with the existing CNPRC building and security lighting. As stated above in Section 3.3.1, "Project Elements," any necessary exterior safety lighting would be shielded and directed down and/or to the sides, preventing light pollution in the night sky.

The installation of solar arrays could be a source of glare. The amount of glare from a solar system depends on the angle of installation and the specific product installed. Different types of solar panels absorb different amounts of light. Newer panels generally include at least one anti-reflective layer to maximize absorption and minimize glare and the reflectivity of solar panels is generally lower than that of other nearby building materials (such as standard glass or steel) (American Planning Association 2017). The proposed solar array would not be located near sensitive receptors (i.e., residences) and would be directed away from offices and animal enclosures. In addition, existing vegetation would reduce any spillover and the solar arrays would not contribute to skyglow. Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

4.5.2 Agricultural and Forestry Resources

Section 3.2 of the 2018 LRDP EIR evaluates the effects of campus growth under the 2018 LRDP on agricultural and forestry resources by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Agricultural & Forestry Resources Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	Yes	No	No	N/A
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Yes	No	No	N/A
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	Yes	No	No	N/A
d) Result in the loss of forest or agricultural land or conversion of forest land to non-forest or non-agricultural use?	Yes	No	No	N/A
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) As described in 2018 LRDP EIR Impact 3.2-1 (significant and unavoidable), implementation of the 2018 LRDP could result in the conversion of 166 acres of Important Farmland to non-agricultural uses. This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP. However, according to the Department of Conservation's Farmland Mapping and Monitoring Program, the project site is designated as Urban and Built-Up Land, and no Important Farmland is located within or adjacent to the project site (DOC 2016). The Project would not convert farmland to non-agricultural use. The Project would not contribute to 2018 LRPD EIR Impact 3.2-1 and would not require any mitigation. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

b) Campus lands are state lands and are not eligible for Williamson Act agreements, nor are they subject to local zoning controls. Therefore, this issue is not relevant to the 2018 LRDP or to the Project.

c) None of the campus lands are zoned or otherwise designated as forest land or timber-production lands. Therefore, this issue is not relevant to the 2018 LRDP or to the Project.

d) As described in criterion (c) above, there are no forest lands within the UC Davis campus, including the project site. As described in criterion (a) above, implementation of the 2018 LRDP could result in the conversion of 166 acres of Important Farmland to non-agricultural uses (significant and unavoidable impact). No agricultural land uses exist within or immediately adjacent to the project site. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

e) As described in 2018 LRPD EIR Impact 3.2-2 (less than significant), development proposed under the 2018 LRDP could result in the direct loss or conversion of existing agricultural uses; however, it is unlikely that indirect conversion of land outside of campus boundaries would occur. The project site is not adjacent to agricultural, forest land, or timberland. The Project would not involve any changes that could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

4.5.3 Air Quality

Section 3.3 of the 2018 LRDP EIR addresses the air quality effects of campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Air Quality Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Conflict with or obstruct implementation of the applicable air quality plan?	Yes	No	No	Yes
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Yes	No	No	Yes
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	Yes	No	No	Yes
d) Expose sensitive receptors to substantial pollutant concentrations?	Yes	No	No	N/A
e) Create objectionable odors affecting a substantial number of people?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,b,c,d) Emissions of criteria air pollutants and precursors associated with project construction and operation are discussed separately below.

Construction-Generated Emissions of Criteria Air Pollutants and Precursors

2018 LRDP EIR Impact 3.3-1 disclosed that construction under the 2018 LRDP would result in emissions of ozone precursors (i.e., reactive organic gases [ROG] and oxides of nitrogen [NO_X]), and particulate matter with an aerodynamic diameter of 10 microns or smaller (PM_{10}) that would exceed Yolo-Solano Air Quality Management District's (YSAQMD's) thresholds starting in 2019. The 2018 LRDP EIR projected that during any particular year, the 2018 LRDP EIR activities could include construction of 200,000 sf of academic space as shown in Table 3.3-4, "2018 LRDP General Construction Schedule," of the 2018 LRDP EIR.

Project-related construction activities would result in emissions of criteria air pollutants and ozone precursors from demolition, site preparation (e.g., grading, and clearing), heavy-duty off-road equipment, material delivery, construction worker commute exhaust emissions, asphalt paving, and the application of architectural coatings. Fugitive dust emissions, including PM_{10} and particulate matter with an aerodynamic diameter of 2.5 microns or smaller ($PM_{2.5}$), would be generated during site preparation and vary as a function of soil silt content, soil moisture, wind

speed, and area of disturbance. Exhaust emissions of PM_{10} and $PM_{2.5}$ would result from combustion of fuels. Ozone precursor emissions would primarily be associated with exhaust from construction equipment, haul truck trips, and worker trips. Emissions of ROG would also be generated during asphalt paving and the application of architectural coatings. The total project area associated with the proposed energy upgrades includes 1.32 acres and 0.65 miles of underground pipeline. However, only the modular building proposed on Parking Lot 31 south would result in an increase in building space (approximately 3,225 sf). The proposed modular building would be within the approximately 200,000 sf of building construction per year projection assumed in the 2018 LRDP EIR. The level of construction without the Project is expected to be approximately 145,000 sf in 2021; with the addition of the project's modular building, construction activity would remain below the projection. As required by 2018 LRDP EIR Mitigation Measure 3.3-1, UC Davis would reduce emissions of ROG, NO_X, and PM_{10} by requiring the project contractor to implement emission reduction measures. At the program level, the 2018 LRDP EIR Impact 3.3-1 determined that construction under the 2018 LRDP, with implementation of Mitigation Measure 3.3-1, would not generate construction-related emissions of ROG or PM_{10} that exceed YSAQMD significance criteria, but NO_X emissions would be significant and unavoidable at the program level. This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP. No additional mitigation is necessary to reduce the Project's contribution to these impacts.

Long-Term Operational Emissions of Criteria Air Pollutants and Precursors

2018 LRDP EIR Impact 3.3-2 determined that long-term operational emissions related to the 2018 LRDP 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 from area and mobile sources could conflict with the air quality planning efforts and contribute substantially to the nonattainment status of Yolo County with respect to the National Ambient Air Quality Standards and California Ambient Air Quality Standards for ozone. This impact was determined to be significant and unavoidable at the project level because there is uncertainty regarding the effectiveness of 2018 LRDP EIR Mitigation Measure 3.3-2, which includes several strategies to reduce operational emissions from mobile sources to the extent feasible. However, reducing mobile-source emissions may not be sufficient to reduce levels below YSAQMD thresholds. This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP.

Operational emissions of criteria air pollutants and ozone precursors would be generated by maintenance activities, natural gas use for the California special boilers, potential natural gas or propane use for the backup boilers, and electricity consumption. These sources of emissions would contribute to the overall 2018 LRDP operational emissions of criteria air pollutants and precursor emissions. The Project would not result in a population increase and the project area is within the development and land use assumptions evaluated in the 2018 LRDP EIR. Once operational, the Project would not generate mobile-source emissions of criteria air pollutants and precursors as no additional commute trips would occur. Operational emissions of criteria air pollutants and precursors associated with electricity consumption would be substantially reduced through the generation of renewable energy from solar arrays. Consistent with the 2018 LRDP, the Project would implement the UC Sustainable Practices Policy, which encompasses nine areas of sustainable practices to be implement by all campuses within the UC system: green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmentally preferable purchasing, sustainable foodservice, sustainable water systems. The Project would support the UC Carbon Neutrality Initiative by seeking carbon neutral and/or net-zero energy performance.

Because the Project would not result in vehicle commute trips above existing conditions, 2018 LRDP EIR Mitigation Measure 3.3-2 would not be applicable. The Project would not contribute to mobile-source emissions, no new or substantially more severe impacts would occur, and no mitigation would be required.

Mobile-Source Carbon Monoxide Concentrations

2018 LRDP EIR Impact 3.3-3 (less than significant) determined that long-term operation-related local mobile-source emissions of carbon monoxide (CO) generated by 2018 LRDP development would not violate a standard or contribute substantially to an existing or projected air quality violation or expose sensitive receptors to substantial pollutant concentrations. Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. As discussed in 2018 LRDP EIR Section 3.16, "Transportation, Circulation, and Parking," the increase in vehicle trips associated with buildout under the 2018 LRDP would not result in more than 10,000 vehicles per hour at any affected intersections, even under cumulative-with-project conditions. This means that Sacramento Metropolitan Air Quality Management District's recommended screening criterion of 31,600 vehicles per hour would not be exceeded at any intersection.

