ADDENDUM TO THE
2010 LONG RANGE DEVELOPMENT PLAN
FINAL ENVIRONMENTAL IMPACT REPORT

for

THE PARKING STRUCTURE 4 PROJECT
at the UNIVERSITY OF CALIFORNIA, DAVIS

(State Clearinghouse No. 2009112060)

May 2020

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LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACC	Ambulatory Care Center
BMPs	best management practices
BRWL	blue-rich white-light lamps
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCF	centum cubic feet
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geological Survey
City	City of Sacramento
dBA	A-weighted decibels
DPM	diesel particulate matter
EH&S	Environmental Health and Safety
EO	Executive Order
EV	Electric Vehicle
FEIR	Final Environmental Impact Report
FTA	Federal Transit Administration's
GHG	greenhouse gas
gsf	gross square feet
HMBP	Hazardous Materials Business Plan
HWCF	Hazardous Waste Consolidation Facility
K	Kelvin
kWh	kilowatt hour
LCP	lighting control panel
L_{dn}	day-night average sound level
LED	light-emitting diode
L_{eq}	equivalent continuous sound pressure level
LOS	Level of service
LRDP	2010 Long Range Development Plan
Med-Transit	UC Davis Health shuttle service

MLD	Most Likely Descendant
MM	Mitigation Measure
NPDES	National Pollutant Discharge Elimination System
OPR	Office of Planning and Research
Pga	peak ground acceleration
PRC	Public Resources Code
PS4	Parking Structure 4
SacRT	Sacramento Regional Transit District
SB	Senate Bill
sf	square feet
SMAQMD	Sacramento Metropolitan Air Quality Management District
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TPA	Transit Priority Area
University	Regents of the University of California
US 50	U.S. Highway 50
USFWS	U.S. Fish and Wildlife Service
VdB	vibration decibels
VELB	valley elderberry longhorn beetle
VMT	Vehicle miles traveled

1.0 INTRODUCTION

1.1 2010 LONG RANGE DEVELOPMENT PLAN ENVIRONMENTAL IMPACT REPORT

In November 2010, The Regents of the University of California (University) certified the Final Environmental Impact Report (FEIR) (State Clearinghouse Number 2009112060; University of California 2010b) for the 2010 Long Range Development Plan (LRDP) for the University of California at Davis (UC Davis) Health campus in Sacramento (University of California 2010a). The LRDP FEIR evaluated the program-level impacts from projected campus growth through 2025 based on the potential population growth and the land use designations identified in the LRDP to inform the pattern of development at the campus. The LRDP FEIR identified and analyzed the following land use categories to support anticipated campus growth: education and research, hospital, ambulatory care, support services, major open space, landscape buffer, and parking structures.

The UC Davis Sacramento campus is a 627-bed, nationally recognized academic medical center offering primary care for all ages, specialty care in 150 fields, and the latest treatment options and expertise for the most complex health conditions. The UC Davis Sacramento campus covers approximately 142 acres and is located approximately 2.5 miles southeast of downtown Sacramento, 17 miles east of the UC Davis main campus in Davis. The Sacramento campus is bounded by V Street on the north, Stockton Boulevard on the west, Broadway to the south, and a residential neighborhood to the east (Figure 1-1).

The 2010 LRDP is the guiding land use plan for the physical development of the campus. The plan designates general types of development and land uses to facilitate expanded and new program initiatives. The plan was designed to accommodate an increase in building space at the Sacramento campus from 3.39 million gross square feet (gsf) to 6.57 million gsf and growth in the onsite daily population (including patients, patient attendants, visitors, staff, faculty and other academic personnel, students, interns, residents, and fellows) from 12,499 persons to 19,719 persons at full development. For purposes of evaluating environmental impacts, the LRDP FEIR included a growth projection year of 2025 as the potential date that growth and development under the 2010 LRDP would occur; both documents are available online at http://www.ucdmc.ucdavis.edu/facilities/contractors/LRDP.html.

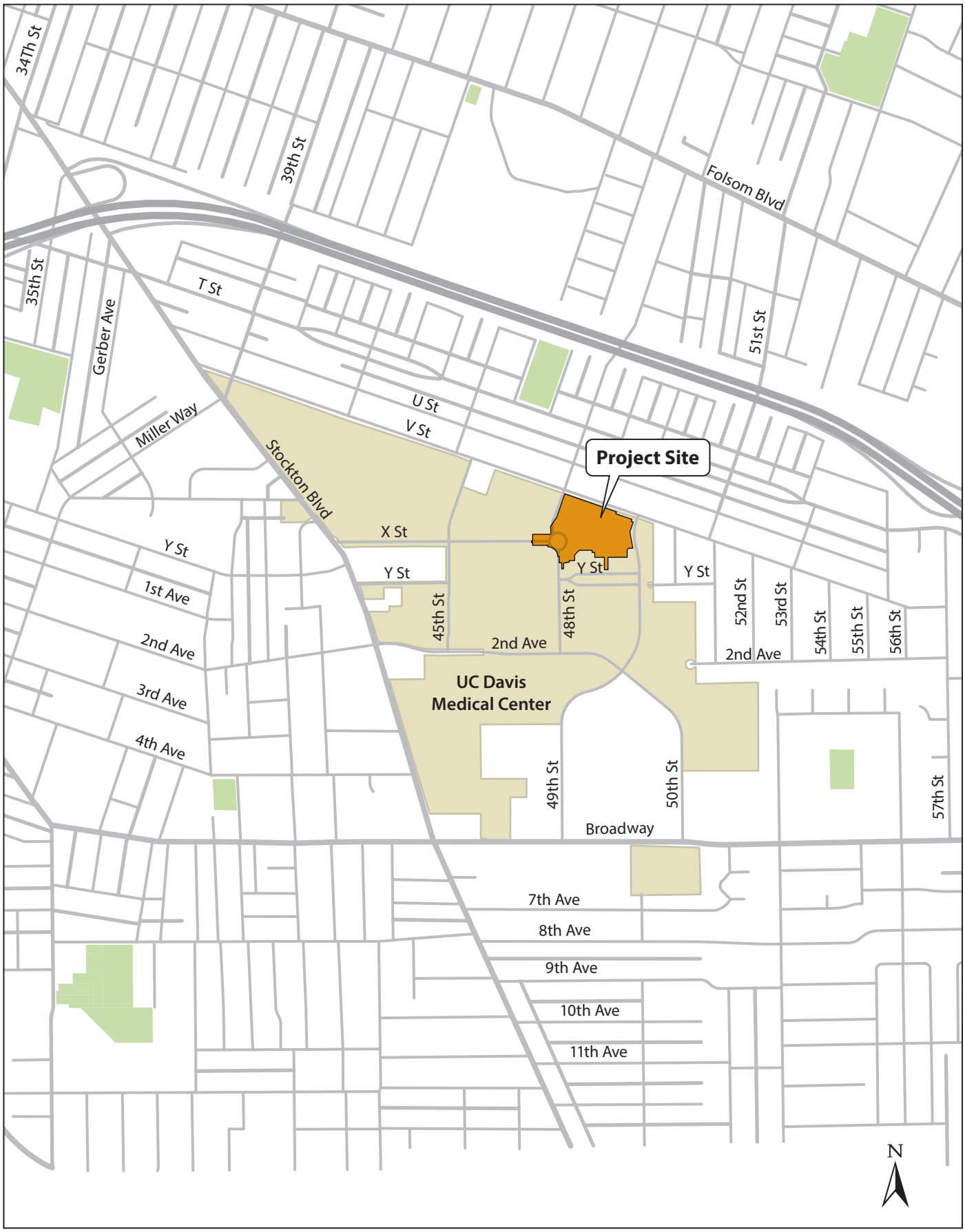

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Figure 1-1
Vicinity Map

With implementation of the 2010 LRDP, the UC Davis Campus in Sacramento has grown since 2010 in both building square footage and daily population. Table 1-1 provides a summary of the square footage and population growth since adoption of the 2010 LRDP.

Table 1-1. UC Davis Sacramento Campus Population and Building Summary

	Prior 2008–2009 Baseline	Current 2019	Anticipated in 2010 LRDP	Additional Growth Potential to Reach 2010 LRDP Forecast
Campus Population[a,b,c]	12,499	13,547	19,719	6,172
Building Square Footage[d,e]	3,391,163	3,553,811	6,570,798	3,016,987
Parking[d,e]	6,389	7,456	9,935	2,479

Source: Tables 3.0-2 and 3.0-3 from the UC Davis Sacramento Campus LRDP FEIR.

Population:

[a] Under future conditions, it is assumed that the 800 beds would be at 80 percent occupancy.

[b] Based on 625,000 annual outpatient visits under existing conditions and projected 905,000 annual outpatient visits; assumes the clinics are open 248 days per year.

[c] Based on 56,100 annual emergency visits under existing conditions and projected 73,880 annual emergency visits.

Building and Parking:

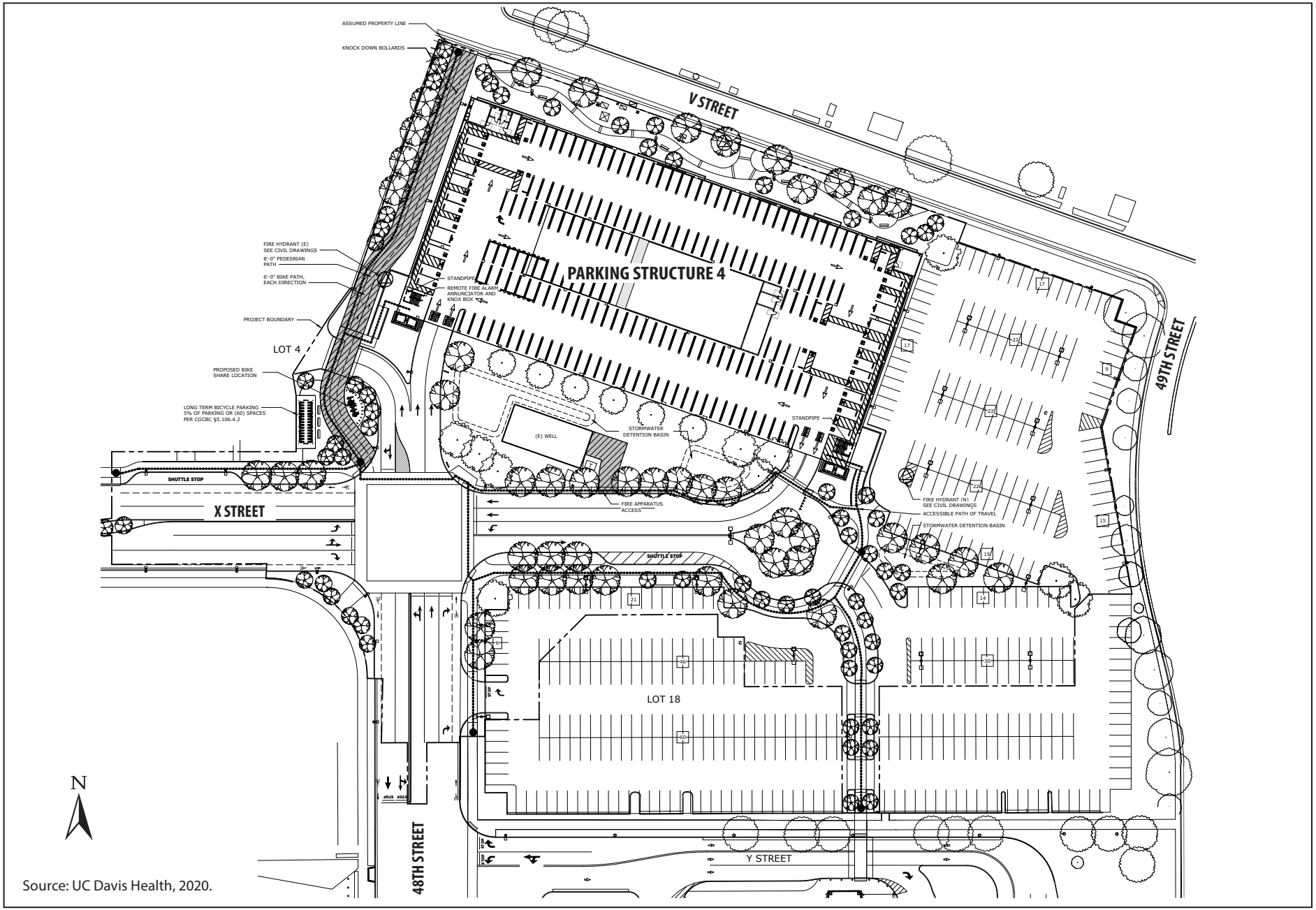
[d] Includes projects under construction.

[e] Comprises existing and future development south of 2nd Avenue, including existing Governor's Hall and Institute for Regenerative Cures.

As shown in Table 1-1, the anticipated levels of campus growth have not been exceeded. The LRDP FEIR evaluated the potential direct, indirect, and cumulative impacts related to the 2010 LRDP and has been the guiding programmatic environmental review document for considering the potential ongoing environmental impacts during the implementation of the 2010 LRDP.

1.2 PURPOSE OF THIS ADDENDUM

Pursuant to California Environmental Quality Act (CEQA) and its implementing guidelines, UC Davis has prepared this Addendum to the previously certified LRDP FEIR to address the proposed addition of Parking Structure 4 (PS4) at the northeast corner of X Street and 48th Street, remove the roundabout at the X Street and 48th Street intersection and reconfigure that intersection, and make roadway improvements from the V Street and 48th Street intersection going east into the existing parking lot (the project) at the UC Davis Sacramento campus (Figure 1-2).



Source: UC Davis Health, 2020.

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Figure 1-2
Site Plan

The 2010 LRDP identified the location of a new parking structure at the northwest corner of Y Street and 49th Street, within the Ambulatory Care District, whereas the project would simply move the proposed parking structure adjacent and to the west. The project would also include an amendment to the 2010 LRDP land use designations to accommodate the updated development proposal. The purpose and scope of this document is as follows: (1) describe the project; (2) evaluate the potential environmental impacts of the change in location; and (3) determine whether there are any new significant impacts not previously addressed in the LRDP FEIR or whether significant impacts previously identified in the LRDP FEIR would be substantially increased.

In accordance with CEQA, an Addendum to an EIR is prepared for minor technical changes or additions to an EIR that do not raise important new issues about significant impacts on the environment. As described in Public Resources Code (PRC) Section 21166 and State CEQA Guidelines Sections 15162 and 15164, preparation of an EIR Addendum is appropriate where none of the conditions calling for preparation of a subsequent EIR or supplement to an EIR have occurred, such as:

1) Substantial changes are proposed in the project that would require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

2) Substantial changes occur with respect to the circumstances under which the project is undertaken that would require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

3) New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted shows any of the following:

    a) The project would have one or more significant effects not discussed in the previous EIR or negative declaration.

    b) Significant effects previously examined would be substantially more severe than shown in the previous EIR.

    c) Mitigation measures or alternatives previously found not to be feasible would, in fact, be feasible and substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.

d) Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative (CEQA Guidelines §15162).

As discussed below, none of the above conditions calling for preparation of a subsequent or supplemental EIR would occur as a result of the project. Therefore, approval of the project and this Addendum is consistent with the provisions of CEQA and the University's procedures for the implementation of CEQA. The project also would not result in new impacts not previously analyzed in the LRDP FEIR, and further environmental documentation for the approval of the project is not required.

2.0 PROJECT DESCRIPTION

The project would include the following components:

- Construction and operation of a new parking structure (PS4) at the northeast corner of 48th Street and X Street
- Removal of the roundabout at the X Street and 48th Street intersection and reconfiguring that intersection
- Installation of a new traffic signal at the X Street and 48th Street intersection
- Reconfiguration of parking lot 18
- Utility improvements
- Roadway and landscaping improvements
- Bicycle and pedestrian improvements

The project would also include an amendment to the 2010 LRDP for land use changes associated with PS4. Reference Figure 1-2 for the site plan. Each project component is described in detail below.

2.1 PS4

The PS4 component would be a new parking structure located in the northwest corner of Parking Lot 18, at the northeast corner of 48th Street and X Street (see Figure 1-2 and Image 3-1 through Image 3-6 in Section 3.1, *Aesthetics*). PS4 would provide approximately 1,221 stalls (including all required Accessible, Van Accessible, and provisions for future Electric Vehicle [EV], EV Accessible, EV Van Accessible, EV Ambulatory stalls, and 25 additional ramp parking stalls) in a five-floor parking structure (inclusive of roof level parking). The parking structure footprint would be approximately 75,000 square feet (sf) with approximately 43 feet to Level Five and approximately 62 feet to the top of the elevator tower. PS4 would be less than 45 feet high within 100 feet of the property line and up to 62 feet high beyond 100 feet from the property line. PS4, which would primarily serve employees, would displace approximately 143 spaces from Parking Lot 18 through efficient redesign and restriping of the remaining surface Lot 18. PS4 would include an exterior electrical equipment yard at ground level and an interior electrical room.

The structural design for PS4 utilizes a precast system for the primary framing elements designed to meet or exceed the 2019 California Building Code. The precast double-T framing system has 12-inch-wide double-Ts with precast spandrels (girders) and precast columns. The total depth of structural floor system is 30 inches, which allows the floor to floor heights to be 10 foot, 10 inches,

while accommodating accessible spaces on any floor. This creates a clear height at every floor of 8 foot, 2 inches, plus 2 inches of tolerance.

PS4 has been designed to create a cohesive structure that incorporates the campus's needs while addressing the neighborhood's concerns, including the use of screen walls and louvers that provide screening function and large wayfinding identity elements, landscaping used as screening and shade, and a simple, clean aesthetic. Locating the entrance and exit on the south side of the structure ensures there is no access from V Street and provides better sound mitigation by keeping vehicle noise to the south, away from the neighborhood to the north (see Images 3-1 through 3-6).

2.2 ROADWAY, LANDSCAPING, AND STREETSCAPE IMPROVEMENTS

The roundabout at the X and 48th Street intersection would be removed, and a standard four-leg signalized intersection constructed. The north leg of the intersection would provide direct access to PS4, via the southwest corner of the proposed parking structure. X Street would be extended easterly from 48th Street to provide access to PS4's easterly entrance and the reconfigured Lot 18. To maximize the functionality of the intersection of X Street and 48th Street, additional turn and through lanes in all directions have been incorporated into the design.

The site improvements associated with PS4would require reconfiguring Parking Lot 18. This reconfiguration would improve the efficiency (i.e., provide additional parking) for the southerly and easterly sections of Parking Lot 18 that PS4 would not displace. Vehicular access to Lot 18 would be from a new easterly extension of X Street from 48th Street.

The overall landscape style is naturalized to enhance the existing landscape and area and provide a natural, nonlinear area for neighborhood users to the north, as well as those entering and exiting the garage to the east and west. The southern area would have a stormwater detention basin that support the University's conservation goals. Naturally low-branching trees and medium-sized evergreens would be placed to provide necessary screening. A horticulturally consistent planting of predominately drought-tolerant, local, and California native species would be installed on the site, with the intent of matching the existing landscape, and reinforced with purposefully random, nonlinear placement of plants, creating a natural setting.

The north side of PS4 would include a pedestrian-oriented trail with amenities such as benches and shade within the existing 40-foot landscape buffer, the construction of which would pay special attention to the character of the paving and tactile grain, furthering the "natural" experience for neighbors and pedestrians. Paving design would also provide warning for those locations where the bicycle path, pedestrian crossing, and vehicle lanes must intersect. The nature walk is designed to not screen the structure but provide a human scale to the walkway. Image 2-

1 shows a visual simulation of the nature walk, looking east along V Street at the northeast corner of PS4.

Bicycle parking would be located near the intersection of the bicycle path and the pedestrian node at the northwest corner of 48th and X Street. A campus standard bicycle locker would be located in an improved and landscaped area set back from the sidewalk. In the future, additional bicycle parking may be incorporated into the development of new buildings to the south and east of PS4.

The site has been designed to provide direct and clear pedestrian wayfinding from the garage exits and Lot 18 to the Eye Center, as well as existing circulation networks to the west and southwest. The pedestrian pathways have been deliberately directed to areas that do not conflict with the garage entrance and exits. Enhanced and elevated paving patterns and colors support primary paths of travel, while also providing visual and physical reminder to vehicles to move cautiously and slowly. An enhanced raised crosswalk pathway would be added from the east elevator and stair tower directly to the Eye Center and Ambulatory Care Center (ACC) for easy wayfinding and minimal vehicular encounters. Two shuttle stops, one on the north side of X Street and one on the south, would be provided to minimize the need for pedestrians to cross any street to access the shuttle.

See Figure 1-2 for a description and location of all improvements.

Image 2-1. View of the Nature Walk Looking East Along V Street at the Northeast Corner of PS4

2.3 AMENDMENT TO THE 2010 LRDP

The project involves an amendment to the 2010 LRDP to modify the 2010 LRDP land use designations. Reference Figure 3-2 (2010 LRDP Land Use Plan Proposed Amendment #2) for the proposed land use designations. The Parking Structure land use designation would decrease by 1.08 acres campus-wide; the major Ambulatory Care designation would increase by the same acreage.

2.4 PROJECTED WATER AND ELECTRICAL USE

The project's annual water consumption is estimated at 21.8 centum cubic feet (CCF) (a CCF is 100 cubic feet of water or 748 gallons). The annual electrical consumption is estimated at 63,719 kilowatt hours (kWh). No gas consumption is anticipated.

2.5 CONSTRUCTION CHARACTERISTICS

Construction would begin August 2020 and occur over 1.5 years. Typical construction equipment would be used on the project, including a concrete or industrial saw, tractor, loader, backhoe, crane, forklift, air compressor, grader, scraper, generator, welder, paving equipment, roller, excavator, water truck, and plate compactor. Construction would occur between the hours of 7:00 a.m. and 6:00 p.m. Monday through Saturday and between 9:00 a.m. and 6:00 p.m. on Sundays and holidays. The project would not include any nighttime work or pile driving. Although there would be no major construction traffic along V Street, limited access may be needed for final landscaping along V Street. A traffic control plan would be prepared for the project that illustrates the necessary signage, barriers, and safety measures for each phase of construction, in order to allow constant vehicle access along 48th Street and X Street.

2.5.1 PS4

A crane would be used for precast concrete and a concrete pump would be used for deck construction. Construction staging for PS4 would be adjacent to the site at Parking Lot 18 near 49th Street. Access from the closest freeway would be from U.S. Highway 50 (US 50), to Stockton Boulevard, to 2nd Avenue, to 48th Street. Construction duration would be approximately 16 months, from August 2020 through December 2021. Interior installation for IT equipment and programming would be completed by and open for operations February 2022. Ground disturbance would encompass approximately 100,000 sf, with a maximum depth of 15 feet below grade. The estimated number of construction workers needed to construct the PS4 component of the project would be approximately 30 per day. The construction contractor would be expected to strive for an organized, clean, and efficient construction site. Construction activities would take place inside mesh-lined fenced zones. The construction contractor would ensure that temporary lighting does not reflect or direct light toward the nearby residents. The project would have proper

debris bins on site to manage waste, and there would be routine job inspections to review current organization practices, identify areas of concern, and implement processes for maintaining a clean site.

2.5.2 Roadway, Landscaping, and Streetscape Improvements

Staging for the roundabout removal and proposed roadway modifications on X and 48th Streets, including the traffic signal, would take place at Parking Lot 18, near 49th Street. Access from the closest freeway would be from US 50, to Stockton Boulevard, to 2nd Avenue, to 48th Street. Construction duration would be approximately 15 months, starting in August 2020 and continuing through November 2021. Ground disturbance would cover approximately 1.7 acres, with a maximum depth of 3 feet below grade. The estimated number of construction workers for this project component is approximately 20.

2.6 VEHICULAR TRAFFIC AND SITE ACCESS

Vehicular access to the project site is provided by Stockton Boulevard from the west via either X Street or 2nd Avenue. Y Street currently provides an east-west connection from 48th and 49th streets. Bicycle access to the campus is provided by bicycle routes from the west on 2nd Avenue, from the north on 39th, 48th, and 51st streets, from the south along Stockton Boulevard (ends at Broadway), and from both east and west along Broadway. Within the campus, X Street and 48th, 49th, and 50th streets have on-street bike lanes, and 2nd Avenue is listed in the City of Sacramento Bicycle Master Plan (City of Sacramento 2018) as a proposed bikeway. The project would include a bicycle/pedestrian path from X Street north to V Street on the west side of PS4 (Figure 1-2).

The Sacramento campus operates the UC Davis Health (Med-Transit) shuttle service, which connects various locations within the campus area. In addition, Med-Transit operates a shuttle between the Sacramento and Davis campuses. The Med-Transit service is available to all segments of the campus population, including students, faculty, staff, patients, and visitors. Several regional transit bus lines also serve the campus, with most routes running along Stockton Boulevard. The Sacramento Regional Transit District (SacRT) provides bus transit service in the vicinity of the campus along Stockton Boulevard. Light-rail service is provided along T Street running east-west just 3 blocks north of the campus. Image 2-2 shows the proposed new shuttle stop, bike locker, bike path, and pedestrian network at the intersection of X and 48th Streets looking northwest.

Image 2-2 View of Shuttle Stop, Bike Locker, and Bike and Pedestrian Path

2.7 UTILITIES AND LIGHTING

The project would be served by existing utility services (e.g., storm drain, fire water, irrigation, electrical, and sewer). The overall effects on the utility systems would be minimal. The following improvements are anticipated:

- The storm system would be largely modified to route drainage more effectively away from the building and detention areas.
- On the southern edge of the building, two medium-sized detention facilities would be placed to capture roof drainage and perform required stormwater attenuation functions. A basin has also been placed at the southern edge of the parking near the traffic circle to provide the detention requirements for the eastern system.
- As required, an underground sand-oil separator would be placed at the northwestern corner of the site to capture the structure's interior drainage prior to discharge to the combined storm sewer system.
- The new 10-inch fire water pipeline would be routed from the Eye Center, reroute at Y Street, and continue to the criteria-specified point of connection. Additional hydrants would be added to maintain proper hydrant coverage around the parking structure.
- The dry standpipe connection would be co-located with a new hydrant at the northwestern quadrant of the intersection of X and 48th Street.

All interior/perimeter lighting is designed to create an inward light spill and prevent light impacts to adjacent residential neighborhoods. Where feasible, all outside lighting will be shielded and cutoff type light fixture. Any necessary non-cutoff, non-shielded light fixtures will be reviewed by the Campus Facilities, Design, and Constructions staff prior to installation to ensure no adverse effects on nighttime views and impacts to adjacent residential neighbors. The topmost deck lighting is designed to project in a southern direction from the north perimeter while the southern lighting is located furthest away as possible within the structure from the northern campus boundary to eliminate light spill facing north.

Light-emitting diode (LED) light fixtures would be used for all interior and exterior lighting. All exterior lighting site fixtures would match the style, color, and look of the existing adjacent parking lot and roadway fixtures, but would be LED-type. The light fixtures would be provided with photo sensors and occupancy sensors. When on, the integral sensor at these fixtures would dim to a lower output when the area is unoccupied and turn the fixtures on to the high-trim setpoint when motion is detected. Roof level, pole-mounted LED area lights would be controlled by the lighting control panel (LCP) for dusk-dawn operation. An integral sensor would dim the fixtures to a lower output when the area is unoccupied and turn the fixtures on to the high trim set point when motion is detected. Egress lighting would include exit signs, stairwell light fixtures, elevator lobby fixtures, electrical room fixtures, telecommunication room fixtures, and 25 percent of the garage lighting fixtures.

2.8 SUSTAINABILITY

PS4 would strive to achieve a Gold Parksmart certification. Parksmart is the world's only certification program that defines, measures, and recognizes sustainable, high-performing garages. Parksmart offers a roadmap for new and existing parking facilities to use innovative, solutions-oriented strategies. Points are awarded to parking structures for forward-thinking and sustainable practices in three categories: management, programs, and technology structure design (Parksmart 2020). The project might also include the addition of photovoltaic panels at the south bays on the roof, which would move the Parksmart score to a strong Gold.

Energy usage would be controlled through occupancy and daylighting sensors at the interior of the structure. The open-structure design eliminates any mechanical ventilation requirements. The long-term goal of the structure is to transition from a car-storage building to a charging location for electric vehicles, aiding in the reduction of carbon-emitting automobiles driving to and from the campus.

With regard to wastewater, the project would meet the University's criteria requiring each discharger to control the flow of stormwater and stormwater pollutants generated from new

development projects. Stormwater detention areas are planned to help attenuate storm flow, and impervious areas have been specifically reduced to manage stormwater runoff.

The landscape scheme focuses on drought-tolerant plants that need only limited irrigation for the first few years, and the proposed irrigation system would meet water-efficiency standards. Plantings would be added as necessary to provide effective screening for the new facilities. Plant material chosen would provide a consistent natural look, rather than a more formal, linear layout. Complementary plant groupings similar to what is found in nature would be installed, using predominately drought-tolerant, local, and non-local California native species. These may be supplemented with regionally climate-appropriate, drought-tolerant, non-invasive, naturalized plants wherever necessary. The plant palette would contain selections that have been proven to survive on the property, as well as being deer resistant.

3.0 ENVIRONMENTAL CHECKLIST FOR SUPPLEMENTAL ENVIRONMENTAL REVIEW

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 2010 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 2010 LRDP EIR.

3.1 AESTHETICS

Section 4.1 of the 2010 LRDP EIR evaluates the impacts of campus growth under the 2010 LRDP on aesthetics by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

The project would be located entirely within the LRDP study area, which is in an urbanized area. No rural areas would be affected by the project. A site visit was conducted on April 24, 2019, and the visual setting remains largely unchanged from the setting described in the LRDP FEIR. In addition, as described in the LRDP FEIR, no scenic vistas or federal, state, or local scenic routes are associated with the LRDP study area. As such, scenic vistas and scenic routes would not be affected by the project; thus, these resources are not discussed further. Therefore, the affected environment described in the LRDP FEIR remains applicable to the project.

3.1.1 Changes to Scenic Quality in an Urbanized Area

Impact AES-1 of Volume 1 of the 2010 LRDP EIR (less than significant) concluded that while expansion of existing development and new buildings, including parking structures, along the campus perimeter would change the views of the campus as seen by residents to the north and east, the incorporation of the landscaped buffer campus, the staggering of building heights, and overall building height limitation in the 2010 LRDP, the impact on the visual character of the

campus as seen from the adjacent neighborhoods to the north and the east would be less than significant.

The 2010 LRDP FEIR Land Use designations figure (Figure 3.0-3) included a proposed parking structure at the southwest corner of V Street and 49th Street. The PS4 project would simply shift the parking structure to the west oriented along V Street. The PS4 project would incorporate a 40-foot landscaped buffer along V Street and the stepped height restrictions set forth under the 2010 LRDP. Public views would be altered by the project. Public views that are likely to be affected include views available from locations adjacent to the project site, including the residential neighborhood on the northern side of V Street.

To aid in the analysis of affected public views, computer-generated elevations were prepared to illustrate the visual changes associated with PS4, which were chosen due to its close proximity to the community of Elmhurst. The elevations illustrate the visual character elements of PS4, the existing landscaping that would remain, and the expansion of the existing landscaped perimeter along V Street to achieve the 40-foot landscape buffer. See Image 3-1 through Image 3-6 for elevations of PS4 from different locations and heights. Images 3-1 through 3-6 are from the UC Davis Health PS4 Criteria documents report (Arch Nexus 2019).

Image 3-1 Aerial View of PS4 and UCDH Campus

Image 3-2 South Elevation View of PS4

Image 3-3 Southwest Corner View of PS4

Image 3-4 Entry Driveway View of PS4

Image 3-5 North Elevation View of PS4

Image 3-6 Northwest Corner View of PS4

The project would remove 89 existing trees, but would plant 127 new trees, resulting in a net increase of 38 trees, compared to existing conditions (Davis pers. comm.). In addition, the project would expand the existing landscaped perimeter along the portion of V Street that would be affected by PS4 (Figure 1-2), which is approximately 20 feet wide, and widen it to 40 feet to be consistent with previously adopted LRDP Mitigation Measure (MM) AES-1, which specifies that a 40-foot landscape buffer would be planted within 1 year of the implementation of new projects.

The LRDP ensures that a strong landscape treatment be provided along major campus roads to create an image similar to the greater Sacramento downtown streets. In addition, as identified in the LRDP FEIR, the University's Sacramento Campus Facilities Planning, Design, and Construction staff would conduct a design review process for all projects proposed under the LRDP to ensure that projects comply with the approved EIR and LRDP and minimize aesthetic impacts on public views and the surrounding community.

PS4 and the roadway and bike path improvements would include detailed design review consistent with the requirements described in the LRDP FEIR. These standards would ensure that the parking structure is designed in a manner that respects the neighboring residential land uses, that the structure does not exceed maximum heights and setbacks allowed by the LRDP, and that the landscape buffer is designed to achieve the desired screening and landscape aesthetics. Visual simulations for PS4 have been prepared for two key views (Image 3-5 and Image 3-6) to illustrate changes associated with the construction of PS4 and the expansion of the existing landscaped perimeter along V Street to achieve the 40-foot landscape buffer.

As described in Chapter 2, *Project Description*, PS4 would be less than 45 feet high within 100 feet of the property line and up to 63 feet high beyond 100 feet from the property line. As shown in Image 3-5 and Image 3-6, the parking structure that would be less than 45 feet high within 100 feet of the property line and up to 63 feet high beyond 200 feet from the property line would be visible beyond the widened landscape buffer. The images depict the existing trees that would be retained along V Street and approximately 2 years of growth for trees that would be planted in the widened buffer. Over time, the trees would mature to better buffer views of the structure. Until that time, the parking structure would be visible from both key views along V Street, and its height would contrast with the nearby visual character of the one- and two-story homes associated with residential uses along V Street. However, PS4 falls within areas that the 2010 LRDP Land Use Plan identifies as the Ambulatory Care and Parking Structures land use zones, and structures may be up to 45 feet high up to a distance of 100 feet from the property line and may increase up to 75 feet

beyond 100 feet from the property line.[1] The design of PS4 complies with the height and setback requirement established within the 2010 LRDP Land Use Plan.

The structure would be more visible from the vantage of key views to the west, as shown in Image 3-46, because the 2010 LRDP Land Use Plan does not require a landscape buffer along the western edge of the parking garage. However, trees would be planted on the western side of the proposed bike path, and, as described above, the design of PS4 complies with the height requirements and setbacks established by the 2010 LRDP, and PS4 would appear as an incremental addition to the existing urban setting of the campus to offsite viewers.

The project site is located in the urbanized area of the City of Sacramento (City). However, as described in 2010 LRDP Final EIR, Section 4.1, *Aesthetics*, the University is a state entity exempt under the state constitution from compliance with local land use regulations, including general plans and zoning. Therefore, the only local land use plan applicable to the campus is the 2010 LRDP, and the project is consistent with this plan as amended. Overall, tree removals described above would make PS4 more visible, but unaffected trees within Parking Lot 18 and along V Street would remain to help buffer views of the new structure from residential areas. Consistent with 2010 LRDP EIR Mitigation Measure AES-1, widening the existing landscaped perimeters to create the 40-foot landscape buffer and landscaping along the modified segments of X and 48th streets would include additional planted trees. These trees would mature over time, provide effective screening for PS4, and comply with the Landscape Buffer zone identified in the LRDP Land Use Plan, LRDP Principle 1, *Improve Campus Open Space and Landscape Character*, and LRDP Principle 5, *Provide Attractive Campus Entries and Edges*, that establish a landscape edge around the campus that would buffer neighbors from campus facilities and operations. This would also provide a green campus image and allow for an attractive campus entry at V and 49th streets. Previously adopted LRDP MM AES-1 would ensure that the landscape buffer is planted within 1 year so that it can become established and buffer views in a timely manner. In addition to the widened landscaped buffer, the proposed building heights comply with the LRDP Land Use Plan and meet its intent of minimizing impacts on the visual character of the campus as seen from the adjacent neighborhoods to the north. Additionally, PS4 has been designed to be consistent in appearance to other parking structures on the campus. The project is substantially similar to the previously evaluated Ambulatory Care District parking structure component; the height up to 63 feet and approximate footprint are the same, although the structures would be in the western portion of the existing surface parking lot 18, as opposed to the eastern area of parking lot 18 as analyzed in the 2010 LRDP EIR. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

[1] Parking levels have shorter floor to floor heights and the top level is open with a parapet; therefore, a five level parking structure can be 45 feet to the parapet, the same as a 3-story building.

3.1.2 Changes to Light and Glare

The 2010 LRDP FEIR found that implementation of the 2010 LRDP would create new sources of light and glare within an already developed area. However, the 2010 LRDP EIR concluded that light and glare impacts would be less than significant because the campus is in a densely developed urban setting, and individual projects would be reviewed by staff of the Sacramento Campus Facilities Planning, Design and Construction to ensure that new construction would not result in excessive light and glare. Furthermore, as new buildings are constructed adjacent to the northern and eastern perimeter of the campus, a landscaped buffer would be installed in conjunction with building development which would also reduce light spill from the new buildings on adjacent land uses. To ensure that impacts would be less than significant, MM's LRDP AES-2a through 2d were incorporated.

Roadway modifications, interior and exterior lighting associated with PS4, and changes associated with X and 48th streets, including the new signalized intersection, would include interior LED lighting and exterior LED lighting for security purposes that could affect sensitive receptors if not properly designed. Such lighting could result in significant impacts if the lighting spills outside of the site boundaries, creating a new source of nuisance lighting or glare for adjacent sensitive viewers. However, the project would be required to comply with previously adopted LRDP MMs AES-2a, AES-2b, AES-2c, and AES-2d. These mitigation measures would ensure that the project uses non-reflective exterior surfaces and directional lighting methods with shielded and cutoff-type light fixtures to minimize glare and upward-directed lighting. These previously adopted LRDP EIR mitigation measures would also ensure that the minimum amount of required lighting is proposed to achieve the desired nighttime emphasis, the proposed illumination creates no adverse effect on nighttime views, and the replacement of older lights follows these design standards when they are switched out. The light fixtures would be provided with photo sensors and occupancy sensors. When on, the integral sensor at these fixtures would dim to a lower output when the area is unoccupied and turn the fixtures on to the high-trim set point when motion is detected. Roof level, pole-mounted LED area lights would be controlled by the LCP for dusk-dawn operation. An integral sensor would dim the fixtures to a lower output when the area is unoccupied and turn the fixtures on to the high-trim set point when motion is detected.