As discussed previously, the Project would not result in vehicle commute trips above existing conditions. As a result, the Project would not generate mobile-source emissions of CO or result in any new or substantially more severe impacts, and no mitigation would be required.

Construction-Generated Emissions of Toxic Air Contaminants

2018 LRDP EIR Impact 3.3-4 determined that 2018 LRDP construction activities would result in temporary, short-term Project-generated emissions of toxic air contaminants (TACs), particularly diesel PM, that could expose sensitive receptors to an incremental increase in cancer risk that exceeds 10 in one million or a hazard index greater than 1.0 (less than significant with mitigation).

Consistent with 2018 LRPD EIR Impact 3.3-4, Project-related construction activity would result in temporary, intermittent emissions of diesel PM from diesel equipment used during construction and demolition. Diesel PM is highly dispersive and concentrations of diesel PM decline with distance from the source (e.g., decrease of 70 percent at 500 feet from a freeway) (Roorda-Knape et al. 1999 and Zhu et al. 2002, as cited in CARB 2005:9). With regards to exposure of diesel PM, the dose to which receptors are exposed is the primary factor used to determine health risk. The risks associated with diesel PM exposure are positively correlated with time, meaning that a longer exposure period would result in a higher exposure of sensitive receptors. The nearest sensitive receptors include housing over 2,000 feet northeast of the project site. Given the distance from sensitive receptors and short duration of construction (less than one year), Project construction-related TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk that exceeds 10 in 1 million or a hazard index greater than 1.0.

Furthermore, as required by 2018 LRDP EIR Mitigation Measure 3.3-4, UC Davis shall require the Project contractor to locate diesel-powered equipment away from sensitive receptors as possible, reduce equipment idling times, and use equipment with U.S. Environmental Protection Agency-rated Tier 3 diesel engine ratings or better, and use alternatively-fueled equipment if available to further reduce TAC emissions. Therefore, no new or substantially more severe impacts would occur and no additional mitigation is required.

Operational Emissions of Toxic Air Contaminants

2018 LRDP EIR Impact 3.3-5 (less than significant) determined that the additional sources of TACs (e.g., laboratories, boilers) under the 2018 LRDP would not result in additional risks that exceed YSAQMD thresholds of 10 in one million for cancer risk and a hazard index equal to or greater than 1.0 for the maximally exposed individual.

The Project would include boilers but would not result in additional laboratory fume hoods or diesel-powered emergency back-up generators. The project site is located within the CNPRC on the west campus. The closest housing is over 2,000 feet northeast of the project site. Studies show that TAC emissions are highly dispersive, and receptors must be in close proximity for a long duration of time; therefore project-related TAC emissions would not result in harmful levels to residences. The Project's operational sources of TACs would not expose sensitive receptors to an incremental increase in cancer risk that exceeds 10 in 1 million or a hazard index greater than 1.0. Therefore, no new or substantially more severe impacts would occur and no additional mitigation measures would be required.

Land Use Compatibility with Off-Site Sources of Toxic Air Contaminants and Ultrafine Particulates

As addressed in 2018 LRDP EIR Impacts 3.3-5 (less than significant) and 3.3-6 (significant and unavoidable), the 2018 LRDP would introduce receptors in close proximity to existing sources of TACs and ultrafine particles (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. Based on initial mapping, the majority of the housing for the 2018 LRDP would be located over 1,500 feet of I-80. In addition, Mitigation Measure 3.3-6 is expected to result in substantial reductions to exposure levels of UFPs and TACs. However, because "safe" levels of UFP exposure have not been identified by any applicable agency or by a consensus of scientific literature and without establish UFP standards, it cannot be determined that the implementation of Mitigation Measure 3.3-6 would reduce potential exposure to UFPs under the 2018 LRDP to a less-than-significant impact. This impact was determined to be significant and unavoidable at the program level. This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP.

The Project would not introduce any new permanent sensitive receptors to the project site, and the project site is located over 2 miles from I-80. Thus, new receptors would not be exposed to existing sources of TACs and UFPs from I-80. The Project is compatible with surrounding academic and administrative land use and does not propose any housing. Therefore, the Project would not contribute to 2018 LRPD EIR Impact 3.3-6, no new or substantially more severe impacts would occur, and no mitigation would be required.

e) As discussed in 2018 LRDP EIR Impact 3.3-7 (less than significant with mitigation), implementation of the 2018 LRDP would result in temporary construction odors over approximately 13 years in different areas of the 5,300-acre campus; as well as new odors sources such as diesel-fueled delivery trucks, a biomass boiler, composting facility, and expansion of the wastewater treatment plant.

The Project would result in minimal and temporary odors during the construction period, and in the long-term, the Project would not result in new sources of odors on campus, nor would the Project result in the development of residences near an existing odor source. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

4.5.4 Archaeological, Historical, and Tribal Cultural Resources

Section 3.4 of the 2018 LRDP EIR addresses the effects of campus growth under the 2018 LRDP on archaeological, historical, and tribal cultural resources by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Archaeological, Historical, & Tribal Cultural Resources Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	Yes	No	No	N/A
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Yes	No	No	Yes
c) Disturb any human remains, including those interred outside of formal cemeteries?	Yes	No	No	N/A
d) Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: 1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) 2018 LRDP EIR Impact 3.4-4 determined that development under the 2018 LRDP EIR could result in adverse changes to historical resources as defined in Section 15064.5 (significant and unavoidable). This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP.

However, no historic buildings or structures have been identified on the project site. The project site consists of existing buildings, an existing surface parking lot and open fields. No buildings or structures on site would be removed and large portions of the site have previously been graded and paved. The discovery of historic architectural resources is not anticipated. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

b) As discussed in 2018 LRDP EIR Impact 3.4-1 (less than significant with mitigation), the potential for intact buried archaeological resources is considered "moderate." As shown on 2018 LRDP EIR Exhibit 3.4-1, the project site is outside of the area of archaeological sensitivity. Project construction would involve grading and excavation in previously undisturbed areas, which could contain previously undiscovered cultural resources. Accordingly, UC Davis shall implement 2018 LRDP Mitigation Measures 3.4-1a(1) and (2), which require that contractor crews attend an archaeological resource training before the start of earth moving and that a surface survey be conducted by a qualified archaeologist once the area of ground disturbance has been identified and prior to soil disturbing activities. In the event of a surface find, intensive investigation shall be implemented per 2018 LRDP Mitigation Measure 3.4-1a(3). 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. In the event of a discovery, the campus shall implement 2018 LRDP Mitigation Measure 3.4-1a(5). With implementation of these previously-adopted 2018 LRDP EIR mitigation measures, currently undiscovered archaeological resources would be avoided, recorded, or otherwise treated appropriately, in accordance with pertinent laws and regulations. Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

c) Consistent with 2018 LRDP EIR Impact 3.4-3 (less than significant), although unlikely, the Project has the potential to disturb human remains, including those interred outside of formal cemeteries. If human remains are discovered during any construction activities, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and UC Davis shall notify the Yolo County coroner and the Native American Heritage Center (NAHC) immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the NAHC to be Native American, the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the archaeologist, and the NAHC-designated most likely descendant shall recommend the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section 5097.94. Compliance with California Health and Safety Code Sections 7050.5 and 7052 and California Public Resources Code Section 5097 would provide an opportunity to avoid or minimize the disturbance of human remains, and to appropriately treat any remains that are discovered. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

d) As discussed in 2018 LRDP EIR Impact 3.4-2 (less than significant), UC Davis notifies the Yocha Dehe Wintun Nation of all projects and provides an update two or three times per year to avoid damaging effects to any tribal cultural resource. If UC Davis determines that a subsequent project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, new provisions in the PRC describe measures that, if determined by the lead agency to be feasible, could be implemented to reduce potential effects of campus-related development on tribal cultural resources, although none were identified through Assembly Bill (AB) 52 compliance for the 2018 LRDP. Compliance with PRC Section 21080.3.2 and Section 21084.3 (a) and UC Davis's continuing notification of the Yocha Dehe Wintun Nation of all projects, would provide an opportunity to avoid or minimize the disturbance of tribal cultural resources, and to appropriately treat any remains that are discovered. Therefore, no new or substantially more severe impacts would occur.

4.5.5 Biological Resources

Section 3.5 of the 2018 LRDP EIR addresses the effects of campus growth and development under the 2018 LRDP on biological resources by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Biological Resources Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Yes	No	No	Yes
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	Yes	No	No	N/A
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Yes	No	No	N/A
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Yes	No	No	N/A
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Yes	No	No	Yes
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Yes	No	No	Yes

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) The 2018 LRDP EIR found that development under the 2018 LRDP could potentially result in the loss of special status wildlife species (2018 LRDP EIR Impact 3.5-2 through 3.5-8). The project site consists of an existing undeveloped field composed of ruderal grassland, a vacant parking area, and the existing central plant in an area that the 2018 LRDP EIR

defines as urban landscaping/development. The Central Plant and energy improvements would also include installation of underground utilities to several existing buildings, including the Primate Shop and the Center for Comparative Medicine. Proposed new underground utilities would be located within previously developed areas that contain paved roads and walkways, as well as some urban landscaping. Urban landscaping within the project site includes trees such as cork oak (*Quercus suber*), western sycamore (*Platanus racemosa*), and large blue gum (*Eucalyptus globulus*) trees. Based on a reconnaissance-level survey for biological resources of the project site on August 28, 2019, and a review of the sensitive plant and wildlife species within the vicinity of the project site (CNDDB 2019; CNPS 2019), there is potential for burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), and other nesting birds (non-special-status species) to occur. While the project site contains some areas of ruderal grassland, this habitat is not suitable for any of the special-status plants with potential to occur within the LRDP plan area. Thus, the Project would not have an impact on special-status plant species.

Marginally suitable burrowing owl habitat is present within ruderal grassland habitat in the undeveloped field within the project site. There is a known burrowing owl occurrence approximately 2.3 miles east of the project site on the UC Davis campus, and suitable habitat is also present within grassland and edges of agricultural land adjacent to the project site (CNDDB 2019). Rodent burrows were observed within the project site during the reconnaissance-level survey, as was California ground squirrel (*Otospermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*) activity. While the observed burrows were not large enough for occupation by burrowing owls, it is possible that burrowing owls could establish within or adjacent to the project site. Project construction activities, including vehicle use, ground disturbing activities (e.g., grading, trenching), and construction crews within close proximity of burrows could result in a potentially significant impact to burrowing owl, if present. 2018 LRDP EIR Mitigation Measure 3.5-5a (1 through 5) would be implemented as part of the project to identify and avoid burrows inhabited by burrowing owls during construction activities. Therefore, no new or substantially more severe impacts would occur and no additional mitigation is required.

Swainson's hawk and white-tailed kite are known to nest within approximately 1 mile of the project site (CNDDB 2019). Potentially suitable nesting habitat for both species is present in the project site, primarily within large blue gum trees adjacent to proposed installation of underground utilities. Project construction activities, including vehicle and heavy equipment use, ground disturbance activities, construction crews within close proximity of nesting trees, and disturbance to or removal of nesting trees, could result in a potentially significant impact to Swainson's hawk and white-tailed kite if present. Mitigation Measure 3.5-4a (1 through 4) from the 2018 LRDP EIR would be implemented as part of the project to prevent disturbance to active Swainson's hawk, white-tailed kite, and other raptor nests (e.g., red-tailed hawk [*Buteo jamaicensis*]). Therefore, no new or substantially more severe impacts would occur and no additional mitigation is required.

Landscape trees on the project site could also provide suitable nesting habitat for common native songbirds that are not special-status species but are otherwise protected by the federal Migratory Bird Treaty Act and California Fish and Game Code. Disturbance to or removal of nesting trees, or disturbance due to the presence of construction crews or equipment within close proximity of the nesting trees could result in a potentially significant impact to these nesting birds, if present. Mitigation Measure 3.5-6 (1 and 2) from the 2018 LRDP EIR would be implemented as part of the project to prevent disturbance to non-special-status bird nests. Therefore, no new or substantially more severe impacts would occur and no additional mitigation is required.

b,c) As described in to 2018 LRDP Impact 3.5-9 (less than significant with mitigation), development under the 2018 LRDP could affect aquatic features by introducing sediments into Putah Creek or removing or damaging riparian vegetation. The project site is over 0.5 mile north of the riparian corridor along the historic fork of Putah Creek. The project site contains an undeveloped field, a vacant paved parking area, and the existing central plant and does not contain riparian habitat or wetlands. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required

d) As described in 2018 LRDP EIR Impact 3.5-10 (less than significant), the Putah Creek corridor, which is the southern boundary of the UC Davis central campus, is the principal corridor for the movement of native resident and migratory fish and wildlife through the area. It is the regional connection between the hills in western Yolo County and the Sacramento River. The project site is over 0.5 mile north of the Putah Creek corridor and its associated riparian habitat. Therefore, the project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

e) 2018 LRDP EIR Impact 3.5-11 (significant and unavoidable) determined that implementation of the 2018 LRDP could result in the removal of trees recognized to meet UC Davis standards for important trees. Important trees include “heritage” trees and “specimen” trees. “Heritage” trees are defined as healthy valley oak (*Quercus lobata*) trees measuring 33 inches or greater in diameter at a height of 54 inches from the ground while “specimen” trees are defined as healthy trees of high value to campus due to their size, species, extraordinary educational and research value, and other exceptional local importance. This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP. Several small (e.g., less than 12 inches in diameter) valley oak trees are present adjacent to the vacant field within the project site. These trees would not qualify as “heritage” trees due to their small size; thus, the project would not result in removal of any “heritage” trees. However, it is possible that some of the trees planned for removal during project construction could be considered “specimen” trees. Mitigation Measure 3.5-11 (1 and 2) from the 2018 LRDP would be implemented as part of the project to identify “specimen” trees on the project site and to relocate or replace these trees if removal is necessary. Therefore, no new or substantially more severe impacts would occur and no additional mitigation is required.

f) The Yolo Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) was approved on October 30, 2018. UC Davis is currently not a participant in the HCP/NCCP but is a trustee agency. As discussed in 2018 LRDP EIR Impact 3.5-12 (less than significant), CEQA does not require analysis of consistency with proposed plans, which was the status of the HCP/NCCP at the time. However, the 2018 LRDP EIR provided information on the Yolo County HCP/NCCP and the Solano County Multi-Species Habitat Conservation Plan because portions of the UC Davis campus are located within these plan areas. Impacts to species identified in these plans would be mitigated to less-than-significant levels through the adopted 2018 LRDP EIR mitigation measures. Therefore, the 2018 LRDP would not conflict with these proposed plans. The 2018 LRDP EIR mitigation measures would also be implemented for the Project, as discussed in criterion (a) and (e) above, to minimize impacts to special status species and trees. Therefore, no new or substantially more severe impacts would occur.

4.5.6 Energy

Section 3.6 of the 2018 LRDP EIR addresses the energy impacts of campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Energy Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Result in unnecessary, inefficient, and wasteful use of energy?	Yes	No	No	N/A
b) 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 use?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,b) Consistent with 2018 LRDP EIR Impact 3.6-1 (less than significant), the one-time energy expenditure required to construct the Project would be nonrecoverable. Most energy consumption would result from operation of off-road construction equipment and on-road vehicle trips associated with commutes by construction workers and haul trucks trips. Idling of onsite equipment during construction would be limited to no more than five minutes in accordance with YSAQMD requirements. Further, onsite construction equipment may include alternatively-fueled vehicles where feasible, and the selected construction contractors would use the best available engineering techniques, construction and design practices, and equipment operating procedures.

During operation, the new chilled water system would result in the reduction of electrical consumption of approximately 39 percent. In addition, the solar thermal system would supply approximately 46 percent of the total annual heating load for the CNPRC buildings. Project implementation would still require that the remaining 54 percent of annual heating load rely on gas-fired heating hot water boilers. The proposed cooling and heating upgrades would result in more efficient energy use throughout the CNPRC campus and the project would not generate additional vehicle trips once operational. As described in section 3.3.4, “Sustainability Goals,” the proposed Project would comply with the UC Policy on Sustainable Practices and would support the UC system carbon reduction and neutrality goals by moving to full electrification of the CNPRC.