Consistent with 2010 LRDP Impact AES-2, with implementation of 2010 LRDP AES-2a, AES-2b, AES-2c, AES-2d, which are included in the project, it would have a less-than-significant light and glare impact. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

3.2 AGRICULTURAL RESOURCES

The LRDP FEIR concluded that the LRDP would not affect agricultural resources. As with the rest of the campus, no agricultural lands or areas zoned for agriculture are located within or near the project site. Therefore, the project would not alter the conclusions of the LRDP FEIR that impacts related to agricultural resources would not occur.

3.3 AIR QUALITY

Section 4.2 of the 2010 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.

The LRDP FEIR identified significant and unavoidable impacts after mitigation for construction emissions that violate an air quality standard or contribute substantially to an existing or projected air quality violation and for a cumulatively considerable net increase of a criteria pollutant for which the Sacramento region is in nonattainment. All other impacts were found to be less than significant or less than significant with mitigation. This section presents a quantified analysis of construction and operational emissions using CalEEMod (version 2016.3.2) and compares emissions to the Sacramento Metropolitan Air Quality Management District's (SMAQMD) thresholds during each year of construction (2020 and 2021) and at full project buildout (2022) to confirm that the project would not change the severity of impacts identified in the LRDP FEIR.

The project would not result in any direct increase to population, housing, or employment. Accordingly, the project is within the employment and growth forecasts, which assumed implementation of the LRDP, that were used to develop the regional air quality attainment plans.

Construction of PS4 and the associated roadway improvements would be short term, occurring for about 1 year (August 2020 through September 2021). Criteria pollutants and precursors generated by construction were quantified using CalEEMod, and construction activity data provided by UC Davis (Durfee pers. comm.). Table 3-1 summarizes the results of the emissions modeling and compares emissions to the Sacramento Metropolitan Air Quality Management District's (SMAQMD) thresholds.

Table 3-1. Criteria Pollutants and Precursors from Project Construction

				PM_{10}			$PM_{2.5}$		
Year	ROG	NO_X	CO	Dust	Exhaust	Total[b]	Dust	Exhaust	Total[b]
2020	2[a]	22	15	7	1	8 [<1]	3	1	4 [<1]
2021	5	14	14	1	1	1 [<1]	<1	1	1 [<1]
SMAQMD Threshold[c]	--	85	--	BMPs	--	80 [14.6]	BMPs	--	82 [15]
Exceed Threshold?	No	No	--	--	No	--	--	No	--

SMAQMD = Sacramento Metropolitan Air Quality Management District
BMPs = best management practices
CO = carbon monoxide
NO_X = nitrogen oxide
$PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
PM_{10} = particulate matter no more than 10 microns in diameter
ROG = reactive organic gases

[a] Maximum pounds per day, unless otherwise noted.

[b] Particulate matter results are given in terms of maximum pounds per day (tons per year) for comparison to SMAQMD daily and annual thresholds.

[c] In developing these thresholds, SMAQMD considered levels at which project emissions are cumulatively considerable. Consequently, exceedances of project-level thresholds would be cumulatively considerable.

As shown in Table 3-1, construction of the project would not generate emissions in excess of SMAQMD's thresholds. PS4 construction emissions are also considerably lower than annual estimated emissions of the LRDP construction as presented in the LRDP FEIR. LRDP MM AIR-1a requires control measures to reduce particulate matter during construction, and LRDP MM AIR-1b requires a construction emissions control plan. Construction of the project would be subject to the same mitigation and would not hinder or prevent the mitigation measures from being implemented.

Area sources, such as routine architectural coatings and landscaping equipment, would generate criteria pollutants annually throughout the life of the building. PS4 would not consume any natural gas or generate new vehicle trips; rather, PS4 would accommodate existing vehicle trips and provide additional parking capacity (Hananouchi pers. comm). Area source emissions were modeled in CalEEMod and are presented in Table 3-2. Model outputs are provided in Appendix A. As shown in Table 3-2, to follow, operation of the project would not generate criteria pollutant emissions in excess of SMAQMD thresholds. Construction of PS4 would generate temporary construction emissions that would contribute to the overall 2010 LRDP construction emissions as evaluated in the 2010 LRDP EIR, but no new or substantially more severe impacts would result.

Table 3-2. Maximum Criteria Pollutant Emissions from Project Operation

				PM_{10}			$PM_{2.5}$		
Source	ROG	NO_X	CO	Dust	Exhaust	Total[b]	Dust	Exhaust	Total[b]
Area	<1[a]	<1	<1	0	<1	<1 [<1]	0	<1	<1 [<1]
SMAQMD Threshold[c]	65	65	--	--	--	80 [14.6]	--	--	82 [15.0]
Exceed Threshold?	No	No	--	--	--	No	--	--	No

SMAQMD = Sacramento Metropolitan Air Quality Management District
CO = carbon monoxide
NO_X = nitrogen oxide
$PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
PM_{10} = particulate matter no more than 10 microns in diameter
ROG = reactive organic gases

[a] Pounds per day, unless otherwise noted

[b] SMAQMD has adopted daily and annual emissions from PM10 and PM2.5. Accordingly, emissions are given in pounds per day and (tons per year) to allow for comparison with SMAQMD thresholds.

[c] In developing these thresholds, SMAQMD considered levels at which project emissions are cumulatively considerable. Consequently, exceedances of project-level thresholds would be cumulatively considerable.

The project would not result in any additional stationary source emissions because the building would not have a diesel-fueled emergency generator. As such, the project would not result in any appreciable increases in health risks from diesel particulate matter (DPM) during operation. Similarly, the project would not involve the use of any odor sources that could create objectionable smells. As discussed above, neither construction nor operation of the project would generate regional criteria pollutant emissions in excess of SMAQMD thresholds, which were developed considering existing air quality concentrations and attainment designations under the health-protective National Ambient Air Quality Standards and California Ambient Air Quality Standards. Therefore, neither construction nor operation of the project would contribute a significant level of air pollution such that regional air quality would be degraded.

Construction activity would require diesel-powered equipment and thus generate DPM emissions, which could expose workers and nearby receptors to increased health risks from toxic air contaminants. However, as shown in Table 3-3, the maximum estimated cancer and non-cancer health risks from construction-generated DPM would not exceed SMAQMD thresholds. These risks were quantified using the construction emissions inventory (see Table 3-1) and the AERMOD model. Model outputs are provided in Appendix A.

Table 3-3. Maximum Cancer and Chronic Hazard Risks During Construction

Receptor	Cancer Risk[a] (cases per million)	Non-Cancer Hazard Index
Maximally Exposed Individual	3.9	<1
SMAQMD Threshold	10	1
Exceed Threshold?	No	No

SMAQMD = Sacramento Metropolitan Air Quality Management District

[a] Table presents the highest modeled risk, which occurs near 48th Street and V Street. Risks would be lower for all other receptor locations.

Based on the above analysis, the project would not alter the conclusions of the LRDP FEIR with respect to this resource, substantially increase the severity of previously identified air quality impacts or result in any new significant air quality impacts.

3.4 BIOLOGICAL RESOURCES

Section 4.3 of the 2010 LRDP EIR addresses the effects of campus growth and development under the 2010 LRDP on biological resources by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

The 2010 LRDP EIR defines the project site as an urban area that is highly developed. The project site includes the existing Parking Lot 18, the intersection of X and 48th streets and roadway and bike lane improvements beyond the intersection, and roadway improvements within Parking Lot 18 (Figure 1-2). The project site is an existing surface parking lot and roadways with impervious surfaces, ornamental vegetation and no natural features.

The LRDP FEIR identified potential impacts on nesting birds; potential impacts on Cooper's hawks and purple martins were identified as potentially significant. The project does involve tree removal within parking Lot 18 and the median and roundabout at the X and 48th streets intersection, therefore, it is possible that an active nest of Cooper's hawk or purple martin is nearby. Loud noises associated with construction could disturb birds nesting nearby. If construction activities occur during nesting/breeding season (typically February through August), implementation of existing LRDP MM BIO-2, which requires a preconstruction survey and use of buffers to avoid disturbance to nests, would reduce this potential impact to special-status and other nesting bird species to a less-than-significant level. In addition, the project would not change the level of significance of these impacts because it would not result in further reduction of foraging or nesting habitat on the Sacramento campus from what was analyzed in the LRDP FEIR. No heritage trees, as defined by the City of Sacramento, will be removed as part of the project; therefore, there would be no impacts to heritage trees, and LRDP MM BIO-3 would not be applicable.

The 2010 LRDP Final EIR concluded that the only special-status species that could be affected by development under the LRDP was valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) because of the elderberry shrubs planted in the central campus major open-space area. The project components are all located northeast of the central-campus major open-space area by more than 1,000 feet, and there are no other elderberry shrubs in the project vicinity. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required

The 2010 LRDP Final EIR stated that the campus is developed with existing campus buildings, parking, and related infrastructure and that there are no jurisdictional wetlands or water courses on the project site. Therefore, there would be no impact to state or federally protected wetlands. There are still no wetlands on the campus. No impact would occur.

Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important new biological resources issues. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to this resource, substantially increase the severity of previously identified biological resource impacts or result in any new significant impacts to biological resources.

3.5 CULTURAL RESOURCES

Section 4.4 of the 2010 LRDP EIR addresses the effects of campus growth under the 2010 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.

Although the Sacramento campus has been subject to extensive ground disturbance in conjunction with the construction of existing and former (i.e., demolition) buildings, roads, and parking lots, the project's proximity to the former Sacramento County Hospital Cemetery makes this area particularly sensitive for archaeological resources, including human burials. The 2010 LRDP FEIR stated that a California Historical Resources Information System search conducted by the North Central Information Center determined that there are no state or federally listed historical resources located on the campus. 2010 LRDP EIR Impact CUL-1 (significant and unavoidable) determined that development under the 2010 LRDP EIR could result in adverse changes to historical resources as defined in Section 15064.5. This impact was addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2010 LRDP. However, the majority of the project site is an existing parking lot and is not a designated a historical resources. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

The project site is not in the portion of the campus where human remains associated with the former burial ground could likely be encountered. As identified in the 2010 LRDP FEIR, LRDP EIR Impact CUL-2, ground-disturbing activities that disturb or destroy archaeological resources, including human burials, could be potentially significant; however, 2010 LRDP EIR Mitigation Measures LRDP MM CUL-3a through MM CUL-3d would be implemented as part of the project to reduce any potential impacts associated with the discovery of archaeological resource and/or human remains to a less-than-significant level.

Consistent with 2010 LRDP EIR Impact CUL-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 Sacramento 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.

Given the human remains found at the former Sacramento County Hospital Cemetery, the recorded resources, and the known pattern of local historic land use, there is a moderate potential for identifying historic-period cultural resources on the campus site. Following the March 10, 2004, discovery of historic human remains during construction associated with the Radiation Oncology Expansion Project at the UC Davis Medical Center in Sacramento, California, Pacific Legacy, Inc., a cultural resources consulting firm, was retained to establish the extent and number of interments within the project area. It appeared ground-disturbing activities for the project had unearthed a portion of the burial ground associated with the former Sacramento County Hospital Cemetery. Between April 26 and May 22, 2004, Pacific Legacy archaeologists identified 78 burials within the project area. At the conclusion of lab work, all recovered human remains and associated artifacts were placed in specially made redwood caskets and re-interred during a public ceremony on

February 4, 2005. The individuals exhumed from the burial ground were laid to rest in a single mass grave at St. Mary's Cemetery and Mausoleum in Sacramento.

Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important new cultural resources issues. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to this resource, substantially increase the severity of previously identified cultural resource impacts or result in any new significant cultural resource impacts.

3.6 ENERGY

Section 4.14, Utilities and Service Systems, of the 2010 LRDP EIR addresses the energy impacts of campus growth under the 2010 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation. Note that energy impacts were not a standalone resource in 2010 but were adequately evaluated in the Utilities and Services Systems Section of the 2010 LRDP EIR.

As discussed in 2010 LRDP EIR Impact UTIL-7, the University would implement numerous mitigation measures to reduce energy use both within buildings and from mobile sources. These mitigation measures include LRDP Mitigation Measure GHG-1a - green building design standards for all new construction developed under the 2010 LRDP that outperform Title 24 by at least 20 percent and up to 30 percent, and certify new buildings to a minimum standard equivalent to a LEED NC Silver rating; LRDP Mitigation Measure GHG-1b whereby UC Davis would participate in a system-wide portfolio approach to reduce consumption of nonrenewable energy and achieve a level of grid-provided electricity from renewable sources that is similar to or greater than the State's Renewable Portfolio Standard (RPS); LRDP Mitigation Measure GHG-1c - environmentally preferable purchasing practices for all new construction developed under the 2010 LRDP in accordance with the UC Policy on Sustainable Practices and the UC Davis CAP.

Project adherence to the increasingly stringent building efficiency standards as well as 2010 LRDP design features would reduce energy consumption to be consistent with applicable plans, policies, and regulations adopted for avoiding or mitigating environmental effects related to energy. PS4 would strive to achieve a Gold Parksmart certification. Parksmart is the world's only certification program that defines, measures, and recognizes sustainable, high-performing garages. Energy usage would be controlled through occupancy and daylighting sensors at the interior of the structure. The open-structure design eliminates any mechanical ventilation requirements. The long-term goal of the structure is to transition from a car-storage

building to a charging location for electric vehicles, aiding in the reduction of carbon-emitting automobiles driving to and from the campus.

Construction and operation of the project would adhere to Principle #6 in the 2010 LRDP and UC Davis's Sustainable Practices Policy (University of California 2019). The project would include energy efficient LED lighting and might also include the addition of photovoltaic panels at the south bays on the roof. No aspect of the project would result in the wasteful, inefficient, or unnecessary consumption of energy resources. No new or substantially more severe impacts would occur, and no mitigation would be required.

3.7 GEOLOGY AND SOILS

Section 4.5 of the 2010 LRDP EIR addresses the geology, soils, and seismicity effects of campus growth under the 2010 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

The geology and topography, condition of the soil, and seismic stability of the project site are the same as described in the LRDP FEIR. Liquefaction is still one of the primary concerns, as portions of Sacramento are underlain by materials potentially subject to liquefaction.

As stated in the 2010 LRDP FEIR, the project site is not located within an Alquist-Priolo Earthquake Fault Zone; therefore, it is unlikely the project could result in exposure of people or structures to substantial adverse effects involving liquefaction. The Sacramento region, like much of California, is located in a seismically active area. Ground-shaking hazard in Sacramento is considered lower than in many areas of California. According to the Probabilistic Seismic Hazards Map prepared by the California Geological Survey (CGS), the likelihood of earthquake ground motions (in terms of peak ground acceleration [Pga]) in the Sacramento area is 0.143 g[2] on firm rock, 0.156 g for soft rock, and 0.2 g for alluvium. Adherence to the California Building Code (CBC), which includes specific structural provisions for seismic safety, would result in a less-than-significant impact. The project site is characterized by flat topography and would not be susceptible to landslides; therefore, there would be no impact.

The LRDP FEIR identified no evidence of subsidence due to groundwater withdrawal on the campus site and determined that compliance with the CBC would reduce impacts to a less-than-significant level. The project would also adhere to current CBC requirements; therefore, the impact would be less than significant.

[2] Pga is usually expressed in fractions of g, where g represents gravitational acceleration, or approximately 9.8 meters/second.

The LRDP FEIR concluded that there may be some potential for liquefaction at the campus and that the structural damage and safety hazard could rise to the level of a significant impact. Therefore, mitigation measure LRDP MM GEO-1, which requires the preparation of a site-specific, design-level geotechnical investigation to be conducted during the design phase of each building, was included to reduce potential impacts to a less-than-significant level. This mitigation would also be applicable to the PS4 project. With implementation of existing LRDP MM GEO-1, which would require implementation of the recommendations of a geotechnical investigation, impacts related to liquefaction would be consistent with the LRDP EIR conclusion and is less-than-significant.

The LRDP FEIR concluded that construction impacts would be less than significant with implementation of a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices (BMPs) to prevent erosion and sedimentation of runoff water and keep construction pollutants from coming into contact with stormwater. The project would disturb more than 1 acre and would also be required to implement a SWPPP with BMPs;, the impact would be less than significant. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

The LRDP FEIR concluded that, because of the nature of the project, the LRDP would entail development of structures with associated hardscape and landscaping, and with National Pollutant Discharge Elimination System (NPDES) compliance in place, LRDP implementation would not result in significant long-term (operational) impacts related to accelerated erosion. Areas disturbed by construction activities associated with the project would largely be developed with impervious surfaces or landscaped at the completion of construction, which would reduce erosion potential in the long run. The project would also adhere to the NPDES. The impact would be less than significant. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

The project would comply with all regulations for building construction, such as the CBC and the UC Seismic Safety Policy, which requires all buildings provide acceptable earthquake safety to the maximum extent feasible and establishes a system-wide program to reduce seismic hazards in existing buildings and facilities. No septic system is proposed.

The LRDP FEIR concluded that all project impacts related to geology and soils would be less than significant or less than significant with mitigation. Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important geology, soils, or seismicity issues. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to this resource, substantially increase the severity of previously identified significant

effects on geology, soils, and seismicity, or result in any new significant impacts. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

3.8 GREENHOUSE GAS EMISSIONS

Section 4.6 of the 2010 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.

Since certification of the LRDP FEIR, additional climate change legislation at the state level has been adopted that further establishes the state's commitment to reducing GHG emissions. These regulations are listed below and described in Appendix A.

- Assembly Bill (AB) 1493
- AB 32
- Executive Order (EO) B-18-12
- EO B-30-15
- EO B-48-18
- EO B-55-18
- Green Building Code and Title 24 Updates
- Senate Bill (SB) 100
- SB 32 and AB 197
- SB 350
- SB 375
- SB 743

At the local level, the City adopted a Climate Action Plan (CAP) on February 14, 2012. The CAP includes measures designed to reduce community-wide GHG emissions by 15 percent below 2005 levels by 2020, 38 percent below 2005 levels by 2030, and 83 percent below 2005 levels by 2050 (City of Sacramento 2012). The City is currently working on updating its CAP.

UC Davis adopted a CAP in 2010 that includes policies and strategies to reduce Davis and Sacramento campus emissions to 2000 levels by 2014 and 1990 levels by 2020. The UC Davis CAP also identifies a goal to achieve carbon neutrality "as soon as feasible." Within the larger UC

System, UC President Janet Napolitano introduced the Carbon Neutrality Initiative in 2013, which commits UC campuses to emitting net zero GHG emissions by 2025 from Scope 1 and 2 sources.[3] In line with this initiative, the UC Davis Sacramento campus and other UC campuses have also committed to achieving net zero GHG emissions from all sources (including on-road mobile) by 2050. These goals require the UC Health system, including the Sacramento campus, to aggressively improve energy efficiency in buildings, reduce emissions from campus fleet and other sources, and increase utilization of renewable energy sources. The UC Sustainable Practices Policy was also updated in January 2018 to expand its sustainability goals in line with the Carbon Neutrality Initiative.

The LRDP FEIR concluded that GHG emissions resulting from buildout of the LRDP would be less than significant with mitigation. The FEIR also concluded that buildout of the LRDP would result in a less-than-significant impact with respect to consistency with UC Davis' CAP. As discussed below, the project would not change the severity of these impacts. However, the LRDP FEIR analyzed construction and operational GHG emissions resulting from buildout of the LRDP relative to 1990 emissions levels, which are based on the State's 2020 GHG reduction target established by AB 32. Operation of the project would occur beyond 2020; accordingly, considering new regulations, a longer-term analysis that addresses the deeper reductions needed to meet SB 32 is required for the project. This analysis is presented below.

GHG emissions generated during construction of the project were estimated using CalEEMod. Table 3-4 summarizes the results of the modeling and compares emissions to SMAQMD's adopted construction GHG threshold. Model outputs are provided in Appendix A.

Table 3-4. Estimated GHG Emissions from Project Construction

Year	CO_2	CH_4	N_2O	CO_2e
2020	110[a]	<1	<1	111
2021	141	<1	<1	142
SMAQMD Threshold	--	--	--	1,100

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent, which includes the relative warming capacity (i.e., global warming potential) of each GHG
N_2O = nitrous oxide
SMAQMD = Sacramento Metropolitan Air Quality Management District
[a] in metric tons per year

[3] Scope 1 and 2 sources include buildings (natural gas and electricity), the Central Plant (natural gas), Campus fleet vehicles, water consumption, waste generation, stationary sources (e.g., generators), and area sources (e.g., landscaping equipment).

As shown in Table 3-4, it is estimated that construction of the project would generate a maximum of 142 metric tons of CO_2e per year, which is well below the SMAQMD threshold of significance. The emissions generated during construction of the project would be primarily the result of diesel-powered construction equipment (e.g., excavators). Construction emissions would cease once construction of the project is complete; therefore, they are considered short-term.

Operational GHG emission sources associated with PS4 include area (i.e., landscaping equipment) and energy (i.e., electricity consumption from facility lighting and elevator usage). PS4 would not consume any natural gas or generate new vehicle trips; rather, PS4 would accommodate existing vehicle trips and provide additional parking capacity (Hananouchi pers. comm.). The project would remove 89 existing trees, but would plant 127 new trees, resulting in a net increase of 38 trees, compared to existing conditions (Davis pers. comm.). Operational emissions resulting from PS4, including changes in carbon sequestration from the additional trees, were modeled in CalEEMod and are shown in Table 3-5. Model outputs are provided in Appendix A.

Table 3-5. Project Operational Greenhouse Gas Emissions (metric tons per year)

Source	CO_2	CH_4	N_2O	CO_2e
Area	<1[a]	<1	<1	<1
Electricity	442	<1	<1	445
Sequestration Change	-28	0	0	-28
Total	415	<1	<1	417
SMAQMD Draft Threshold	--	--	--	1,100

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide
SMAQMD = Sacramento Metropolitan Air Quality Management District
[a] in metric tons per year

As shown in Table 3-5, total operational project emissions are estimated at 417 metric tons CO_2e. These emissions would decrease annually due to implementation of state programs (e.g., SB 100, vehicle standards) that would reduce the carbon intensity of the statewide transportation and electric power sectors.

Estimated operational emissions are well below SMAQMD's draft GHG threshold (SMAQMD 2020), which is being proposed to screen small land use development emissions within the Sacramento region. However, because this threshold has not yet been adopted, it is considered for informational purposes only. This analysis evaluates operational GHG impacts based on compliance with regulatory programs. Where applicable, the analysis considers guidance issued by California Air Resources Board (CARB) (2019), SMAQMD (2019), and Office of Planning and Research (OPR) (2018).

3.8.1 Area Sources

Area source GHG emissions from the project would be generated by landscaping-related fuel combustion sources, such as trimmers and hedgers. The CARB 2017 Scoping Plan (CARB 2017) does not include specific measures or 2030 emissions reduction requirements for landscaping equipment. However, the landscaped portion of the project site is relatively small, and the project would plant native and low-water-usage plants. This type of landscaping typically requires minimal pruning and maintenance, thereby minimizing the use of fossil-fueled powered equipment. The additional trees planted by the project would also offset the minor amount of landscaping-related emissions.

3.8.2 Energy Sources

The Scoping Plan outlines strategies to reduce energy demand and fossil fuel use while increasing energy efficiency and renewable energy generation. These strategies include the transition to cleaner fuels, greater efficiency in existing buildings, and electrification of end uses in commercial sectors. PS4 would consume a minor amount of electricity for lighting and powering facility elevators. The project also requires building design features that reduce energy consumption, including high-efficiency light fixtures. PS4 would not use any natural gas consistent with the Scoping Plan and OPR (2018) recommendations to meet the state's expressed 2045 climate neutrality goal (EO B-55-18). Because SB 100 obligates utilities to supply 100 percent carbon-free electricity by 2045, and PS4 does not consume natural gas, the project's energy emissions would be reduced to zero by 2045.

Based on the above analysis, the project would be consistent with applicable regulatory programs and agency guidance for meeting the state's climate change goals. Annual construction emissions would also be well below SMAQMD's construction threshold and draft operational threshold. Accordingly, the project would not result in a significant amount of GHG emissions or conflict with any measures in the Scoping Plan or the UC Davis CAP.

Since certification of the 2010 LRDP FEIR, there have been several changes in the regulatory setting pertaining to GHG emissions that would raise potential new GHG emission considerations. However, for the reasons discussed above, the project would not alter the conclusions of the LRDP FEIR, substantially increase the severity of previously identified GHG emission impacts or result in any new significant GHG emission impacts. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

3.9 HAZARDS AND HAZARDOUS MATERIALS

During construction, use of hazardous materials (e.g., solvents, cleaning agents, and petroleum-based fuels used in vehicles and equipment) would be regulated under existing federal, state, and

local laws, including the campus Hazardous Materials Business Plan (HMBP). The project would use and dispose of the same types of hazardous materials as those analyzed under the LRDP FEIR and existing conditions and would not substantially increase the amount of hazardous waste generated from the 23 tons per year estimated in the LRDP FEIR. Therefore, the project impact would remain less than significant. Additionally, the project site is not listed on the CORTESE list of databases.

The project would marginally increase the quantities of hazardous materials that would be transported to and from the campus and hazardous wastes that would be transported to the onsite Hazardous Waste Consolidation Facility (HWCF). The HWCF is located contiguous with the Central Plant and does not require hazardous wastes generated at the hospital, clinics, and laboratories to be transported on city streets outside of the campus. Furthermore, similar to existing conditions, transport of hazardous materials and wastes on the campus and on public roads would comply with applicable requirements and follow US Department of Transportation and California Highway Patrol requirements. All hazardous materials and wastes would be transported by the UC Davis Environmental Health and Safety (EH&S) for the Sacramento campus or a licensed hazardous waste contractor. While increased hazardous materials transport would likely occur with the project, the campus would continue to comply with hazardous materials standards related to transport; therefore, such transport of materials would not create significant hazards to the public or the environment. The project would also be subject to the same existing safety plans, programs, practices, and procedures as identified in the LRDP FEIR and above. The impact would be less than significant.

The nearest school to the project is the Language Academy of Sacramento, south of the project site at 2850 49th Street near Broadway. The school is approximately 1/2 mile south of the X and 48th Streets intersection. The school has approximately 604 students enrolled in kindergarten through eighth grade (Language Academy of Sacramento 2019). According to the LRDP FEIR, there have been no incidents involving the release of hazardous materials that have affected the school or required evacuation or other emergency response at the school site. There have been no incidents since 2010. The LRDP FEIR concluded that impacts would be less than significant because the movement and use of any hazardous materials would be managed by UC Davis EH&S and Sacramento campus EH&S and potential upset or accident conditions would be avoided or mitigated with implementation of the campus' existing safety plans, programs, practices, and procedures. The project would not increase hazardous emissions or increase the potential for upset or accident conditions over that analyzed in the LRDP FEIR. Compliance with federal, state, and local rules and regulations would reduce potential impacts on nearby schools associated with the handling of hazardous materials and wastes to a less-than-significant level.

The project does not include any components that would interfere with an airport land use plan or emergency evacuation plan. The LRDP FEIR concluded that because the campus is surrounded by existing developed uses, and that there are no heavily vegetated areas in the vicinity of the Sacramento campus, the impact associated with exposing people to wildland fires would be less than significant. The project would be located within an entirely developed area and, accordingly, would not expose people to a wildland fire hazard.

The LRDP FEIR concluded that all hazards and hazardous materials impacts would be less than significant. Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important new hazards or hazardous waste issues. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to this resource, substantially increase the severity of previously identified hazards and hazardous waste impacts or result in any new significant hazards and hazardous waste impacts. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

3.10 HYDROLOGY AND WATER QUALITY

The project does not include residential uses and the project site is not in a 100-year floodplain. The project site is not near a dam or levee and would not be subject to a seiche, tsunami, or mudflow event.

The LRDP FEIR concluded that compliance with NPDES requirements would limit the discharge of sediments, spilled/leaked liquids from construction equipment, and other pollutants to stormwater runoff by campus construction activities, and that the impact would be less than significant. For project operation, the LRDP FEIR concluded that because all new projects constructed on the campus would be required by law to comply with the Construction General Permit, the impact from increased volume of stormwater runoff would be less than significant. Implementation of the Stormwater Management Plan (SWMP), installation of the sand oil separator (as required by the California Plumbing Code) to treat stormwater, and compliance with the new Construction General Permit would ensure that the impact on surface water quality from campus stormwater would remain less than significant. The LRDP FEIR also concluded that with respect to the effect of polluted surface waters on groundwater, due to the slow rate of permeability of the soil underlying the campus, it is not anticipated that urban contaminants would significantly infiltrate into groundwater and affect its quality. Therefore, impacts were determined to be less than significant.

Staging for the project site would occur in the existing paved Parking Lot 18 north of Y Street. The amount of disturbed area would be limited at any one time, and there would be no loss of vegetation cover or change to stormwater runoff patterns. Because the project would adhere to the SWMP, NPDES requirements, and the Construction General Permit and is within the amount

analyzed for buildout of the LRDP, project impacts on surface water and groundwater quality would be less than significant.

Project construction activities would alter existing drainage patterns and could result in local (on-site) and temporary erosion and siltation. However, the amount of disturbed area would be limited at any one time, and after construction, there would be no substantial change to stormwater runoff patterns. Not including the landscaped areas and landscaped medians in X and 48th Streets and in Parking Lot 18, all areas to be disturbed by construction activities are developed with impervious surfaces or would be landscaped at the completion of construction, which would reduce erosion potential in the long run. Additionally, with the SWPPP that specifies BMPs the impact related to erosion and siltation from construction activities would be less than significant. Post construction conditions would be similar to existing conditions with no potential for substantial soil erosion or siltation.

The LRDP FEIR concluded that all hydrology and water quality impacts would be less than significant. Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important new hydrology or water quality issues. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to this resource, substantially increase the severity of previously identified hydrology or water quality impacts or result in any new significant hydrology or water quality impacts.

3.11 LAND USE AND PLANNING

In addition to the new PS4, intersection and roadway and bike path/lane improvements, the project involves an amendment to the 2010 LRDP to modify the 2010 LRDP land use designations. Figure 3-1 (to follow) shows the existing 2010 LRDP land use designations and Figure 3-2 shows the proposed changes. As a result of a minor shift in the location of PS4 and other slight modifications in land use since 2010, the Parking Structure land use designation would decrease by 1.08 acres campus-wide, and the major Ambulatory Care designation would also increase by 1.04 acres. The project would not create land use conflicts that would disrupt the full implementation of the LRDP. Rather, the project would be consistent with and supportive of the implementation goals and policies of the 2010 LRDP. During the planning efforts for PS4 and the X and 48th streets intersection, alternative locations/designs for PS4 were evaluated to determine the optimal location for user convenience. These revisions would optimize site efficiencies for the UC Davis Sacramento campus with efficient use of land, improved circulation, and the facility planning anticipated in the 2010 LRDP.

The PS4 site was previously anticipated to occupy an area along the east side of 49th Street and north of PS2. The revised site would locate PS4 closer to the UC Davis main hospital in anticipation of primarily serving employees with work locations in the hospital. This relocation of the PS4 site

would maintain adequate building footprints for future ambulatory care or office uses between 48th and 49th streets and north of Y Street. These revisions would optimize site efficiencies for the UC Davis Sacramento Campus. The impact would be less than significant. Therefore, no new or substantially more severe impacts would occur, and no mitigation would be required.

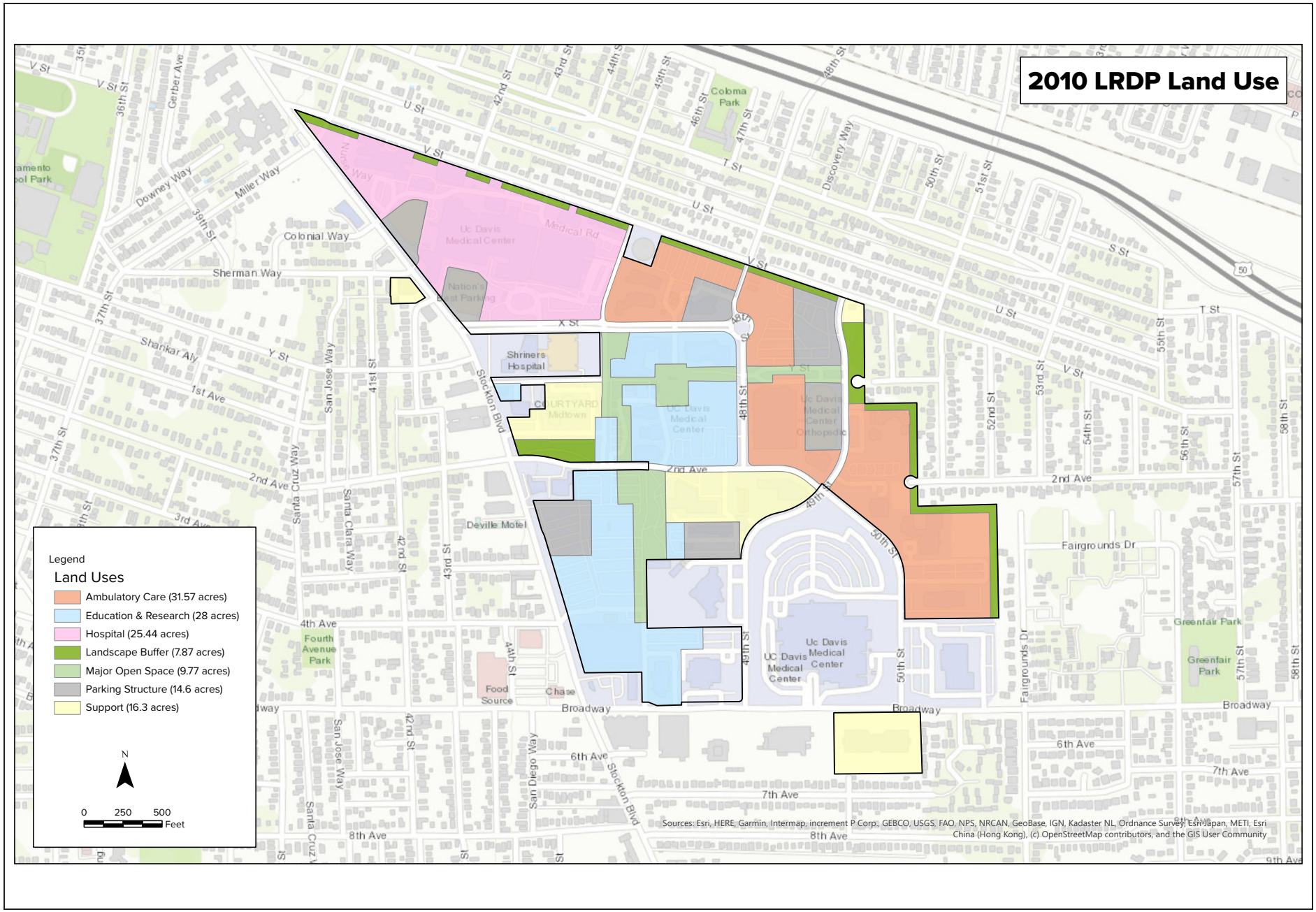

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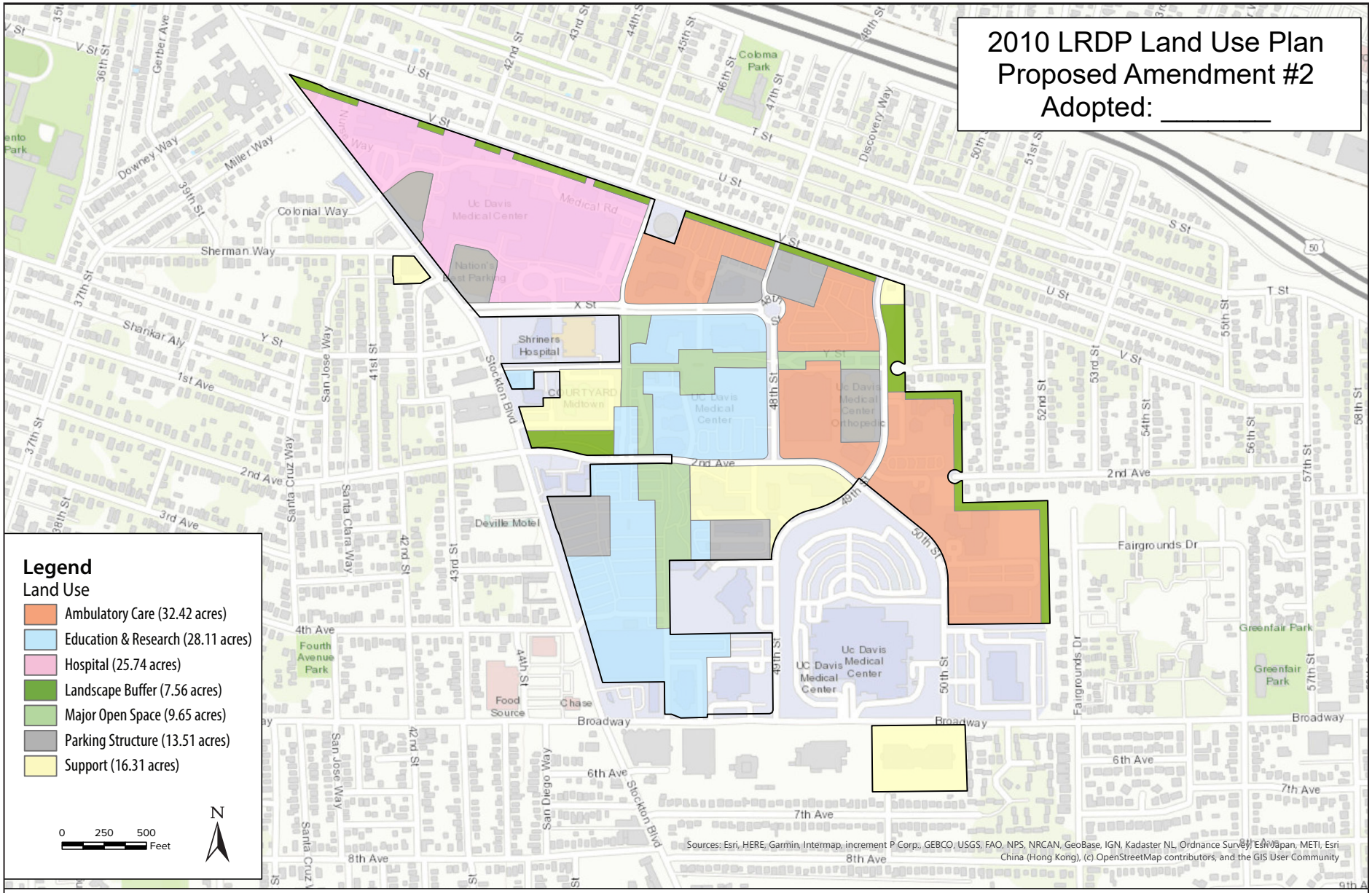
Figure 3-1
2010 LRDP Land Use



Source: UC Davis Health, 2020.