The Project’s energy consumption would not be significant and would not be considered inefficient, wasteful, or unnecessary, particularly in light of the sustainability elements that would be implemented. No new or substantially more severe impacts would occur and no mitigation would be required.

4.5.7 Geology, Soils, and Seismicity

Section 3.7 of the 2018 LRDP EIR addresses the geology, soils, and seismicity effects of campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Geology, Soils, & Seismicity Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	Yes	No	No	N/A
ii) Strong seismic ground shaking?	Yes	No	No	N/A
iii) Seismic-related ground failure, including liquefaction?	Yes	No	No	N/A
iv) Landslides?	Yes	No	No	N/A
b) Result in substantial soil erosion or the loss of topsoil?	Yes	No	No	N/A
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Yes	No	No	N/A
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	Yes	No	No	N/A
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	Yes	No	No	N/A
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,i) As stated on pages 3.7-8 and 3.7-15 of 2018 LRDP EIR, the UC Davis campus and the surrounding area are not located within an Alquist-Priolo Earthquake Fault Zone, and the campus is not subject to surface fault rupture. The project site is within the UC Davis campus and therefore would also not be subject to surface fault rupture. This issue is not relevant to the Project.

a,ii) As stated on pages 3.7-8 and 3.7-15 of 2018 LRDP EIR, UC Davis is not located in a regulated Alquist-Priolo Earthquake Fault Zone or a Seismic Hazard Zone; however, there are tectonically active areas to the north and west of the Project, including the Dunnigan Hills Fault, the Cordelia Fault Zone, and the Green Valley Fault (the latter two are components of the San Andreas Fault System) (2018 LRDP EIR Table 3.7-2). As disclosed in 2018 LRDP EIR Impact 3.7-1 (less than significant), these fault zones are within a distance that could subject the plan area to a moderate level of seismic ground shaking, which could result in damage to structures and injury or death to people if they are within structures that fail.

The Project would not exacerbate seismic hazards; it would replace the CNPRC cooling and heating systems and would not result in any new residences. Therefore, it would not result in development of structures that expose substantially more people to seismic-related risks. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

a,iii) See the discussion in criterion (c) below.

a,iv) As stated on page 3.7-15 of the 2018 LRDP EIR, the potential for landslides within the UC Davis campus is low because of the lack of significant slopes and acting gravitational forces. The campus would not be subject to landslides; and this issue was not discussed further in the 2018 LRDP EIR. Because the project site is located within the UC Davis campus, it would also not be subject to landslides. Therefore, this issue is not relevant to the Project.

b) 2018 LRDP EIR Impact 3.7-3 (less than significant) identified the potential for 2018 LRDP construction activities to disturb soils and result in erosion or loss of top soil. The project site is located on Meyers Series soils (2018 LRDP EIR Exhibit 3.7-1), which are well drained and exhibit slow permeability, slow surface water runoff, and minimal hazard of erosion, although, there is an elevated risk of erosion associated with construction activity, such as grading and excavations. Consistent with the 2018 LRDP, the Project 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. As described in 2018 LRDP EIR Impact 3.7-3, the regulatory environment for building construction and stormwater control provides adequate protection against soil erosion during and as a result of construction. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

The potential for impacts related to stormwater, soil erosion, and sedimentation into receiving waters is addressed in criteria (d) and (e) in Section 4.5.10 “Hydrology and Water Quality” below.

c) As discussed in 2018 LRDP EIR Impact 3.7-2 (less than significant), soils on campus exhibit characteristics which could make them susceptible to liquefaction; however, depth to groundwater on campus is relatively deep (30 to 80 feet below ground surface), which provides a mitigating effect because most soils are not continuously saturated. Therefore, many campus soils that are characterized as susceptible in literature may be discovered to be not so during geotechnical investigations. UC Davis policy requires compliance with the California Building Code

(CBC) and the UC Seismic Safety Policy. The CBC requires that a geotechnical investigation that addresses the potential for liquefaction, lateral spreading, and other types of ground failure be performed to provide data for responsible project design. A geotechnical investigation would be prepared prior to Project implementation. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

As disclosed in 2018 LRDP EIR Impact 3.7-6 (less than significant), subsidence on campus related to groundwater withdrawals from the shallow/intermediate aquifers has been observed and documented. 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. Groundwater extractions from the shallow/intermediate aquifer are not expected to increase with implementation of the Project. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

d) As disclosed in 2018 LRDP EIR Impact 3.7-5 (less than significant), UC Davis is host to several soil units with a high shrink-swell potential. Shrinking and swelling can result in differential ground movement, which can cause damage to building foundations. However, projects implemented under the 2018 LRDP are subject to 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. The campus Office of Design and Construction Management also requires geotechnical investigations for every applicable project managed by that office, and the UC Davis Campus Design Guide incorporates guidelines for geotechnical investigations, including estimated settlement. The Project would be designed in compliance with the Project's geotechnical investigation, the CBC, and the UC Davis Campus Design Guide. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

e) Although 2018 LRDP EIR Impact 3.7-7 (less than significant) addresses replacement or construction of new septic systems, that impact is related to a few areas of west campus, south campus, and Russell Ranch. The project site is located within the existing CNPRC area, which is served by the campus wastewater treatment system. No septic tanks or alternative wastewater disposal systems are included in the Project. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

f) As discussed on page 3.7-15 of the 2018 LRDP EIR, the UC Davis campus, including the project site, is underlain by quaternary alluvium from the Holocene period that is generally less than 10,000 years old. These alluvial deposits contain vertebrate and invertebrate remains of extant, modern taxa, which are generally not considered paleontologically significant. Moreover, the UC Davis campus is situated within the Sacramento/Central Valley, which does not have any notable bedrock outcroppings. The soils of the area are deep, unconsolidated, alluvial units with a low likelihood of producing fossils. Therefore, the 2018 LRDP EIR determined that the 2018 LRDP would not impact paleontological resources. Because the project site is within the area analyzed within the 2018 LRDP EIR, this issue is not relevant to the Project.

4.5.8 Greenhouse Gas Emissions and Climate Change

Section 3.8 of the 2018 LRDP EIR explains the physical scientific basis of greenhouse gas (GHG) emissions and climate change, presents regulatory setting and significance criteria, describes the analysis methodology, presents the GHG sources and emissions associated with construction activities and campus operations, and evaluates the various types of adverse climate change-related effects on the environment.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Greenhouse Gas Emissions Would the Project…	**Impact Examined in 2018 LRDP EIR?**	**Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?***	**Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?**	**Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Yes	No	No	N/A
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose or reducing the emissions of greenhouse gases?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) 2018 LRDP EIR Impact 3.8-1 (less than significant) discloses that the 2018 LRDP would result in increased GHG emissions caused by increases to sources such as construction activity, on-road vehicle miles traveled, building energy consumption, wastewater, and new stationary sources. However, the 2018 LRDP would reduce campus emissions 4 percent below 1990 levels by 2020 and 59 percent below 1990 levels by 2030. The 2018 LRDP EIR determined that both the 2020 and 2030 campus-wide GHG emission reductions would exceed the State's GHG targets pursuant to Senate Bill 32 of 2016 (i.e., 1990 levels by 2020 and 40 percent below 1990 levels by 2030). Therefore, the Project would be consistent with the statewide GHG reduction goals and would not considerably contribute to climate change.

   Due to the short-term construction period, which would be less than one year, and the limited footprint of ground disturbance, the Project would result in small quantities of GHG emissions. These would result from use of construction equipment, material delivery, and worker commute trips, consistent with construction activities described in the 2018 LRDP EIR. In addition, consistent with the 2018 LRDP EIR, operational GHG emissions would result from electrical boilers and California special natural gas-fired boilers. However, as discussed in Section 3.3.3, "Sustainability Goals" and Section 4.5.6, "Energy" above, the new cooling and heating equipment would be more energy efficient than those currently in use, and the proposed solar thermal system would increase renewable energy use and would reduce GHG emissions. In addition, the Project would not increase vehicle trips and, as a result, mobile GHG emissions would remain the same as existing conditions. Thus, no substantial long-term operational or mobile emissions of GHGs would result from Project implementation. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

b) As discussed in 2018 LRDP EIR Impact 3.8-2, implementation of the 2018 LRDP would achieve targets established in the UC Sustainable Practices Policy through anticipated planning and policy actions. 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.