ICF Graphics ... 00130.20 (3-24-2020)

Figure 3-2
2010 LRDP Land Use Plan Proposed Amendment #2

The project site is developed. Areas to the north and east of the project site are established residential neighborhoods. Development of the project would have no potential to physically divide an established community because project development would be limited to within the existing campus footprint. The project would not include any physical barriers such as roads or other infrastructure that would divide the community. No impact would occur.

The LRDP FEIR concluded that all impacts related to land use and planning would be less than significant. Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important new land use or planning issues. Therefore, the revised project would not alter the conclusions of the LRDP FEIR with respect to this resource, substantially increase the severity of previously identified land use and planning impacts or result in any new significant land use and planning impacts.

3.12 MINERAL RESOURCES

The LRDP FEIR concluded that there would be no impact on mineral resources because development under the 2010 LRDP would not involve extraction of mineral resources. The project would not alter the conclusions of the LRDP FEIR with respect to this resource or result in any new significant impact on mineral resources.

3.13 NOISE

Section 4.10 of the 2010 LRDP EIR addresses the noise effects of campus growth under the 2010 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

According to the LRDP FEIR, noise impacts would be considered significant if construction activities produced noise levels above 70 A-weighted decibels (dBA) during the daytime or 55 dBA at night at the nearest sensitive receptor and would affect the same noise-sensitive receptors on a continuous basis for 90 days or more (Illingworth & Rodkin 2010). The LRDP FEIR concluded that construction noise impacts associated with buildout of the LRDP would be less than significant for on-site noise-sensitive users, such as patients and surgical and research units, because the Sacramento campus has procedures in place that lessen the impact of construction noise on on-site sensitive receptors. It is standard practice for the campus to identify noise-producing activities on the construction schedule, and then coordinate the timing of the activities with hospital or research units that would likely be affected. However, the 2010 LRDP FEIR stated that noise-sensitive off-site receptors could be exposed to noise levels of 81 to 83 dBA equivalent continuous sound pressure level (L_{eq}) if they were located within 100 feet of potential on-campus construction areas. This would exceed the daytime construction noise standard of 70 dBA L_{eq} and the nighttime standard of 55 dBA L_{eq}; therefore, the impact was determined to be significant.

Note that this significant construction noise impact from the LRDP FEIR would be reduced somewhat with implementation of LRDP MM NOI-1, which requires a number of measures be employed to reduce noise generated by demolition and construction activities (e.g., erection of temporary noise control blankets or noise barriers, limiting construction activities to daytime hours, selecting quieter construction equipment). However, even with implementation of this mitigation measure, it was determined that LRDP construction noise to off-site sensitive receptors may not be reduced to below the 70 dBA L_{eq} daytime criteria. Therefore, this impact was determined to be significant and unavoidable.

With regard to ground-borne vibration, as discussed in the LRDP FEIR (and below in Construction Noise Analysis), the campus has procedures (e.g., the coordination of the schedule of construction activities with the hospital) in place that lessen the impact of construction vibration to on-site sensitive receptors, which include patients, surgical units, and research units. According to the LRDP FEIR, construction vibration impacts on on-site sensitive receptors were determined to be less than significant. Off-site receptors as close as 100 feet from potential on-campus construction areas could be exposed to vibration levels of 75 vibration decibels (VdB) from large bulldozers and 67 VdB from jackhammers at this distance. These levels are in excess of the vibration velocity-level threshold of perception for humans described in the LRDP FEIR (originating from the Federal Transit Administration) of 65 VdB. For these reasons, demolition and construction activities under the 2010 LRDP were determined to result in temporary vibration impacts related to annoyance at off-site residential land uses. LRDP MM NOI-2, which pertains to giving advanced notice to occupants of nearby noise-sensitive land uses, was determined to reduce LRDP vibration impacts to less-than-significant levels.

With respect to operational noise, the LRDP FEIR concluded that increases in vehicular traffic associated with buildout of the LRDP would result in a less than significant increase in traffic noise. Specifically, the modeling of traffic-related noise (for street segments in the vicinity of noise-sensitive receptors) demonstrated an increase of 3 dBA day-night average sound level (L_{dn}) or less for all study segments near the campus perimeter and on-campus roadways. In addition, the results of the analysis demonstrated that residential uses (which are farther away from the campus), including those in the vicinity of 59th and T streets and Broadway and Martin Luther King Jr. Boulevard, would experience LRDP-related traffic noise increases of less than 1 dBA L_{dn}. Therefore, according to the LRDP FEIR, traffic noise impacts along both off-campus and on-campus street segments would be less than significant.

With regard to stationary source operational noise, the use of mechanical equipment in new buildings on the campus was determined to result in long-term operational noise, and impacts related to mechanical equipment noise were determined to be potentially significant in the LRDP FEIR. However, noise from these sources would be reduced to less-than-significant levels with

mitigation (LRDP MM NOI-4) requiring the application of control measures on equipment and appropriate building design and equipment selection.

> **LRDP MM NOI-4:** Mechanical equipment and building design shall be selected so that noise levels from future building and other facility operations would not exceed the Noise Ordinance limits of the City of Sacramento for commercial areas or residential zones as measured on any noise-sensitive receptor in the area surrounding the Sacramento campus. Controls that would typically be incorporated to attain adequate noise reduction would include selection of quiet equipment, sound attenuators on fans, sound attenuator packages for cooling towers and emergency generators, acoustical screen walls, and equipment enclosures.

3.13.1 Construction Noise Analysis

With regard to the project, construction of PS4 and the associated roadway modifications would take place over approximately 13 to 14 months (August 2020 to the end of September 2021). The noise levels at nearby receptors during construction would vary, depending on the activities occurring and the type and amount of equipment being used at a given time. As shown in the 2010 LRDP FEIR, Section 4.10, *Noise*, Table 4.10-9, construction noise at a distance of 50 feet could range from 77 to 89 dBA L_{eq}, depending on the type of activities occurring and the amount of equipment being used.

Project-specific modeling was conducted for the project to determine if impacts for PS4 and the associated roadway modifications were addressed in the 2010 LRDP FEIR. To provide a reasonable worst-case analysis of potential noise impacts, modeling assumed that the two loudest , a grader and scraper, pieces of equipment proposed for use during each construction activity category would be operating simultaneously (and close to one another) on the project site.

The screening analysis determined that the Site Preparation phase of PS4 construction would likely be the loudest, during which time a grader and scraper could operate simultaneously. Table 3-6 identifies the combined noise level (both L_{max}[4] and L_{eq}) from operation of these two pieces of construction equipment (based on source noise levels of individual equipment at a distance of 50 feet) and the anticipated reasonable worst-case noise levels during project construction at various distances from the project site.

[4] L_{max} is the maximum sound level during a measurement period or a noise event.

Table 3-6. Project Construction Noise Levels at Various Distances

Source Data			Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Site Preparation					
Source 1: Scraper – sound level (dBA) at 50 feet =			84	40%	80
Source 2: Grader – sound level (dBA) at 50 feet =			85	40%	81
Calculated Data					
All Sources Combined – L_{max} sound level (dBA) at 50 feet =					88
All Sources Combine – L_{eq} sound level (dBA) at 50 feet =					84
Distance between Source and Receiver (feet)	*Geometric Attenuation (dB)*[a]	*Shielding or Ground Effect Attenuation (dB)*[b]	*Calculated L_{max} Sound Level (dBA)*	*Calculated L_{eq} Sound Level (dBA)*	
50	0	0.0	88	84	
65[c]	-4	0.0	85	81	
100	-6	0.0	82	78	
150	-10	0.0	78	74	
200	-12	0.0	75	72	
300	-16	0.0	72	68	
400	-18	0.0	69	65	
500	-20	0.0	68	64	
600	-22	0.0	66	62	

Source: FHA 2006.

[a] Geometric attenuation based on 6 dB per doubling of distance.

[b] This calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers that may reduce sound levels further or ground attenuation.

[c] This row is bolded because the nearest residential receptors to the project site are approximately 65 feet to the north.

The nearest offsite sensitive receptors to the construction areas for PS4 are residential receptors located across V Street from the project site. The distance between construction activities and these receptors could be as close as 65 feet, although much of the construction would occur further from residences than this distance. As shown in Table 3.-6, average noise levels during construction activities at a distance of 65 feet could be up to 81 dBA L_{eq}. Note that for the project, construction would be limited to the daytime hours of 7:00 a.m. to 4:00 p.m., so the 55 dBA L_{eq} nighttime standard would not apply. However, as was the case in the 2010 LRDP FEIR, construction noise levels would be expected to exceed 70 dBA L_{eq} during the daytime. Construction noise resulting from the project would therefore be consistent with the previous analysis included in the 2010 LRDP EIR.

This construction noise impact would be reduced somewhat with implementation of LRDP MM NOI-1, which requires a number of measures be employed to reduce noise generated by demolition and construction activities (e.g., the erection of temporary noise control blankets or noise barriers, limiting construction activities to daytime hours, selecting quieter construction equipment, etc.). However, even with implementation of this mitigation measure, construction noise to offsite sensitive receptors may not be reduced to below the 70 dBA L_{eq} daytime criteria. Although it is not possible to ensure that noise would be reduced to below the applicable threshold, the project does not present the potential for new significant impacts or a substantial increase in the severity of previously identified noise impacts. The impact would be the same as that disclosed in the LRDP FEIR (which was determined to be significant and unavoidable).

3.13.2 Construction Vibration Analysis

For the project, construction activities for PS4 could occur as close as 65 feet from offsite residences. At this distance, construction equipment (excluding a pile driver) could generate vibration levels of up to 75 VdB. As was the case under the 2010 LRDP EIR, this vibration level would exceed the threshold of perception for humans (65 VdB). Therefore, and as with the 2010 LRDP EIR, vibration impacts related to annoyance at offsite residential land uses could be significant.

LRDP MM NOI-2, which pertains to giving advanced notice to occupants of nearby noise-sensitive land uses, was determined to reduce LRDP vibration impacts to less than significant levels. This measure would also apply to the project and reduce potential impacts. In addition, the hours of construction for the project are during typical daytime hours, from 7:00 a.m. to 4:00 p.m. Monday through Friday. Vibration effects related to annoyance are typically more substantial if they occur during nighttime hours, since this is when people normally sleep. Implementation of LRDP MM NOI-2, combined with the fact that construction for the project would be limited to daytime hours, would reduce vibration-related impacts for the project to less than significant levels.

3.13.3 Traffic Noise Analysis

The LRDP FEIR utilized the City of Sacramento General Plan incremental noise impact standards to determine if a significant traffic noise impact would result from LRDP implementation. Specifically, noise impacts were considered significant if the project-related noise exceeded the allowable noise increments at locations that affect human receptors, as specified in Table 3-6.

Table 3-6. General Plan Exterior Incremental Noise Standards for Noise-Sensitive Uses (dBA)

Residences and Buildings Where People Normally Sleep[a]		Institutional Land Uses with Primarily Daytime and Evening Uses[b]	
Existing L_{dn}	Allowable Noise Increment	Existing Peak Hour L_{eq}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

Source: City of Sacramento 2008.

dBA = A-weighted decibel; L_{dn} = day-night level; L_{eq} = equivalent sound level

[a] This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.

[b] This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

According to the LRDP FEIR, modeling of traffic-related noise (for street segments in the vicinity of noise-sensitive receptors) demonstrated an increase of 3 dBA L_{dn} or less for all study segments near the campus perimeter and on-campus roadways. In addition, the results of the LRDP FEIR noise impact analysis demonstrated that residential uses that are farther away from the campus, including those in the vicinity of 59th and T Streets and Broadway and Martin Luther King Jr. Boulevard, would experience project-related traffic noise increases of less than 1 dBA L_{dn}. Therefore, according to the LRDP FEIR, traffic noise impacts along both off-campus and on-campus street segments would be less than significant.

For the project, traffic noise along roadway segments in the vicinity of the project were evaluated under Existing (2018) and Existing (2018) plus Project conditions, based on average daily traffic (ADT) data provided by the traffic consultant. Table 3-8, below, shows the modeled 24-hour average (L_{dn}) noise levels along roadway segments in the vicinity of the project under these conditions.

Table 3-8. Traffic Noise Modeling in the Vicinity of the Project (Existing and Cumulative Conditions)

Street	Segment	Existing dB L_{dn}	Existing + Project L_{dn}	Direct Project-Related Increase or Decrease? (delta in dB)
Stockton Blvd	T Street to 39th Street/Miller Way	68.7	68.7	0.0
	39th Street/Miller Way to X Street	69.1	69.1	0.0
	X Street to 2nd Avenue	67.8	67.5	-0.4
	2nd Avenue to Broadway	68.5	68.5	0.1
	South of Broadway	69.2	69.2	0.0
Broadway	West of Stockton Boulevard	68.1	68.1	0.0
	Stockton Boulevard to 49th Street	66.5	66.4	-0.1
	49th Street to 50th Street	65.6	65.4	-0.1
	50th Street to 59th Street	66.4	66.4	0.0
	East of 59th Street	66.1	66.1	0.0

L_{dn} = day-night level
L_{eq} = equivalent sound level

As shown in 3.8, the project would result in minor noise increases (no more than 0.1 dB) or, in some cases, noise decreases along analyzed segments. Note that human sound perception, in general, is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change in sound level of 3 dB is just noticeable, and a change of 5 dB is clearly noticeable. Therefore, the predicted traffic noise increases of 0.1 dB or less would not exceed the allowable increase levels (shown in Table 3-8-8) and would not be expected to be perceptible. Traffic noise impacts from the project would be less than significant.

3.13.4 Parking Lot Noise

The new parking structure would result in the redistribution of existing trips to the campus. According to the project traffic engineer, a total of 635 vehicles would enter or exit (e.g. both inbound and outbound trips) PS4 during the AM peak hour, and 452 would enter or exit the parking structure during the PM peak hour. The vehicles would enter and exit the parking garage from X Street and would not directly utilize V Street near PS4. However, noise from within the parking structure may be audible at nearby noise-sensitive land uses. Parking lot activity is analyzed as a stationary source of noise and resulting noise levels are compared to City of Sacramento Exterior Noise Standards (Municipal Code Section 8.68.060) of 55 dBA from 7 am to 10 PM and 50 dBA from 10 PM to 7 AM.

The nearest noise-sensitive land uses are located approximately 90 feet north of the northern perimeter of the parking structure. According to the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA 2006), 1,000 cars in a peak activity hour would generate a Sound Equivalent Level (SEL) of 92 dBA at 50 feet. This value was converted to an hourly L_{eq} (average) noise level and used to calculate the L_{eq} noise level of a maximum of 635 vehicles per daytime hour (the amount expected during the AM peak hour) utilizing the garage. At a standard distance of 50 feet, 635 vehicles using the garage per hour would result in an hourly L_{eq} noise level of 54 dBA L_{eq}. At a distance of 90 feet (the distance to the nearest sensitive receptor), this would be reduced to 49 dBA L_{eq}. According to the project traffic engineer, it is anticipated that the peak hours for the garage are likely to be similar to existing parking areas used by UC Davis Sacramento staff and providers. The peak hours for these existing parking areas are 7:15 to 8:15 a.m. for the AM peak hour and 4:15 to 5:15 p.m. for the PM Peak Hour. Because the AM peak hour is expected to have the most vehicles per hour utilizing the parking structure during a given day, this hour is analyzed as the worst-case daytime noise level from the parking garage. This noise level of 49 dBA L_{eq} is below the daytime threshold for stationary noise of 55 dBA L_{eq} In addition, this level is also below the nighttime threshold of 50 dBA L_{eq}.

The maximum number of cars per hour entering or exiting the garage during nighttime hours of 10:00 p.m. to 7:00 a.m. (when the 50 dBA L_{eq} threshold would apply) is not known but would be

expected to be less than the volume accessing PS4 during the AM peak hour Since the noise level generated from parking garage activity during the AM peak hour (the hour with the expected highest vehicle volumes at the garage) would be below both daytime and nighttime noise standards, noise from parking structure activity would not be expected to exceed the stationary source noise thresholds from the 2010 LRDP EIR. This impact would be less than significant.

3.13.5 Mechanical Equipment Noise Analysis

According to the 2010 LRDP EIR, the following noise standards from the City of Sacramento Municipal Code (8.68.060 Exterior Noise Standards) for stationary sources of noise would apply to residential properties near the campus.

- From 7 AM to 10 PM the exterior noise standard shall be 55 dB(A).
- From 10 PM to 7 AM the exterior noise standard shall be 50 dB(A)

The analysis included in the 2010 LRDP EIR demonstrated that mechanical and ventilation equipment for new buildings may produce noise levels greater than the existing ambient noise levels, or greater than the Noise Ordinance Standard limits (55 dBA daytime or 50 dBA nighttime) at noise-sensitive residences surrounding the campus. This impact would depend on the noise characteristics and the location of the mechanical equipment, as well as the noise attenuation measures included in mechanical equipment installation. The impact was conservatively considered to be significant, and a mitigation measure was proposed in the 2010 LRDP EIR to address the impact. The proposed PS4 project would not have heating, ventilation, and air conditioning (HVAC), and would have other mechanical equipment (emergency generators, chillers, exhaust fans, etc.) that typically results in excessive noise. Therefore, impacts related to HVAC and other mechanical equipment noise would be less than significant for the project.