As discussed in Sections 4.1 through 4.4 of this addendum, the Project is consistent with the 2018 LRDP and its land use designation. As discussed in response a) above, the Project is not anticipated to result in any significant short-term or long-term GHG contributions. The Project includes the installation of solar arrays and energy-efficient cooling and heating equipment to reduce the University's carbon footprint. The Project would not conflict with UC Sustainable Practices Policy, the UC Davis Climate Action Plan, SACOG's 2035 MTP/SCS, or any other plan, policy, or regulation adopted for the purpose or reducing the emissions of GHGs. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

4.5.9 Hazards and Hazardous Materials

Section 3.9 of the 2018 LRDP EIR addresses the hazards and hazardous materials effects of campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Hazards & Hazardous Materials Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Yes	No	No	N/A
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Yes	No	No	Yes
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Yes	No	No	N/A
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Yes	No	No	Yes
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	Yes	No	No	N/A
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	Yes	No	No	N/A
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Yes	No	No	N/A
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) LRDP EIR Impact 3.9-1 determined that construction and operation of the development identified in the 2018 LRDP would result in the transport, use, and disposal of hazardous materials to and from the plan area. However, adherence to existing regulations and compliance with safety standards would result in a less-than-significant impact.

Construction. Consistent with the 2018 LRDP, Project-related construction activities would temporarily increase the regional transport, use, storage, and disposal of hazardous materials and petroleum products (such as diesel fuel, lubricants, paints and solvents, and pavement). However, the construction-related transport, use storage, and disposal of hazardous materials would be temporary, occurring over less than one year. Furthermore, SWRCB Construction General Permit (2009-0009 DWQ) requires spill prevention and containment plans to avoid spills and releases of hazardous materials and wastes into the environment. Inspections would be conducted to verify consistent implementation of general construction permit conditions and best management practices (BMPs) to avoid and minimize the potential for spills and releases, and of the immediate cleanup and response thereto. BMPs include, for example, the designation of special storage areas and labeling, containment berms, coverage from rain, and concrete washout areas. Therefore, no significant hazards would occur related to the transport, use, or storage of hazardous materials and no mitigation would be required.

Operation. 2018 LRDP Impact 3.9-1 determined that operational impacts related to the transport, use, or disposal of hazardous materials would be less than significant with adherence to existing regulations and compliance with safety standards. Because the Project is replacing the CNPRC Central Plant, once it is operational, the activities occurring onsite would be the same as existing conditions and no new hazards or hazardous materials would result. Furthermore, the Project would adhere to existing regulations and compliance with the safety procedures mandated by applicable federal, state, university, and local laws and regulations, which would minimize the risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

b) As discussed in 2018 LRDP EIR Impact 3.9-3 (less than significant), the 2018 LRDP includes development of academic and administrative land uses, campus infrastructure, and student housing in close proximity to the Union Pacific Railroad line and I-80, which are 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. However, the project site is located over 2 miles from I-80 and the Union Pacific Railroad line and does not include any housing. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

Consistent with 2018 LRDP EIR Impact 3.9-2 (less than significant with mitigation), grading and excavation activities may expose construction workers and the public to hazardous substances present in the soil (such as naturally occurring asbestos or groundwater). Furthermore, demolition of the existing outdated CNPRC Central Plant may expose construction workers to hazardous materials including asbestos and lead. Campus policy requires that the buildings be tested for the presence of asbestos-containing materials before any demolition can occur. Also, consistent with 2018 LRDP EIR Mitigation Measure 3.9-2b, UC Davis shall establish a contingency plan that describes the necessary actions to be taken if evidence of contaminated soil or groundwater is encountered during construction, including cessation of work until the potential contamination is characterized and properly contained or remediated. Implementation of regulatory requirements and Mitigation Measure 3.9-2b would minimize the risk of an accidental release of hazardous substances that could adversely affect human health or the environment. Therefore, no new or substantially more severe impacts would occur and no additional mitigation is required.

c) 2018 LRDP EIR Impact 3.9-4 (less than significant) determined that hazardous materials and waste could be handled within 0.25 mile of an existing or proposed school. The CNPRC is located on the west campus and there are no schools within a quarter mile of the project site. Therefore, this issue is not relevant to the Project.

d) As discussed in the 2018 LRDP EIR Impact 3.9-2 (less than significant with mitigation), two sites of potential concern were identified within the 2018 LRDP planning area: the UC Davis-USDA Weed Control Lab and the Lab for Energy Related Health Research. Both of these sites are under the jurisdiction of state agencies and are currently under remediation and subject to development of Waste Discharge Requirements, respectively.

The project site is not located on a contaminated site pursuant to Government Code Section 65962.5 (2018 LRDP EIR Impact 3.9-2). The Project would not disturb the identified contaminated sites as they are located over 2 miles from the CNPRC and activities involving the assessment, cleanup, and monitoring of these sites would continue regardless of approval of the Project. Furthermore, to address the potential for undocumented contamination that has not been characterized or remediated at the project site, UC Davis shall implement 2018 LRDP EIR Mitigation Measure 3.9-2b, which would establish a contingency plan that describes the necessary actions to be taken if evidence of contaminated soil or groundwater is encountered during construction, including cessation of work until the potential contamination is characterized and properly contained or remediated. Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

e) 2018 LRDP Impact 3.9-5 determined that impacts related to proximity to airports would be less than significant because no land use conflicts, such as wildlife attractants or tall buildings would be constructed. As shown in 2018 LRDP EIR Exhibit 3.9-3, the project site is not within any of the airport safety compatibility zones for the Yolo County Airport (2018 LRDP EIR Impact 3.9-5). As shown on Exhibit 3.9-2 in the 2018 LRDP EIR, the project site is within the conical surface zone of the UC Davis airport, which has a 20:1 building height restriction for designated imaginary surfaces (meaning that building cannot pierce a sloping (imaginary" line that begins at the runway end and slopes 1 foot in height for every 20 feet in vertical length). At its most restrictive point on campus, the imaginary horizontal surface is 219 feet high. The Project would construct a new modular building to house heating and cooling equipment; however, no buildings or structures would exceed the building height restriction and no other new structures or animal attractants would be developed onsite. Therefore, the Project would not construct facilities that pierce the imaginary surface and would not conflict with airport operations. No new or substantially more severe impacts would occur and no mitigation would be required.

f) As stated on page 3.9-29 of the 2018 LRDP EIR, the University Airport is a public use airport, not a private airstrip. There are no private airstrips located within 2 miles of the plan area. As a result, impacts related to safety hazards associated with the operation of a private airstrip would not occur. This issue is not relevant to the Project.

g) Consistent with 2018 LRDP Impact 3.9-6 (less than significant with mitigation), Project-related construction could result in short-term, temporary impacts to street traffic as a result of construction vehicles and haul truck trips. This could result in a temporary traffic slowdown or temporary reduction in the number of lanes available. However, any such impacts would be limited to the construction period (less than one year) and would affect only adjacent streets or intersections. Furthermore, construction staging would occur on paved areas near the proposed Central Plant modular building, primarily on Parking Lot 31 south and UC would prepare and implement a site-specific construction traffic management plan per Mitigation Measure 3.9-6. The Project would not modify any roads, result in road closures, or otherwise affect emergency response times and would maintain adequate emergency access. Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

h) As stated on page 3.9-29 of the 2018 LRDP EIR, the UC Davis LRDP area is not located in or near a fire hazard severity zone established by CAL FIRE. The potential for wildland fire is low. The replacement of the CNPRC Central Plant and proposed energy infrastructure improvements would not change this and no new or substantially more severe impacts would occur and no mitigation would be required.

4.5.10 Hydrology and Water Quality

Section 3.10 of the 2018 LRDP EIR addresses the hydrology and water quality effects of campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Hydrology & Water Quality Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Violate any water quality standards or waste discharge requirements?	Yes	No	No	Yes
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	Yes	No	No	N/A
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	Yes	No	No	Yes
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Yes	No	No	Yes
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Yes	No	No	Yes
f) Otherwise substantially degrade water quality?	Yes	No	No	Yes
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	Yes	No	No	N/A
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	Yes	No	No	Yes
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	Yes	No	No	N/A
j) Inundation by seiche, tsunami, or mudflow?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,f) Construction. 2018 LRDP EIR Impact 3.10-1 (less than significant) found that construction on campus under the 2018 LRDP would not contribute substantial loads of sediment or other pollutants to stormwater runoff. Construction on campus is covered under the NPDES state-wide General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activity (General Permit). As part of the General Permit, campus construction projects managed by outside contractors and disturbing over one acre (including the Project) must implement stormwater pollution prevention plans (SWPPPs), which specify BMPs to reduce the contribution of sediments, spilled and leaked liquids from construction equipment, and other construction-related pollutants to stormwater runoff. The UC Davis campus is required to comply with the NPDES state-wide General Permit requirements. This regulatory framework provides adequate protection from stormwater contamination and provides water quality protection from construction activities on campus. The Project would result in grading and excavation, as well as use of construction lubricants, which could enter stormwater runoff. However, with adherence to BMPs and development of a SWPPP, these contributions would not be substantial. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

Operation. As described in 2018 LRDP EIR Impact 3.10-2 (less than significant), new impervious surfaces created by 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, campus development, including the Project, 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. The Project would result in small areas of new impervious surface, including replacement parking areas. However, Project design would be based on the drainage evaluation completed for the stormwater management system prior to Project implementation (2018 LRDP EIR Mitigation Measure 3.7-4). Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

As described in 2018 LRDP EIR Impact 3.10-3 (less than significant), expansion of the campus population and campus facilities under the 2018 LRDP would result in an increase in the amount of wastewater generated; however, the types of chemical constituents in wastewater would remain approximately the same and the wastewater treatment plant would continue to comply with the NPDES. The Project would not contribute to the increase in campus wastewater as it would not increase campus population or campus staff. The amount of wastewater and the wastewater constituents would be the same as existing conditions. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

b) Deep Aquifer. As described in 2018 LRDP EIR Impact 3.10-4 (less than significant), 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, to meet increased demand attributable to campus growth. The Project would not contribute to this demand because the Project would not increase campus population or campus staff. The Project would be within the limits of the demand projections identified in the 2018 LRDP EIR because the Project is consistent with the LRDP land use designation for the project site. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

Shallow/Intermediate Aquifer. As described in 2018 LRDP EIR Impact 3.10-5 (less than significant), implementation of the 2018 LRDP is not expected to increase groundwater withdrawals from the shallow/intermediate aquifer; however, recharge infiltration patterns could be affected by the increase in development. However, the conversion of open space constitutes less than three percent of UC Davis campus lands and represents a minor increase in the overall amount of impervious coverage on campus. The Project would result in small areas of new impervious surface, including the new building pads and paved access routes. However, these

areas are small and within the limits of the projections identified in the 2018 LRDP EIR because the Project is consistent with the 2018 LRDP land use designation for the project site. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

c,d,e) The 2018 LRDP EIR Impact 3.10-6 found that new development on campus would result in an overall increase in impervious surfaces and produce changes to site-specific drainage, stormwater runoff, and infrastructure (less than significant with mitigation). The Project would alter an existing surface parking lot and open fields to install the new modular building, solar panels, storage tanks, and cooling tower thereby potentially altering existing drainage patterns on the project site. However, Project design would be based on the drainage evaluation completed for the stormwater management system prior to Project implementation (2018 LRDP EIR Mitigation Measure 3.7-4). Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

Water quality impacts related to stormwater runoff are evaluated in criteria (a) and (f), above.

g,h) As described in 2018 LRDP EIR Impact 3.10-7 (less than significant with mitigation), the 2018 LRDP may involve the construction of additional 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.

The Project does not involve the development of any new housing; therefore, it would not place any housing in a 100-year flood area and this issue is not relevant. Nevertheless, the Project is located within the 100-year flood area (FEMA 2010) and the Project would construct a new modular building to house heating and cooling equipment, which could impede or redirect flows in the event of a flood. However, 2018 LRDP EIR Mitigation Measure 3.10-7 would be implemented as a part of the Project, which requires all new construction within the 100-year floodplain to be designed to be elevated above the base flood elevation predicted under a 100-year flood event. Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

i) 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 in the event of dam failure. However, the dam structure is carefully managed by state and federal agencies and is capable of withstanding strong seismic shaking. As described in 2018 LRDP EIR Impact 3.10-8 (less than significant), the risk of inundation of any portion of the campus from a failure of the Monticello Dam is low. The Project would not change the risk of flooding nor build new housing within an area subject to flooding. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

j) UC Davis is not subject to inundation by seiche, tsunami, or mudflow. The campus is generally flat and is not located near any large water bodies. This issue is not relevant to the Project.

4.5.11 Land Use and Planning

Section 3.11 of the 2018 LRDP EIR addresses the land use and planning effects of campus growth and development under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Land Use & Planning Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Physically divide an established community?	Yes	No	No	N/A
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	Yes	No	No	N/A
c) Result in development of land uses that are substantially incompatible with existing adjacent land uses or with planned uses?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) There is no housing on the project site and the Project would have no potential to physically divide an established community. Therefore, this issue is not relevant to the Project.

b,c) UC holds jurisdiction over campus-related projects and projects carried out by UC Davis would be consistent with the 2018 LRDP (2018 LRDP EIR Impact 3.11-1; less than significant). The Project would result in new campus utilities consistent with the *Academic & Administrative* designation for the project site. The Project would help to enrich campus life and academia and would include sustainability features, consistent with the intent of the 2018 LRDP. In addition, the Project would not include any housing and would not contribute to 2018 LRDP EIR Impact 3.3-6 (significant and unavoidable) regarding land use compatibility with off-site sources of toxic air contaminants and UFPs. The Project is compatible with surrounding west campus CNPRC land uses. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

4.5.12 Mineral Resources

Section 3.7, "Geology, Soils, and Seismicity," of the 2018 LRDP EIR briefly addresses mineral resources issues under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Mineral Resources Would the Project…	Impact Examined in 2018 LRDP EIR?	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	Yes	No	No	N/A
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,b) As described on page 3.7-15 of the 2018 LRDP EIR, the LRDP area, including the project site, is located in MRZ-1, which is an area where there is sufficient information to determine that no significant mineral deposits (specifically aggregate rock) are present. Additionally, the LRDP area, including the project site, is not indicated as a locally important mineral resource site and the 2018 LRDP EIR would not result in the loss of availability of mineral resources. Therefore, this issue is not relevant to the Project.

4.5.13 Noise

Section 3.12 of the 2018 LRDP EIR addresses the noise effects of campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Noise Would the Project…	Impact Examined in 2018 LRDP EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Yes	No	No	Yes
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Yes	No	No	N/A
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Yes	No	No	N/A
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Yes	No	No	Yes
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Yes	No	No	N/A
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,c,d) Construction Noise. 2018 LRDP EIR Impact 3.12-1 (less than significant with mitigation) determined that implementation of the 2018 LRDP would result in construction activities, that although intermittent and temporary in nature, may still result in noise levels that impact nearby noise sensitive land uses and could disturb people. The 2018 LRDP would necessitate construction activities near adjacent, existing development, including on-campus facilities and could exceed acceptable noise levels or require nighttime construction.

Project-related construction activity would result in temporary noise increases on and near the project site, which is on the west campus and adjacent to existing CNPRC facilities. Construction of the Project is anticipated to occur over 11 months, beginning in late 2020. Construction activity would involve demolition, grading, excavation, and material hauling, and would result in a noise level increase on and surrounding the project site. However, noise level increases would be temporary and would vary considerably depending on the construction phase and no blasting or

pile driving would occur. Based on Project characteristics and consistent with the assumptions of the 2018 LRDP EIR Impact 3.12-1, the greatest noise levels would occur during paving and site preparation due to the types of construction equipment involved, including a paver, grader, excavator, dozer, and rollers.