3.13.6 Aircraft Noise

The 2010 LRDP FEIR concluded that there would be no impact on public or private airport facilities because the closest public airport is the Sacramento Executive Airport, located approximately 2.7 miles southwest of the project site, and there are no private airstrips in the vicinity. The project would not result in a change in heliport operations such that there would be a change in noise levels associated with heliport operations. Helicopter activity would not increase as a result of the project. Therefore, given that the helicopter activity would not increase as a result of the project, the project would not result in a substantial temporary increase in ambient noise levels in the project vicinity above levels existing without the project. No impact would occur.

3.14 POPULATION AND HOUSING

The LRDP FEIR concluded that population and housing impacts associated with buildout of the LRDP would be less than significant. The addition of PS4 and intersection, roadway, and bike lane improvements, would not change the level of these impacts. As shown in Table 1-1, current population at the campus is estimated at 13,547. The anticipated population as analyzed in the 2010 LRDP is 19,719, and the growth potential to reach that forecast is 6,172. The project would not include any additional employees, thus having no effect on housing in the project area. Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important population and housing issues. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to this resource or result in any new significant impacts.

The campus site does not have any existing housing uses, nor do people live on the campus. The project would not include housing, would not displace existing housing, or displace substantial numbers of people. No impact would occur.

3.15 PUBLIC SERVICES AND RECREATION

The LRDP FEIR concluded that all potential public services and recreation impacts associated with buildout of the LRDP would be less than significant. The addition of PS4 and intersection, roadway, and bike lane improvements would not change the level of these impacts because no aspect of the project would substantially increase the demand for public services and recreational facilities. The project would not result in a change in service ratios or response times for local fire or police protection, require any other new or altered government facilities, or result in an increase in the use of existing parks. Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important public services and recreation issues. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to these resources or result in any new significant impacts.

3.16 TRANSPORTATION AND TRAFFIC

Section 4.13 of the 2010 LRDP EIR addresses the transportation, circulation, and parking effects of campus growth and development under the 2010 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

The LRDP FEIR concluded that LRDP impacts would be less than significant for increasing demand for transit service or resulting in conflicts with any existing plans for transit; adversely affecting existing or planned bicycle and pedestrian facilities; emergency access; inadequate parking capacity; and changes to the existing roadway network that would create hazards. The

LRDP FEIR did conclude that development under the 2010 LRDP would contribute to substandard intersection operations at 16 intersections, in the AM peak hour, the PM peak hour, or both peak hours, and would contribute to substandard operations at freeway facilities, and that these impacts would be significant and unavoidable even with the implementation of mitigation measures.

Under cumulative conditions, LRDP FEIR Impacts TRA-1 and TRA-2 evaluated the traffic that would result from growth in regional traffic through 2025 combined with the growth in campus traffic at full development under the 2010 LRDP. That analysis therefore presents the cumulative traffic impacts, which were determined to be significant. Mitigation measures were included in the LRDP FEIR to address the LRDP's contribution to the cumulative traffic impacts. However, because the efficacy of LRDP MMs TRA 1a through TRA 1e would be monitored over time and implementation of the roadway improvements determined necessary to further reduce impacts on off-campus roadways is outside the control of the University, LRDP Impacts TRA-1 and TRA-2 were found to be significant and unavoidable for 15 intersections, 1 freeway mainline segment, and 8 freeway weaving sections and ramps.

Since certification of the LRDP FEIR, additional legislation at the state level has been adopted that has affected transportation analyses in CEQA documents. Specifically, the passage of Senate Bill 743 (Stats. 2013, ch. 386) resulted in changes to how traffic impacts are evaluated. It required the Governor's Office of Planning and Research (OPR) to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend use of the metrics beyond TPAs. OPR selected vehicle miles traveled (VMT) as the preferred transportation impact metric and applied their discretion to require its use statewide. This legislation also established that aesthetic and parking effects of a residential, mixed-use residential, or employment center projects on an infill site within a TPA are not significant impacts on the environment. The revised CEQA Guidelines that implement this legislation became effective on December 28, 2018. Per CEQA Statute Section 21099(b)(2), vehicle level of service (LOS) and similar measures related to delay shall no longer be considered a significant impact on the environment. Furthermore, the revised CEQA Guidelines state that the provisions requiring the use of VMT shall apply statewide beginning on July 1, 2020. Until that date, lead agencies may elect to analyze transportation impacts using VMT but are not required to use VMT. Finally, the legislation establishes a new CEQA exemption for a residential, mixed-use, and employment center project a) within a TPA, b) consistent with a specific plan for which an EIR has been certified, and c) consistent with a Sustainable Communities Strategy. This exemption requires further review if the project or circumstances change significantly.

Given the removal of LOS as an environmental impact in the revised CEQA Guidelines, LRDP FEIR Impacts TRA-1 and TRA-2 (impacts to freeway and intersection operations (i.e., LOS)) are

no longer considered an impact. However, the mitigation measures aimed at reducing vehicle travel, specifically LRDP MM TRA-1a (Travel Demand Management), LRDP MM TRA-1b (Transit Enhancement), LRDP MM TRA-1c (Sustainability and Monitoring), and LRDP MM TRA-1d (Campus Traffic Impact Monitoring), would reduce VMT and therefore are still relevant to address vehicle travel.

3.16.1 Project Effects

The project would serve existing users at the UC Davis Sacramento campus and would not result in any direct increase to population or employment. As a result, the project would not generate new vehicle trips to the Sacramento campus. Rather, PS4 would accommodate existing vehicle trips and provide additional parking capacity. Table 3-9 summarizes the change in parking supply at the UC Davis Sacramento campus that would occur with the project.

Table 3-9. UC Davis Sacramento Campus Parking Supply Summary

	Current (2019)	Project	Anticipated in 2010 LRDP[a]	Additional Capacity in 2010 LRDP
Parking Lot 18[b]	595	452	—	—
Proposed PS4	—	1,221	—	—
Other Campus Parking	6,861	6,861	—	—
Total Campus Parking[c,d]	7,456	8,534	9,935	1,401

[a] Total campus parking in 2010 LRDP obtained from Table 3.0-3 from the UC Davis Sacramento Campus LRDP FEIR.

[b] A net loss of 143 parking stalls in Parking Lot 18 would result from the project, after accounting for redesign and restriping of the remaining surface lot.

[c] Includes projects under construction.

[d] Comprises existing and future development south of 2nd Avenue, including existing Governor's Hall and Institute for Regenerative Cures.

As shown in Table 3-9, the net increase in parking stalls provided by the project results in a total campus parking supply that is within the total parking supply anticipated in the 2010 LRDP. Since the project does not result in a parking supply that exceeds the 2010 LRDP, the project would not change the severity of the transportation impacts identified in the LRDP FEIR.

3.16.2 Project Construction

Construction of PS4 and the associated roadway improvements would be short term, occurring for about one year. These construction activities could cause temporary impacts on transportation and traffic.

Construction access to the project construction sites would occur from X Street, 48th Street, Y Street, and 49th Street. Construction trips would include construction employee trips to and from the project sites as well as delivery trucks for materials and equipment. In addition to construction activity on the project site, certain construction activities would involve improvements to roadways, and modification of existing parking lot access points. During these activities, circulation and access to existing parking facilities adjacent to PS4 may be hindered.

The LRDP FEIR included mitigation measures appropriate to development as envisioned in the 2010 LRDP at the time the LRDP was adopted. UC Davis requires the preparation of a traffic control plan whenever interference with normal traffic in the area of the project site becomes necessary for safety and proper performance of work and no satisfactory detour route exists. Traffic control plans provide for satisfactory detour, temporary bridge, or other proper facility for traffic to pass around or over interference and maintain in satisfactory condition as long as interference continues. During project construction, 45th Street, 2nd Avenue, and 48th Street may be used as suitable detour routes should construction activity require the temporary closure of travel lanes or intersections. Impacts related to construction traffic would be less than significant with implementation of a traffic control plan. Thus, no new or substantially more severe impacts would occur, and no additional analysis is required.

3.16.3 Emergency Vehicle Access

The LRDP FEIR concluded that the 2010 LRDP would not involve construction of new roadways that would contain design features that could be hazardous, and the impact related to roadway design hazards would be less than significant. Outside of the construction period described above, operation of the project and the associated roadway improvements would not negatively affect emergency vehicle access and emergency vehicle access would be maintained during the construction period. Therefore, the project would not result in inadequate emergency vehicle access. Therefore, no new or substantially more severe impacts would occur and no additional mitigation would be required.

3.16.4 Cumulative Impacts

The 2010 LRDP EIR concluded that traffic impacts were found to be significant and unavoidable for 15 intersections, one freeway mainline segment, and eight freeway weaving sections and ramps because improvements .

The 2010 LRDP identifies several parking structures on the UC Davis Sacramento campus, including a parking structure located in the northeast quadrant of the campus near the location of PS4. This parking structure is shown running in a north-south orientation to the west of 49th Street and north of Y Street, with access provided via Y Street between 48th Street and 49th Street.

The project would shift the location of this parking structure slightly to the northwest, north of X Street and east of 48th Street with an east-west orientation and access from the X Street / 48th Street intersection. This minor shift in location and orientation would result in negligible changes in traffic outside the immediate vicinity of 48th Street and Y Street when compared to the 2010 LRDP. Traffic on surrounding arterial and local streets, such as Stockton Boulevard, Broadway, and V Street would likely be unchanged compared to the 2010 LRDP; and traffic on major campus gateway streets, such as X Street, 2nd Avenue, and 50th Street would similarly have minimal change compared to the 2010 LRDP. Therefore, the project would not change the severity of the cumulative transportation impacts identified in the LRDP FEIR.

Since certification of the LRDP FEIR, there have only been minor changes in the environmental setting that would raise new transportation or traffic issues. Improvements identified in the LRDP FEIR are still applicable to the project and would reduce any potential impacts associated with the project to a less than significant level. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to this resource (significant and unavoidable), substantially increase the severity of previously identified transportation or traffic impacts or result in any new significant transportation or traffic impacts. Therefore, no new or substantially more severe impacts would occur, and no additional mitigation would be required.

3.17 TRIBAL CULTURAL RESOURCES

There are no known tribal cultural resources on the campus and no known tribal cultural resources listed in the California Register of Historical Resources or in a local register of historical resources. No Native American tribes have requested in writing from UC Davis to be formally notified of proposed projects per PRC Section 21080.3.1 (b). No impacts with respect to tribal resources would occur.

3.18 UTILITIES AND SERVICE SYSTEMS

Section 4.14 of the 2010 LRDP EIR addresses the effects of campus growth and development on utility systems under the 2010 LRDP by providing regulatory setting information, environmental setting information, analysis methodology, significance criteria, and a detailed environmental impact evaluation.

The LRDP FEIR concluded that all impacts under utilities and service systems would be less than significant or less than significant with mitigation. No significant utilities and service systems impacts associated with development in the LRDP were identified in the LRDP FEIR. The addition of PS4 would not change the level of these impacts because the project would utilize existing water and storm drainage facilities and would not substantially alter these facilities such that a significant environmental impact would occur.

The project includes the addition of a new parking structure and intersection and roadway and bike lane improvements; therefore, no water would be needed other than for landscaping. The project site currently uses water for landscaping, which would not substantially change with the project. The project would also not produce any wastewater. No impact would occur.

The project proposes improvements to onsite stormwater collection and treatment (sand oil separator) prior to discharge into the City's storm drainage collection and conveyance system. The eastern half of the campus (east of 45th Street) discharges into the City's combined storm drain and sewer system, which treats stormwater and municipal wastewater at the Sacramento Regional Wastewater Treatment Plant. The project would not substantially change site stormwater drainage and would be similar to existing conditions. Therefore, no new or substantially more severe impacts would occur and no mitigation would be required.

New electricity service would be required for PS4 for lighting and the elevators and the traffic signal. The energy demand would be low due to energy efficiency measures as discussed in Section 3.6 (Energy). No natural gas would be used for the project.

The University of California has adopted the UC Policy on Sustainable Practices (Policy), which set waste-diversion goals of 75 percent by June 2012 and zero waste by 2020 for UC campuses. The Policy also encourages recycling of construction waste. This policy would minimize the amount of solid waste that would go to the UC Davis landfill. The LRDP FEIR concluded that solid waste impacts would be less than significant because it is anticipated that eventually no solid waste would be disposed of at the UC Davis landfill, and, in the interim, the UC Davis landfill has adequate capacity, and landfill expansion would not be required. The project would not create any additional waste above that analyzed in the LRDP FEIR at full buildout. The project would adhere to the Policy for diversion, the zero-waste goal, and recycling of construction waste. The impact is less than significant.

The expansion of site utilities identified above is not expected to result in significant environmental effects due to the urban context (i.e., all improvements would be within existing road rights-of-way in areas that previously have been disturbed in conjunction with other utilities and roadway construction). Furthermore, California Government Code Section 54999 authorizes public utilities to charge the University a limited capital facilities fee under certain circumstances (i.e., a nondiscriminatory charge to defray the actual cost of that portion of a public utilities facility actually serving the University). In the event that there are any costs incurred by the City associated with the provision of water, wastewater, or storm drainage facilities to serve the campus, the University would comply with its obligations as authorized under Section 54999. Construction or relocation of facilities to serve the project would not result in significant environmental effects. The impact would be less than significant.

Since certification of the LRDP FEIR, there have been no changes in the environmental setting that would raise important new utilities and service systems issues. Therefore, the project would not alter the conclusions of the LRDP FEIR with respect to this resource or result in any new significant utilities and service systems impacts.

3.19 WILDFIRE

As described above in Section 3.9, *Hazards and Hazardous Materials*, the LRDP FEIR concluded that because the campus is surrounded by existing developed uses and there are no heavily vegetated areas in the vicinity of the project site, the impact associated with exposing people to wildland fires would be less than significant. The project site is not located within a very high fire hazard severity zone; rather, it is located in an entirely developed area and, accordingly, would not expose people to a wildland fire hazard.

4.0 CUMULATIVE EFFECTS

The impact assessment for the project concludes that the project would contribute to, but would not exceed, the significant and unavoidable cumulative impacts related to air quality, biological resources, cultural resources, and transportation and traffic anticipated to result from campus growth under the LRDP, as analyzed in the LRDP FEIR. The project would not result in new significant impacts or increase the severity of previously identified significant impacts in the LRDP FEIR. Therefore, there would be no change in cumulative effects from the project.

5.0 LRDP FEIR MITIGATION MEASURES APPLICABLE TO THE PROJECT

5.1 AESTHETICS

LRDP MM AES-2a: Design for specific projects shall provide for the use of textured non-reflective exterior surfaces and non-reflective glass.

LRDP MM AES-2b: Except as provided in LRDP Mitigation Measure AES-2c, all new outdoor lighting shall utilize directional lighting methods with shielded and cutoff type light fixtures to minimize glare and upward directed lighting.

LRDP MM AES-2c: Non-cutoff, non-shielded lighting fixtures used to enhance nighttime views of walking paths, specific landscape features, or specific architectural features shall be reviewed by the Campus Facilities Planning, Design and Construction staff prior to installation to ensure that: (1) the minimum amount of required lighting is proposed to achieve the desired nighttime emphasis, and (2) the proposed illumination creates no adverse effect on nighttime views.

LRDP MM AES-2d: The University would implement the use of the specific lighting design and equipment when older lighting fixtures and designs are replaced over time.

5.2 AIR QUALITY

LRDP MM AIR-1a: For each construction project on the campus, the project contractor would implement the following PM10 and PM2.5 control measures, as appropriate:

- Water exposed soil with adequate frequency to minimize fugitive dust. However, the contractor shall not overwater to the extent that sediment flows off the site.
- Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph.
- Install wind breaks (e.g., solid fencing) on windward side(s) of construction areas.
- Plant vegetative ground cover in disturbed areas as soon as possible. Water appropriately until vegetation is established.
- Prevent soil from leaving the construction site (e.g., install wheel washers for all exiting trucks, or wash off all trucks as equipment leaving the site; Treat site accesses to a distance of 100 feet from the paved road with a 6- to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust carryout onto public roads).
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.

LRDP MM AIR-1b: For each construction project on the campus, the University shall require that the comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that would be used for an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use for each piece of equipment. The inventory shall be updated monthly throughout the duration of the project as needed, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. The plan would also include the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. The plan would also demonstrate that the heavy-duty (> 50 horsepower) self-propelled off-road equipment to be used in the construction project, including owned, leased and subcontractor vehicles, would achieve a project-wide fleet-average 20 percent NOX reduction or greater and 45 percent particulate reduction or greater compared to the most recent CARB fleet average at the time of project construction. The University shall retain a copy of the construction emissions control plan on the campus, which would be made available to the agencies and the public upon request.

5.3 BIOLOGICAL RESOURCES

LRDP MM BIO-2: If a construction project is proposed on the campus that would commence anytime during the nesting/breeding season of native bird species potentially nesting on the site (typically February through August in the project region), a pre-construction survey of the project vicinity for nesting birds shall be conducted.

5.4 CULTURAL RESOURCES

LRDP MM CUL-2a: For all project sites, site-work contractor crews shall be required to attend an informal training session prior to the start of earth moving, regarding how to recognize artifacts and human remains. Prior to disturbing the soil, contractors shall be notified that they are required to watch for potential artifacts and to notify the University if any are found. In the event of a find, the University shall implement LRDP Mitigation Measures CUL-2b and CUL-2c below.

LRDP MM CUL-2b: If an archaeological resource is discovered during construction, all soil disturbing work within 100 feet of the find shall cease. The University shall contact a qualified archaeologist within 24 hours to inspect the site. If a resource within the project area of potential effect is determined to qualify as a unique archaeological resource (as defined by CEQA), the University shall devote adequate time and funding to salvage the material. Any archaeologically important artifacts recovered during monitoring shall be cleaned, catalogued, and analyzed, with the results presented in a report of finding that meets professional standards.

LRDP MM CUL-2c: In the event of a discovery on campus of human bone, suspected human bone, or a burial, all excavation in the vicinity would halt immediately and the University shall contact a qualified archaeologist within 24 hours to determine whether the bone is human. If the qualified

archaeologist determines the bone is human, or if a qualified archaeologist is not present, the University would notify the County Coroner of the find before additional disturbance occurs. Consistent with California Health and Safety Code Section 7050.5(b), which prohibits disturbance of human remains uncovered by excavation until the Coroner has made a finding relative to PRC Section 5097 procedures, the University would ensure that the remains and vicinity of the find are protected against further disturbance. If it is determined that the find is of Native American origin, the University would comply with the provisions of PRC Section 5097.98 regarding identification and involvement of the Native American MLD.

If human remains cannot be left in place, the University shall ensure that the qualified archaeologist and the MLD are provided opportunity to confer on archaeological treatment of human remains, and that appropriate studies, as identified through this consultation, are carried out prior to reinternment. The University shall provide results of all such studies to the local Native American community and shall provide an opportunity of local Native American involvement in any interpretative reporting. As stipulated by the provisions of the California Native American Graves Protection and Repatriation Act, the University shall ensure that human remains, and associated artifact recovered from campus projects are repatriated to the appropriate local tribal group if requested.