2018 LRDP EIR Mitigation Measure 3.12-1 requires construction noise minimization measures, including limiting the hours when construction activity can take place (i.e., 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 not during finals week), requires the use of noise control technologies (e.g. noise-reduction intake and exhaust mufflers and engine shrouds), and strategies to reduce potential impacts on sensitive receptors (e.g. locating equipment as far as possible from nearby noise-sensitive land uses). Implementation of Mitigation Measure 3.12-1 would prevent the exposure of noise-sensitive receptors to construction noise that exceeds the significance criterion of 86 a-weighted decibels (dBA) maximum sound level. Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

Operational Noise. The 2018 LRDP EIR Impact 3.12-2 (less than significant with mitigation) determined that new buildings under the 2018 LRDP 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 exceed the noise limit.

Stationary noise sources associated with the Project would include mechanical equipment, such as chillers, boilers, and heat pumps. However, these sources would be similar to existing conditions, would primarily be located indoors or within enclosures, and would not result in a substantial permanent increase in ambient noise levels. In addition, the Project would not generate additional vehicle trips or mobile noise sources. The Project would also not introduce any new sensitive receptors to the area. As a result, off-site sensitive receptors would not be affected by an increase in noise generated by the Project and Mitigation Measure 3.12-2 would not be applicable. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

b) As discussed on page 3.12-20 of the 2018 LRDP EIR, pile driving, blasting, or other substantial vibration-inducing construction equipment or techniques are not anticipated to be necessary during construction of the land uses identified under the 2018 LRDP. Consistent with this, the Project would not involve pile driving, blasting, or other substantial vibration-inducing construction equipment or techniques. The Project would require demolition, grading, and excavation; however, this is a typical construction activity and would not generate substantial levels of vibration or groundborne noise. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

Also discussed on 2018 LRDP page 3.12-20 of the 2018 LRDP EIR, the 2018 LRDP would not involve the development of uses that would result in a substantial increase in rail or heavy truck traffic in the area. Project operations would not involve truck trips; this issue is not relevant to the Project.

2018 LRDP EIR Impact 3.12-3 discloses that although the 2018 LRDP would result in new development, it would not result in any increase in airport, rail, or stadium noise. However, the 2018 LRDP 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 (less than significant with mitigation). However, the project site is not within 750 feet of existing rail lines and would not involve construction of housing. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

e) 2018 LRDP EIR Impact 3.12-3 discusses the potential for additional development on campus to result in the exposure of sensitive receptors to existing noise and vibration levels, including the University Airport (less than significant with mitigation). The 2018 LRDP would not place any student housing within the 55 dBA community noise equivalent level (CNEL) contour of the airport and the 2018 LRDP, including the Project, and does not propose changes to University Airport operations that would result in increases in associated airport noise. The Project would not expose people to excessive noise levels associated with this public use airport because project site is located approximately 1 mile west of the University Airport and outside of the airport's 55 dBA CNEL contour. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

f) The University Airport is a public use airport, not a private airstrip. No other private airport facilities are within the immediate vicinity of the campus. This issue is not relevant to this Project.

4.5.14 Population and Housing

Section 3.13 of the 2018 LRDP EIR addresses the population and housing effects of campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Population & Housing Would the Project…	Impact Examined in 2018 LRDP EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Yes	No	No	N/A
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	Yes	No	No	N/A
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	Yes	No	No	N/A
d) Create a demand for housing that cannot be accommodated by local jurisdictions?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,d) As discussed in 2018 LRDP EIR Impact 3.13-1, implementation of the 2018 LRDP would result in substantial population growth, which is considered significant and unavoidable at the program level. This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP. The Project would not directly increase population; however, it would provide additional capacity for near-term planned growth within the CNPRC. This increase in growth capacity would support the projections identified in the 2018 LRDP EIR; the Project is consistent with the 2018 LRDP land use designation for the project site and development increase for the campus. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

b,c) No housing units exist on the project site. The Project would not displace any existing housing units or people. Therefore, this issue is not relevant to the Project.

4.5.15 Public Services

Section 3.14 of the 2018 LRDP EIR addresses the public services effects of campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Public Services Would the Project…	Impact Examined in 2018 LRDP EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	Yes	No	No	N/A
ii) Police protection?	Yes	No	No	N/A
iii) Schools?	Yes	No	No	N/A
iv) Parks?	Yes	No	No	N/A
v) Other public facilities?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) As identified by 2018 LRDP EIR Impacts 3.14-1 and 3.14-2 (less than significant), implementation of the 2018 LRDP could increase the demand for fire and police services. The Project involves the replacement and construction of cooling and heating systems including the installation of solar arrays. The Project would not result in an increase in demand for police and fire protection services above existing conditions. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

As identified in 2018 LRDP EIR Impact 3.14-3 (less than significant), the increase in campus population that is expected to occur under the 2018 LRDP would result in an increased demand for schools. The Project would not result in an increase in population but would provide additional capacity for planned growth at the CNPRC. This increase in capacity and growth at the CNPRC was identified in the 2018 LRDP EIR and it is consistent with the 2018 LRDP land use designation for the project site. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

As identified in 2018 LRDP EIR Impact 3.14-4 (less than significant), 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 and parks. The Project would not result in an increase in population but would provide additional capacity for planned growth at the CNPRC. This increase in capacity and growth at the CNPRC was identified in the 2018 LRDP EIR and is consistent with the 2018 LRDP land use designation for the project site. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

4.5.16 Recreation

Section 3.15 of the 2018 LRDP EIR addresses the environmental effects associated with modifying recreational resources to meet campus growth under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Recreation Would the Project…	Impact Examined in 2018 LRDP EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Yes	No	No	N/A
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a) 2018 LRDP Impacts 3.15-1 and 3.15-2 (less than significant) found that the 2018 LRDP would have a less-than-significant increase in demand for recreation facilities. The Project would not result in an increase in population but would provide additional capacity for planned growth at the CNPRC. This increase in capacity and growth at the CNPRC was identified in the 2018 LRDP EIR and the Project is consistent with the 2018 LRDP land use designation for the project site. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

b) The Project does not include or require the construction of recreational facilities. Therefore, this issue is not relevant to the Project.

4.5.17 Transportation, Circulation, and Parking

Section 3.16 of the 2018 LRDP EIR addresses the transportation, circulation, and parking effects of campus growth and development under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

TRANSPORTATION & TRAFFIC Would the Project…	Impact Examined in 2018 LRDP EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	Yes	No	No	N/A
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards established by the county congestion management agency for designated roads and highways?	Yes	No	No	N/A
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	No	N/A	N/A	N/A
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Yes	No	No	N/A
e) Result in inadequate emergency access?	Yes	No	No	N/A
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	Yes	No	No	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,b) The 2018 LRDP EIR found that implementation of the 2018 LRDP would cause unacceptable level of service conditions on portions of I-80 (2018 LRDP EIR Impacts 3.16-1 and 3.16-6) and at several on-campus intersections (2018 LRDP EIR Impact 3.16-2). 2018 LRDP EIR Mitigation Measures 3.16-1 and 3.16-2(a-e) require the UC Davis to implement Transportation Demand Management strategies to reduce vehicle trips, monitor peak hour traffic operations at critical locations, review individual projects to determine if intersection operations degrade to unacceptable levels, and implement physical improvements when intersection operations

degrade. However, these 2018 LRDP impacts are identified as significant and unavoidable because it is uncertain whether the mitigation would sufficiently reduce level of service conditions to acceptable levels. These impacts were addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2018 LRDP.

Construction of the Project would generate vehicle trips on adjacent roadways, such as deliveries of materials, construction equipment trips, and construction labor commute trips. However, given the relatively small size of the project site and short-term nature of construction (less than one year), no major traffic impacts are anticipated.

Operation of the Project would be serviced by existing campus staff and would not increase the student population or staff population at UC Davis. The Project would not result in an increase in peak hour commute traffic and would only generate minimal commute trips for maintenance and site inspection. Project-generated vehicle trips would be similar to existing conditions and would be within the projections identified in the 2018 LRDP EIR because the Project is consistent with the 2018 LRDP land use designation for the project site. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

c) The Project would result in no change to air traffic patterns. The UC Davis airport is the closest airport and the Project would have no effect on the number of flights or the operation of the airport. This issue is not relevant to this project.

d) As disclosed in 2018 LRDP EIR Impacts 3.16-3 (less than significant with mitigation), 3.16-4 (less than significant with mitigation), and 3.16-5 (less than significant with mitigation), 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 could increase the risk of collisions.

   The Project would include the construction of replacement parking but would not construct any new roadways or alter existing roadways within the existing CNPRC area. There would be no new design features or other incompatible uses that could increase roadway hazards. Furthermore, Project operation would not result in an increase in vehicle trips and would not result in safety issues related to access and circulation. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

e) 2018 LRDP EIR Impact 3.9-6 (less than significant with mitigation) identified that implementation of the 2018 LRDP could interfere with the campus' Emergency Operations Plan through construction-related road closures. Construction of the Project would not any require road closures, construction staging would occur on site, and the Project would not substantially change onsite or offsite vehicular access to the CNRPC. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

f) As stated in the 2018 LRDP EIR, implementation of the 2018 LRDP would not conflict with any adopted policies, plans, or programs regarding public transit (Impact 3.16-3), bicycle (Impact 3.16-4), or pedestrian (Impact 3.16-5) facilities. The Project would not conflict with any with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

4.5.18 Utilities and Service Systems

Section 3.17 of the 2018 LRDP EIR addresses the effects of campus growth and development on utility systems under the 2018 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

UTILITIES & SERVICE SYSTEMS Would the Project…	Impact Examined in 2018 LRDP EIR	Do Proposed Changes Involve New or Substantially More Severe Significant Impacts?*	Do Any New Circumstances Involve New or Substantially More Severe Significant Impacts?	Do Mitigation Measures in the 2018 LRDP EIR Address/ Resolve Impacts, Including Impacts That Would Otherwise be New or Substantially More Severe?
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	Yes	No	No	N/A
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Yes	No	No	N/A
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Yes	No	No	Yes
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	Yes	No	No	N/A
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers existing commitments?	Yes	No	No	N/A
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	Yes	No	No	N/A
g) Comply with federal, state, and local statutes and regulations related to solid waste?	Yes	No	No	N/A
h) Require or result in the construction or expansion of electrical, natural gas, chilled water, or steam facilities, which would cause significant environmental impacts?	Yes	No	No	N/A
i) Require or result in the construction or expansion of telecommunication facilities, which would cause significant environmental impacts?	No	N/A	N/A	N/A

*Determination is related to pre-mitigation conditions, including implementation of previously adopted mitigation.

a,b,e) As described in 2018 LRDP EIR Impact 3.17-1 (less than significant), the permitted peak monthly average capacity of the campus wastewater treatment plant is currently 3.85 million gallons per day, which can accommodate the projected growth under the 2018 LRDP. As described in 2018 LRDP EIR Impacts 3.17-2 and 3.17-3 (less than significant), development under the LRDP would not require additional or expanded facilities. The Project would not increase campus population nor increase wastewater generation. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

c) Increased impervious surfaces and the potential need for new stormwater infrastructure to accommodate growth anticipated under the 2018 LRDP was evaluated in 2018 LRDP EIR Impact 3.10-6 (less than significant with mitigation). The analysis acknowledged that changes in impervious surfaces on campus from new development could involve changes to stormwater infrastructure, including drainage patterns, infrastructure connectivity, and the locations of specific features. 2018 LRDP EIR Mitigation Measure 3.10-6 requires implementation of Mitigation Measure 3.7-4, which requires the preparation of a drainage study prior to approval of individual projects.

The Project would replace an existing surface parking lot with a new modular building, and undeveloped fields with solar arrays and replacement parking thereby resulting in some additional impervious surfaces. However, Project design would be based on the drainage evaluation completed for the stormwater management system prior to Project implementation (2018 LRDP EIR Mitigation Measure 3.7-4). Installation of the project-specific drainage/detention system would require ground-disturbance, which would result in typical construction-related impacts. These types of impacts are addressed throughout this addendum (e.g., within 3.3, “Air Quality;” 3.5, “Biological Resources,” 3.10, “Hydrology and Water Quality”); none of which would result in new or substantially more severe impacts and no additional mitigation would be required.

d) Water used within the UC Davis campus is provided by three major sources: Woodland-Davis Clean Water Agency surface water, Solano County Water Agency surface water, and groundwater. As described in 2018 LRDP Impact 3.17-1 (less than significant), it was determined that sufficient water supplies are available to meet projected demand and no new or expanded entitlements would be required. The Project would provide heating hot water systems and chilling systems; however, the Project would not increase campus population nor increase water demand. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

f,g) The 2018 LRDP EIR Impact 3.17-4 (less than significant) determined that Yolo County Central Landfill could accommodate any waste generated by implementation of the 2018 LRDP. Because of increased diversion rate requirements, landfilled quantities are anticipated to be substantially decreased by 2030–2031 (as described in 3.17.1 “Regulatory Setting” of the 2018 LRDP EIR). The 2018 LRDP EIR Impact 3.17-4 also found that implementation of the 2018 LRDP would comply with the UC Sustainable Practices Policy to reduce landfill contributions, consistent with California Integrated Waste Management Act, AB 341, Senate Bill (SB) 1374, AB 1826, and SB 1383.

Operation of the Project would not increase campus population nor generate an increase in solid waste above existing conditions. However, demolition of existing heating and cooling systems would generate some additional solid waste. This increase would be minor and construction materials would be recycled when available. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

h) The 2018 LRDP EIR identified that campus development under the 2018 LRDP would require extension of electrical utilities as well as expansion of chilled water to serve specific projects and determined impacts would be less than significant (2018 LRDP EIR Impacts 3.17-5 and 3.17-6 [less than significant]). The Project would replace exiting CNPRC heating and cooling systems and would reduce operational costs and increase capacity for planned near-term growth within the CNPRC. The effects of which are analyzed throughout the 2018 LRDP EIR and this addendum (See Section 4.5.1, "Aesthetics," through Section 4.5.19, "Conclusion"). No further new electrical, natural gas, chilled water, or steam utilities nor utility relocations would be required for the Project. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

i) As discussed under criterion (h) above, the Project would be served by existing telecommunication facilities. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

4.5.19 Conclusion

As described in Chapter 3 of this document, "Project Description," and Chapter 4, "Coverage Under the 2018 LRDP and 2018 LRDP EIR," none of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent document have occurred. As documented throughout the environmental checklist and discussion, changes to the approved 2018 LRDP in connection with the Project and any altered conditions since certification of the LRDP EIR in July 2018 would:

- not result in any new significant environmental effects, and
- not substantially increase the severity of previously identified significant effects.

In addition, no new information of substantial importance has arisen that shows that:

- the Project would have new significant effects,
- the Project would have substantially more severe effects,
- mitigation measures or alternatives previously found to be infeasible would in fact be feasible, or
- mitigation measures or alternatives that are considerably different from those analyzed in the EIR would substantially reduce one or more significant effects on the environment.

Therefore, the differences between the approved 2018 LRDP, as described in the certified EIR, and the project modifications now being considered constitute changes consistent with CEQA Guidelines Section 15164. Through this addendum, UC Davis has determined that no subsequent EIR or negative declaration is required for the CNPRC Central Plant and Energy Improvements Project.

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5 APPLICABLE 2018 LRDP EIR MITIGATION MEASURES

The following mitigation measures were adopted upon approval of the 2018 LRDP EIR and would be applicable to the mitigation of impacts associated with the proposed CNPRC Central Plant and Energy Improvements Project.

AIR QUALITY

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 prior to 2025 and Tier 4 or better beginning in 2025.

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.

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;

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.

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

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).
- 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.

3) For project sites requiring intensive investigation, irrespective of surface 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 significant and would be affected by the Project. Mitigation Measure 3.4-1a, steps (3) and (4) shall be implemented.

BIOLOGICAL RESOURCES

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 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.

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 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.

    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 3.5-6: 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:

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.

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).

GEOLOGY, SOILS, AND SEISMICITY

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.

HAZARDS AND HAZARDOUS MATERIALS

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.

HYDROLOGY AND WATER QUALITY

Mitigation Measure 3.10-6: Implement project-level stormwater controls.

Implement Mitigation Measure 3.7-4.

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.

NOISE

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 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.

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