LRDP MM CUL-3a: As a first step during the project's environmental review, the University shall determine whether the proposed project is in the portion of the campus where human remains associated with the former burial ground could likely be encountered. If the project site is in or near that area, the University would retain a qualified archaeologist to review the project information and as necessary develop and implement a subsurface testing program to check for human remains. If no human remains are encountered, the project may proceed to construction.

LRDP MM CUL-3b: In the event that human remains are encountered during subsurface testing, the area of the project site would be excavated under the supervision of the archaeologist and all human remains and associated artifacts would be removed from the site and examined for data. After the lab work, all recovered human remains and associated artifacts would be placed in caskets and buried in a single mass grave at a local cemetery.

LRDP MM CUL-3c: Implement LRDP Mitigation Measure CUL-2a.

LRDP MM CUL-3d: Implement LRDP Mitigation Measure CUL-2c.

5.5 GEOLOGY AND SOILS

LRDP MM GEO-1: A site-specific, design-level geotechnical investigation shall be conducted during the design phase of each building project under the 2010 LRDP. This investigation shall be conducted by a licensed geotechnical engineer and include a seismic evaluation of ground

acceleration under the design event as well as relevant soil conditions at the site. Geotechnical recommendations shall subsequently be incorporated into the foundation and building design.

5.6 NOISE

LRDP MM NOI-1: The following mitigation measures are proposed to reduce noise generated by demolition and construction activities:

- Erect temporary noise control blanket barriers in a manner to shield adjacent off-campus residences and on-campus occupied facilities at the perimeter of construction staging areas, at the perimeter of ground clearing, excavation, or demolition sites, and at elevated construction sites (i.e., multistory buildings). When feasible, barriers would be erected at or near the work site itself to provide the most noise attenuation.
- Where construction is adjacent to onsite or offsite sensitive receptors, construct a noise barrier 8 to 10 feet in height at the project site perimeter that would break the line-of-sight between construction equipment and noise receptors, where feasible.
- Limit significant noise-generating construction activities, including truck traffic coming to and from the site for any purpose, to the hours of 7:00 AM to 6:00 PM Monday through Saturday, and 9:00 AM to 6:00 PM on Sundays and Holidays.
- Properly muffle and maintain all construction equipment powered by internal combustion engines.
- Prohibit unnecessary idling of internal combustion engines.
- Locate all stationary noise-generating construction equipment, such as air compressors and cranes, as far as practical from existing nearby residences and other noise-sensitive land uses. Acoustically shield such equipment.
- Select quiet construction equipment, particularly air compressors, whenever possible. (Fit motorized equipment with proper mufflers in good working order).
- Minimize construction traffic along V Street.
- The Government and Community Relations office would be responsible for responding to any local complaints about construction noise. The office would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the office at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

LRDP MM NOI-2: For construction adjacent to offsite residential uses, advance notice would be given to occupants of these uses to ensure that precautions are taken to protect ongoing activities from vibration effects.

LRDP MM NOI-4: Mechanical equipment and building design shall be selected so that noise levels from future building and other facility operations would not exceed the Noise Ordinance limits of the City of Sacramento for commercial areas or residential zones as measured on any noise-sensitive receptor in the area surrounding the Sacramento campus. Controls that would typically be incorporated to attain adequate noise reduction would include selection of quiet equipment, sound attenuators on fans, sound attenuator packages for cooling towers and emergency generators, acoustical screen walls, and equipment enclosures.

5.7 TRANSPORTATION

LRDP MMTRA-1a: Travel Demand Management. To reduce on- and off-campus vehicle trips and resulting impacts, the University will enhance its Transportation Demand Management (TDM) program. TDM strategies will include measures to increase transit and shuttle use, encourage alternative transportation modes including bicycle transportation, implement parking policies that reduce demand, and other mechanisms that reduce vehicle trips to and from the campus. The University will work to achieve at least a 3 percent improvement in the mode split of daytime staff from the current 88 percent SOV/12 percent other modes. Trip reduction targets for students will be higher with approximately 15 to 20 percent traveling by other modes. The University shall monitor the performance of campus TDM strategies through annual surveys.

LRDP MMTRA-1b: Transit Enhancement. To enhance transit systems serving the campus, the University will work cooperatively with Sacramento Regional Transit, and other local agencies to coordinate service routes with existing and proposed shuttle and transit programs.

LRDP MMTRA-1c: Sustainability and Monitoring. The University shall review individual projects proposed under the 2010 LRDP for consistency with UC sustainable transportation policy and UC Davis Sacramento Campus TDM strategies to ensure that bicycle and pedestrian improvements, alternative fuel infrastructure, transit stops, and other project features that promote alternative transportation are incorporated into each project to the extent feasible.

- **LRDP MMTRA-1d: Campus Traffic Impact Monitoring.** The University will conduct traffic counts at key gateway locations on the campus every five years to determine the amount of traffic generated by the campus.

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Appendix A
Air Quality and Greenhouse Gases

UC Davis PS4 - Sacramento County, Summer

UC Davis PS4
Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	1,300.00	Space	2.50	465,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2021
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity	243	**CH4 Intensity**	0.032	**N2O Intensity**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SMUD EFs adjusted for RPS (2021)
Land Use - Spaces and square footage from UCD
Construction Phase - Phasing and schedule from UCD
Off-road Equipment - Per UCD
Vehicle Trips - Trips from F&P (1,716 net new); Average trip length obtained from SACOG's SACSIM travel forecasting model for trips traveling to and
Sequestration - Net new

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	85.00
tblConstructionPhase	NumDays	220.00	94.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	3.00	25.00
tblConstructionPhase	PhaseEndDate	12/31/2021	9/30/2021

tblConstructionPhase	PhaseEndDate	1/15/2021	2/26/2021
tblConstructionPhase	PhaseEndDate	11/19/2021	7/8/2021
tblConstructionPhase	PhaseEndDate	3/13/2020	10/16/2020
tblConstructionPhase	PhaseEndDate	12/3/2021	1/8/2021
tblConstructionPhase	PhaseEndDate	12/17/2021	9/30/2021
tblConstructionPhase	PhaseEndDate	3/5/2020	9/18/2020
tblConstructionPhase	PhaseStartDate	12/18/2021	8/20/2021
tblConstructionPhase	PhaseStartDate	3/14/2020	11/1/2020
tblConstructionPhase	PhaseStartDate	1/16/2021	2/27/2021
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tblConstructionPhase	PhaseStartDate	11/20/2021	10/17/2020
tblConstructionPhase	PhaseStartDate	12/4/2021	7/9/2021
tblConstructionPhase	PhaseStartDate	3/3/2020	8/15/2020
tblLandUse	LandUseSquareFeet	520,000.00	465,000.00
tblLandUse	LotAcreage	11.70	2.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Asphalt and Landscaping Phase 1
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00

tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.032
tblProjectCharacteristics	CO2IntensityFactor	590.31	243
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	38.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.8650	22.2938	14.6077	0.0298	6.9096	0.8154	7.7249	3.4750	0.7507	4.2257	0.0000	3,023.063	3,023.0639	0.6282	0.0000	3,037.507
2021	5.2268	14.1428	14.1587	0.0283	0.7147	0.6879	1.4026	0.1903	0.6411	0.8314	0.0000	2,750.326	2,750.3262	0.5548	0.0000	2,764.194
Maximum	**5.2268**	**22.2938**	**14.6077**	**0.0298**	**6.9096**	**0.8154**	**7.7249**	**3.4750**	**0.7507**	**4.2257**	**0.0000**	**3,023.063**	**3,023.0639**	**0.6282**	**0.0000**	**3,037.507**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2126	1.22E-03	0.1333	1.00E-05		4.80E-04	4.80E-04		4.80E-04	4.80E-04		0.2845	0.2845	7.60E-04		0.3034
Energy	0	0	0	0		0	0		0	0		0	0	0	0	0
Mobile	0	0	0	0	0	0	0	0	0	0		0	0	0		0
Total	**0.2126**	**1.22E-03**	**0.1333**	**1.00E-05**	**0**	**4.80E-04**	**4.80E-04**	**0**	**4.80E-04**	**4.80E-04**		**0.28**	**0.28**	**7.60E-04**	**0**	**0.30**

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/15/2020	9/18/2020	5	25	
2	Grading	Grading	9/19/2020	10/16/2020	5	20	
3	Foundation and Utility	Building Construction	11/1/2020	2/26/2021	5	85	
4	Facility Erection and Deck Pour	Building Construction	2/27/2021	7/8/2021	5	94	

5	Asphalt and Landscaping Phase	Paving	10/17/2020	1/8/2021	5	60	
6	Asphalt and Landscaping Phase	Paving	7/9/2021	9/30/2021	5	60	
7	Coatings and Finishing	Architectural Coating	8/20/2021	9/30/2021	5	30	

Acres of Grading (Site Preparation Phase): 32.81

Acres of Grading (Grading Phase): 8.75

Acres of Paving: 2.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 27,900

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	7.00	187	0.41
Site Preparation	Scrapers	1	7.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Grading	Graders	1	7.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Foundation and Utility	Cranes	1	8.00	231	0.29
Foundation and Utility	Forklifts	2	4.00	89	0.20
Foundation and Utility	Generator Sets	1	4.00	84	0.74
Foundation and Utility	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Foundation and Utility	Welders	1	2.00	46	0.45
Facility Erection and Deck Pour	Cement and Mortar Mixers	0	0.00	9	0.56
Facility Erection and Deck Pour	Cranes	1	8.00	231	0.29
Facility Erection and Deck Pour	Forklifts	0	0.00	89	0.20
Facility Erection and Deck Pour	Generator Sets	0	0.00	84	0.74
Facility Erection and Deck Pour	Pavers	0	0.00	130	0.42
Facility Erection and Deck Pour	Paving Equipment	0	0.00	132	0.36
Facility Erection and Deck Pour	Pumps	1	8.00	84	0.74
Facility Erection and Deck Pour	Rollers	0	0.00	80	0.38
Facility Erection and Deck Pour	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Facility Erection and Deck Pour	Welders	0	0.00	46	0.45
Asphalt and Landscaping Phase 1	Air Compressors	0	0.00	78	0.48
Asphalt and Landscaping Phase 1	Cement and Mortar Mixers	0	0.00	9	0.56
Asphalt and Landscaping Phase 1	Pavers	1	8.00	130	0.42
Asphalt and Landscaping Phase 1	Paving Equipment	0	0.00	132	0.36
Asphalt and Landscaping Phase 1	Rollers	1	8.00	80	0.38
Asphalt and Landscaping Phase 1	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Asphalt and Landscaping Phase 2	Cement and Mortar Mixers	0	8.00	9	0.56

Asphalt and Landscaping Phase 2	Pavers	1	8.00	130	0.42
Asphalt and Landscaping Phase 2	Paving Equipment	0	8.00	132	0.36
Asphalt and Landscaping Phase 2	Rollers	1	8.00	80	0.38
Asphalt and Landscaping Phase 2	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Coatings and Finishing	Air Compressors	1	2.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	3	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	20.00	0.00	312.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Foundation and Utility	6	60.00	5.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Facility Erection and	2	50.00	0.00	113.00	10.00	6.50	40.00	LD_Mix	HDT_Mix	HHDT
Asphalt and	3	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt and	3	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Coatings and Finishing	1	60.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3918	0.0000	1.3918	0.1503	0.0000	0.1503			0.0000			0.0000
Off-Road	1.3375	16.3442	8.6839	0.0198		0.6113	0.6113		0.5624	0.5624		1,921.209	1,921.2092	0.6214		1,936.743
Total	**1.3375**	**16.3442**	**8.6839**	**0.0198**	**1.3918**	**0.6113**	**2.0031**	**0.1503**	**0.5624**	**0.7127**		**1,921.209**	**1,921.2092**	**0.6214**		**1,936.743**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1294	0.0687	0.9795	2.3900e-	0.2282	1.5900e-	0.2298	0.0605	1.4600e-	0.0620		238.0539	238.0539	6.8200e-		238.2244
Total	**0.1294**	**0.0687**	**0.9795**	**2.3900e-**	**0.2282**	**1.5900e-**	**0.2298**	**0.0605**	**1.4600e-**	**0.0620**		**238.0539**	**238.0539**	**6.8200e-**		**238.2244**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4861	0.0000	6.4861	3.3603	0.0000	3.3603			0.0000			0.0000
Off-Road	1.6006	17.9197	6.8591	0.0159		0.7985	0.7985		0.7346	0.7346		1,540.105	1,540.1056	0.4981		1,552.558

Total	**1.6006**	**17.9197**	**6.8591**	**0.0159**	**6.4861**	**0.7985**	**7.2845**	**3.3603**	**0.7346**	**4.0949**		**1,540.105**	**1,540.1056**	**0.4981**		**1,552.558**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1185	4.3284	0.9881	0.0124	0.2714	0.0158	0.2872	0.0743	0.0151	0.0894		1,324.255	1,324.2557	0.0751		1,326.132
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0862	0.0458	0.6530	1.5900e-	0.1521	1.0600e-	0.1532	0.0404	9.7000e-	0.0413		158.7026	158.7026	4.5500e-		158.8163
Total	**0.2047**	**4.3742**	**1.6411**	**0.0140**	**0.4235**	**0.0169**	**0.4404**	**0.1146**	**0.0161**	**0.1307**		**1,482.958**	**1,482.9583**	**0.0796**		**1,484.948**

3.4 Foundation and Utility - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9348	9.3475	6.1601	0.0120		0.4721	0.4721		0.4439	0.4439		1,145.399	1,145.3993	0.2781		1,152.352
Total	**0.9348**	**9.3475**	**6.1601**	**0.0120**		**0.4721**	**0.4721**		**0.4439**	**0.4439**		**1,145.399**	**1,145.3993**	**0.2781**		**1,152.352**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0189	0.5490	0.1476	1.2500e-	0.0301	2.8600e-	0.0330	8.6600e-	2.7400e-	0.0114		131.8277	131.8277	7.4700e-		132.0145
Worker	0.2587	0.1373	1.9590	4.7800e-	0.4564	3.1700e-	0.4596	0.1211	2.9200e-	0.1240		476.1078	476.1078	0.0136		476.4488
Total	**0.2776**	**0.6863**	**2.1066**	**6.0300e-**	**0.4865**	**6.0300e-**	**0.4925**	**0.1297**	**5.6600e-**	**0.1354**		**607.9355**	**607.9355**	**0.0211**		**608.4632**

3.4 Foundation and Utility - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8434	8.4627	5.9878	0.0120		0.4109	0.4109		0.3862	0.3862		1,145.381	1,145.3813	0.2756		1,152.270
Total	**0.8434**	**8.4627**	**5.9878**	**0.0120**		**0.4109**	**0.4109**		**0.3862**	**0.3862**		**1,145.381**	**1,145.3813**	**0.2756**		**1,152.270**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.5022	0.1282	1.2300e-	0.0301	1.3800e-	0.0315	8.6600e-	1.3200e-	9.9700e-		130.7390	130.7390	7.1500e-		130.9176

Worker	0.2405	0.1231	1.7949	4.6200e-	0.4564	3.0800e-	0.4595	0.1211	2.8400e-	0.1239		459.8874	459.8874	0.0122		460.1934
Total	**0.2559**	**0.6253**	**1.9232**	**5.8500e-**	**0.4865**	**4.4600e-**	**0.4910**	**0.1297**	**4.1600e-**	**0.1339**		**590.6264**	**590.6264**	**0.0194**		**591.1110**

3.5 Facility Erection and Deck Pour - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7933	8.0594	5.7235	0.0124		0.3745	0.3745		0.3587	0.3587		1,181.774	1,181.7744	0.2147		1,187.141
Total	**0.7933**	**8.0594**	**5.7235**	**0.0124**		**0.3745**	**0.3745**		**0.3587**	**0.3587**		**1,181.774**	**1,181.7744**	**0.2147**		**1,187.141**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0149	0.4956	0.1272	1.7700e-	0.0418	2.0500e-	0.0438	0.0114	1.9600e-	0.0134		189.4994	189.4994	9.5200e-		189.7374
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2004	0.1026	1.4958	3.8500e-	0.3804	2.5700e-	0.3829	0.1009	2.3700e-	0.1033		383.2395	383.2395	0.0102		383.4945
Total	**0.2153**	**0.5982**	**1.6229**	**5.6200e-**	**0.4221**	**4.6200e-**	**0.4268**	**0.1123**	**4.3300e-**	**0.1167**		**572.7389**	**572.7389**	**0.0197**		**573.2319**

3.6 Asphalt and Landscaping Phase 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5232	5.4177	5.3616	8.1000e-		0.3026	0.3026		0.2784	0.2784		784.5307	784.5307	0.2537		790.8740
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5232**	**5.4177**	**5.3616**	**8.1000e-**		**0.3026**	**0.3026**		**0.2784**	**0.2784**		**784.5307**	**784.5307**	**0.2537**		**790.8740**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1294	0.0687	0.9795	2.3900e-	0.2282	1.5900e-	0.2298	0.0605	1.4600e-	0.0620		238.0539	238.0539	6.8200e-		238.2244
Total	**0.1294**	**0.0687**	**0.9795**	**2.3900e-**	**0.2282**	**1.5900e-**	**0.2298**	**0.0605**	**1.4600e-**	**0.0620**		**238.0539**	**238.0539**	**6.8200e-**		**238.2244**

3.6 Asphalt and Landscaping Phase 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	0.4826	4.9932	5.3503	8.1000e-		0.2710	0.2710		0.2493	0.2493		784.3747	784.3747	0.2537		790.7168
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4826**	**4.9932**	**5.3503**	**8.1000e-**		**0.2710**	**0.2710**		**0.2493**	**0.2493**		**784.3747**	**784.3747**	**0.2537**		**790.7168**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1202	0.0616	0.8975	2.3100e-	0.2282	1.5400e-	0.2298	0.0605	1.4200e-	0.0620		229.9437	229.9437	6.1200e-		230.0967
Total	**0.1202**	**0.0616**	**0.8975**	**2.3100e-**	**0.2282**	**1.5400e-**	**0.2298**	**0.0605**	**1.4200e-**	**0.0620**		**229.9437**	**229.9437**	**6.1200e-**		**230.0967**

3.7 Asphalt and Landscaping Phase 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4826	4.9932	5.3503	8.1000e-		0.2710	0.2710		0.2493	0.2493		784.3747	784.3747	0.2537		790.7168
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4826**	**4.9932**	**5.3503**	**8.1000e-**		**0.2710**	**0.2710**		**0.2493**	**0.2493**		**784.3747**	**784.3747**	**0.2537**		**790.7168**

3.8 Coatings and Finishing - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.3106					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0730	0.5090	0.6059	9.9000e-		0.0314	0.0314		0.0314	0.0314		93.8160	93.8160	6.4400e-		93.9770
Total	**4.3835**	**0.5090**	**0.6059**	**9.9000e-**		**0.0314**	**0.0314**		**0.0314**	**0.0314**		**93.8160**	**93.8160**	**6.4400e-**		**93.9770**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2405	0.1231	1.7949	4.6200e-	0.4564	3.0800e-	0.4595	0.1211	2.8400e-	0.1239		459.8874	459.8874	0.0122		460.1934
Total	**0.2405**	**0.1231**	**1.7949**	**4.6200e-**	**0.4564**	**3.0800e-**	**0.4595**	**0.1211**	**2.8400e-**	**0.1239**		**459.8874**	**459.8874**	**0.0122**		**460.1934**

5.0 Energy Detail

Historical Energy Use: N

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGa	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural	0.0354					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer	0.1647					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0125	1.2200e-	0.1333	1.0000e-		4.8000e-	4.8000e-		4.8000e-	4.8000e-		0.2845	0.2845	7.6000e-		0.3034
Total	**0.2126**	**1.2200e-**	**0.1333**	**1.0000e-**		**4.8000e-**	**4.8000e-**		**4.8000e-**	**4.8000e-**		**0.2845**	**0.2845**	**7.6000e-**		**0.3034**

UC Davis PS4 - Sacramento County, Annual

UC Davis PS4
Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	1,300.00	Space	2.50	465,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2021
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity	358	**CH4 Intensity**	0.03	**N2O Intensity**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SMUD EFs adjusted for RPS (2021)
Land Use - Spaces and square footage from UCD
Construction Phase - Phasing and schedule from UCD
Off-road Equipment - Per UCD
Vehicle Trips - Trips from F&P (1,716 net new); Average trip length obtained from SACOG's SACSIM travel forecasting model for trips traveling to and
Sequestration - Net new

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	85.00
tblConstructionPhase	NumDays	220.00	94.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	3.00	25.00
tblConstructionPhase	PhaseEndDate	12/31/2021	9/30/2021

tblConstructionPhase	PhaseEndDate	1/15/2021	2/26/2021
tblConstructionPhase	PhaseEndDate	11/19/2021	7/8/2021
tblConstructionPhase	PhaseEndDate	3/13/2020	10/16/2020
tblConstructionPhase	PhaseEndDate	12/3/2021	1/8/2021
tblConstructionPhase	PhaseEndDate	12/17/2021	9/30/2021
tblConstructionPhase	PhaseEndDate	3/5/2020	9/18/2020
tblConstructionPhase	PhaseStartDate	12/18/2021	8/20/2021
tblConstructionPhase	PhaseStartDate	3/14/2020	11/1/2020
tblConstructionPhase	PhaseStartDate	1/16/2021	2/27/2021
tblConstructionPhase	PhaseStartDate	3/6/2020	9/19/2020
tblConstructionPhase	PhaseStartDate	11/20/2021	10/17/2020
tblConstructionPhase	PhaseStartDate	12/4/2021	7/9/2021
tblConstructionPhase	PhaseStartDate	3/3/2020	8/15/2020
tblLandUse	LandUseSquareFeet	520,000.00	465,000.00
tblLandUse	LotAcreage	11.70	2.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Facility Erection and Deck Pour
tblOffRoadEquipment	PhaseName		Asphalt and Landscaping Phase 1
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00

tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.03
tblProjectCharacteristics	CO2IntensityFactor	590.31	358
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	38.00

2.0 Emissions Summary

2.1 Overall Construction
Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0791	0.7994	0.5459	1.23E-03	0.1054	0.0346	0.14	0.0417	0.032	0.0737	0	109.9751	109.9751	0.0247	0	110.592
2021	0.1562	0.7719	0.7247	1.60E-03	0.0427	0.0358	0.0785	0.0114	0.0339	0.0452	0	141.2878	141.2878	0.0234	0	141.8731
Maximum	**0.1562**	**0.7994**	**0.7247**	**1.60E-03**	**0.1054**	**0.0358**	**0.14**	**0.0417**	**0.0339**	**0.0737**	**0**	**141.2878**	**141.2878**	**0.0247**	**0**	**141.8731**

2.2 Overall Operational
Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0381	1.50E-04	0.0167	0		6.00E-05	6.00E-05		6.00E-05	6.00E-05	0	0.0323	0.0323	9.00E-05	0	0.0344
Energy	0	0	0	0		0	0		0	0	0	442.4858	442.4858	0.0393	4.63E-03	444.8483
Mobile	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0	0.00
Waste						0	0		0	0	0	0	0	0	0	0
Water						0	0		0	0	0	0	0	0	0	0
Total	**0.0381**	**1.50E-04**	**0.0167**	**0**	**0**	**6.00E-05**	**6.00E-05**	**0**	**6.00E-05**	**6.00E-05**	**0**	**442.5181**	**442.5181**	**0.03939**	**0.00463**	**444.8827**

2.3 Vegetation
Vegetation

	CO2e
Category	MT
New Trees	27.8920
Total	**27.892**

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/15/2020	9/18/2020	5	25	
2	Grading	Grading	9/19/2020	10/16/2020	5	20	
3	Foundation and Utility	Building Construction	11/1/2020	2/26/2021	5	85	
4	Facility Erection and Deck Pour	Building Construction	2/27/2021	7/8/2021	5	94	
5	Asphalt and Landscaping Phase	Paving	10/17/2020	1/8/2021	5	60	
6	Asphalt and Landscaping Phase	Paving	7/9/2021	9/30/2021	5	60	
7	Coatings and Finishing	Architectural Coating	8/20/2021	9/30/2021	5	30	

Acres of Grading (Site Preparation Phase): 32.81

Acres of Grading (Grading Phase): 8.75

Acres of Paving: 2.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 27,900

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	7.00	187	0.41
Site Preparation	Scrapers	1	7.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Grading	Graders	1	7.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Foundation and Utility	Cranes	1	8.00	231	0.29
Foundation and Utility	Forklifts	2	4.00	89	0.20
Foundation and Utility	Generator Sets	1	4.00	84	0.74
Foundation and Utility	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Foundation and Utility	Welders	1	2.00	46	0.45
Facility Erection and Deck Pour	Cement and Mortar Mixers	0	0.00	9	0.56
Facility Erection and Deck Pour	Cranes	1	8.00	231	0.29
Facility Erection and Deck Pour	Forklifts	0	0.00	89	0.20
Facility Erection and Deck Pour	Generator Sets	0	0.00	84	0.74
Facility Erection and Deck Pour	Pavers	0	0.00	130	0.42
Facility Erection and Deck Pour	Paving Equipment	0	0.00	132	0.36
Facility Erection and Deck Pour	Pumps	1	8.00	84	0.74

Facility Erection and Deck Pour	Rollers	0	0.00	80	0.38
Facility Erection and Deck Pour	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Facility Erection and Deck Pour	Welders	0	0.00	46	0.45
Asphalt and Landscaping Phase 1	Air Compressors	0	0.00	78	0.48
Asphalt and Landscaping Phase 1	Cement and Mortar Mixers	0	0.00	9	0.56
Asphalt and Landscaping Phase 1	Pavers	1	8.00	130	0.42
Asphalt and Landscaping Phase 1	Paving Equipment	0	0.00	132	0.36
Asphalt and Landscaping Phase 1	Rollers	1	8.00	80	0.38
Asphalt and Landscaping Phase 1	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Asphalt and Landscaping Phase 2	Cement and Mortar Mixers	0	8.00	9	0.56
Asphalt and Landscaping Phase 2	Pavers	1	8.00	130	0.42
Asphalt and Landscaping Phase 2	Paving Equipment	0	8.00	132	0.36
Asphalt and Landscaping Phase 2	Rollers	1	8.00	80	0.38
Asphalt and Landscaping Phase 2	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Coatings and Finishing	Air Compressors	1	2.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Site Preparation	3	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	20.00	0.00	312.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Foundation and Utility	6	60.00	5.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Facility Erection and	2	50.00	0.00	113.00	10.00	6.50	40.00	LD_Mix	HDT_Mix	HHDT
Asphalt and	3	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt and	3	30.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Coatings and Finishing	1	60.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0174	0.0000	0.0174	1.8800e-	0.0000	1.8800e-	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0167	0.2043	0.1086	2.5000e-		7.6400e-	7.6400e-		7.0300e-	7.0300e-	0.0000	21.7862	21.7862	7.0500e-	0.0000	21.9623
Total	**0.0167**	**0.2043**	**0.1086**	**2.5000e-**	**0.0174**	**7.6400e-**	**0.0250**	**1.8800e-**	**7.0300e-**	**8.9100e-**	**0.0000**	**21.7862**	**21.7862**	**7.0500e-**	**0.0000**	**21.9623**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	1.4000e-	9.5000e-	0.0104	3.0000e-	2.7500e-	2.0000e-	2.7700e-	7.3000e-	2.0000e-	7.5000e-	0.0000	2.4403	2.4403	7.0000e-	0.0000	2.4420
Total	**1.4000e-**	**9.5000e-**	**0.0104**	**3.0000e-**	**2.7500e-**	**2.0000e-**	**2.7700e-**	**7.3000e-**	**2.0000e-**	**7.5000e-**	**0.0000**	**2.4403**	**2.4403**	**7.0000e-**	**0.0000**	**2.4420**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0649	0.0000	0.0649	0.0336	0.0000	0.0336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0160	0.1792	0.0686	1.6000e-		7.9800e-	7.9800e-		7.3500e-	7.3500e-	0.0000	13.9716	13.9716	4.5200e-	0.0000	14.0846
Total	**0.0160**	**0.1792**	**0.0686**	**1.6000e-**	**0.0649**	**7.9800e-**	**0.0728**	**0.0336**	**7.3500e-**	**0.0410**	**0.0000**	**13.9716**	**13.9716**	**4.5200e-**	**0.0000**	**14.0846**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-	0.0448	0.0101	1.2000e-	2.6300e-	1.6000e-	2.7900e-	7.2000e-	1.5000e-	8.8000e-	0.0000	11.9360	11.9360	6.9000e-	0.0000	11.9533
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4000e-	5.0000e-	5.5400e-	1.0000e-	1.4700e-	1.0000e-	1.4800e-	3.9000e-	1.0000e-	4.0000e-	0.0000	1.3015	1.3015	4.0000e-	0.0000	1.3024
Total	**1.9400e-**	**0.0453**	**0.0157**	**1.3000e-**	**4.1000e-**	**1.7000e-**	**4.2700e-**	**1.1100e-**	**1.6000e-**	**1.2800e-**	**0.0000**	**13.2374**	**13.2374**	**7.3000e-**	**0.0000**	**13.2557**

3.4 Foundation and Utility - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0206	0.2056	0.1355	2.6000e-		0.0104	0.0104		9.7700e-	9.7700e-	0.0000	22.8600	22.8600	5.5500e-	0.0000	22.9987
Total	**0.0206**	**0.2056**	**0.1355**	**2.6000e-**		**0.0104**	**0.0104**		**9.7700e-**	**9.7700e-**	**0.0000**	**22.8600**	**22.8600**	**5.5500e-**	**0.0000**	**22.9987**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2000e-	0.0123	3.4400e-	3.0000e-	6.4000e-	6.0000e-	7.1000e-	1.9000e-	6.0000e-	2.5000e-	0.0000	2.6028	2.6028	1.5000e-	0.0000	2.6066
Worker	4.9100e-	3.3300e-	0.0365	1.0000e-	9.6900e-	7.0000e-	9.7600e-	2.5800e-	6.0000e-	2.6400e-	0.0000	8.5897	8.5897	2.4000e-	0.0000	8.5958
Total	**5.3300e-**	**0.0157**	**0.0400**	**1.3000e-**	**0.0103**	**1.3000e-**	**0.0105**	**2.7700e-**	**1.2000e-**	**2.8900e-**	**0.0000**	**11.1925**	**11.1925**	**3.9000e-**	**0.0000**	**11.2024**

3.4 Foundation and Utility - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.0173	0.1735	0.1228	2.5000e-		8.4200e-	8.4200e-		7.9200e-	7.9200e-	0.0000	21.3010	21.3010	5.1200e-	0.0000	21.4291
Total	**0.0173**	**0.1735**	**0.1228**	**2.5000e-**		**8.4200e-**	**8.4200e-**		**7.9200e-**	**7.9200e-**	**0.0000**	**21.3010**	**21.3010**	**5.1200e-**	**0.0000**	**21.4291**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-	0.0105	2.8000e-	3.0000e-	6.0000e-	3.0000e-	6.3000e-	1.7000e-	3.0000e-	2.0000e-	0.0000	2.4051	2.4051	1.4000e-	0.0000	2.4085
Worker	4.2600e-	2.7800e-	0.0311	9.0000e-	9.0300e-	6.0000e-	9.1000e-	2.4000e-	6.0000e-	2.4600e-	0.0000	7.7315	7.7315	2.0000e-	0.0000	7.7366
Total	**4.5800e-**	**0.0133**	**0.0339**	**1.2000e-**	**9.6300e-**	**9.0000e-**	**9.7300e-**	**2.5700e-**	**9.0000e-**	**2.6600e-**	**0.0000**	**10.1366**	**10.1366**	**3.4000e-**	**0.0000**	**10.1451**

3.5 Facility Erection and Deck Pour - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0373	0.3788	0.2690	5.8000e-		0.0176	0.0176		0.0169	0.0169	0.0000	50.3881	50.3881	9.1500e-	0.0000	50.6170
Total	**0.0373**	**0.3788**	**0.2690**	**5.8000e-**		**0.0176**	**0.0176**		**0.0169**	**0.0169**	**0.0000**	**50.3881**	**50.3881**	**9.1500e-**	**0.0000**	**50.6170**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.1000e-	0.0244	6.0300e-	8.0000e-	1.9000e-	1.0000e-	2.0000e-	5.2000e-	9.0000e-	6.2000e-	0.0000	8.0518	8.0518	4.1000e-	0.0000	8.0621
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1400e-	5.3200e-	0.0595	1.6000e-	0.0173	1.2000e-	0.0174	4.5900e-	1.1000e-	4.7000e-	0.0000	14.7716	14.7716	3.9000e-	0.0000	14.7813
Total	**8.8500e-**	**0.0297**	**0.0655**	**2.4000e-**	**0.0192**	**2.2000e-**	**0.0194**	**5.1100e-**	**2.0000e-**	**5.3200e-**	**0.0000**	**22.8234**	**22.8234**	**8.0000e-**	**0.0000**	**22.8434**

3.6 Asphalt and Landscaping Phase 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0141	0.1463	0.1448	2.2000e-		8.1700e-	8.1700e-		7.5200e-	7.5200e-	0.0000	19.2163	19.2163	6.2100e-	0.0000	19.3717
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0141**	**0.1463**	**0.1448**	**2.2000e-**		**8.1700e-**	**8.1700e-**		**7.5200e-**	**7.5200e-**	**0.0000**	**19.2163**	**19.2163**	**6.2100e-**	**0.0000**	**19.3717**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0200e-	2.0400e-	0.0224	6.0000e-	5.9500e-	4.0000e-	5.9900e-	1.5800e-	4.0000e-	1.6200e-	0.0000	5.2710	5.2710	1.5000e-	0.0000	5.2747
Total	**3.0200e-**	**2.0400e-**	**0.0224**	**6.0000e-**	**5.9500e-**	**4.0000e-**	**5.9900e-**	**1.5800e-**	**4.0000e-**	**1.6200e-**	**0.0000**	**5.2710**	**5.2710**	**1.5000e-**	**0.0000**	**5.2747**

3.6 Asphalt and Landscaping Phase 1 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4500e-	0.0150	0.0161	2.0000e-		8.1000e-	8.1000e-		7.5000e-	7.5000e-	0.0000	2.1347	2.1347	6.9000e-	0.0000	2.1520
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4500e-**	**0.0150**	**0.0161**	**2.0000e-**		**8.1000e-**	**8.1000e-**		**7.5000e-**	**7.5000e-**	**0.0000**	**2.1347**	**2.1347**	**6.9000e-**	**0.0000**	**2.1520**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-	2.0000e-	2.2800e-	1.0000e-	6.6000e-	0.0000	6.7000e-	1.8000e-	0.0000	1.8000e-	0.0000	0.5657	0.5657	1.0000e-	0.0000	0.5661
Total	**3.1000e-**	**2.0000e-**	**2.2800e-**	**1.0000e-**	**6.6000e-**	**0.0000**	**6.7000e-**	**1.8000e-**	**0.0000**	**1.8000e-**	**0.0000**	**0.5657**	**0.5657**	**1.0000e-**	**0.0000**	**0.5661**

3.7 Asphalt and Landscaping Phase 2 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1498	0.1605	2.4000e-		8.1300e-	8.1300e-		7.4800e-	7.4800e-	0.0000	21.3472	21.3472	6.9000e-	0.0000	21.5198
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0145**	**0.1498**	**0.1605**	**2.4000e-**		**8.1300e-**	**8.1300e-**		**7.4800e-**	**7.4800e-**	**0.0000**	**21.3472**	**21.3472**	**6.9000e-**	**0.0000**	**21.5198**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-	2.0400e-	0.0228	6.0000e-	6.6100e-	5.0000e-	6.6600e-	1.7600e-	4.0000e-	1.8000e-	0.0000	5.6572	5.6572	1.5000e-	0.0000	5.6609
Total	**3.1200e-**	**2.0400e-**	**0.0228**	**6.0000e-**	**6.6100e-**	**5.0000e-**	**6.6600e-**	**1.7600e-**	**4.0000e-**	**1.8000e-**	**0.0000**	**5.6572**	**5.6572**	**1.5000e-**	**0.0000**	**5.6609**

3.8 Coatings and Finishing - 2021
Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-	7.6300e-	9.0900e-	1.0000e-		4.7000e-	4.7000e-		4.7000e-	4.7000e-	0.0000	1.2766	1.2766	9.0000e-	0.0000	1.2788
Total	**0.0658**	**7.6300e-**	**9.0900e-**	**1.0000e-**		**4.7000e-**	**4.7000e-**		**4.7000e-**	**4.7000e-**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-**	**0.0000**	**1.2788**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-	2.0400e-	0.0228	6.0000e-	6.6100e-	5.0000e-	6.6600e-	1.7600e-	4.0000e-	1.8000e-	0.0000	5.6572	5.6572	1.5000e-	0.0000	5.6609
Total	**3.1200e-**	**2.0400e-**	**0.0228**	**6.0000e-**	**6.6100e-**	**5.0000e-**	**6.6600e-**	**1.7600e-**	**4.0000e-**	**1.8000e-**	**0.0000**	**5.6572**	**5.6572**	**1.5000e-**	**0.0000**	**5.6609**

5.0 Energy Detail

Historical Energy Use: N

5.3 Energy by Land Use - Electricity
Unmitigated

	Electricity	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking	2.7249e+0	442.4858	0.0393	4.63E-03	444.8483
Total		**442.4858**	**0.0393**	**0.00463**	**444.8483**

6.0 Area Detail

Unmitigated

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural	6.4700e-					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer	0.0301					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5600e-	1.5000e-	0.0167	0.0000		6.0000e-	6.0000e-		6.0000e-	6.0000e-	0.0000	0.0323	0.0323	9.0000e-	0.0000	0.0344
Total	**0.0381**	**1.5000e-**	**0.0167**	**0.0000**		**6.0000e-**	**6.0000e-**		**6.0000e-**	**6.0000e-**	**0.0000**	**0.0323**	**0.0323**	**9.0000e-**	**0.0000**	**0.0344**

7.0 Water Detail

Unmitigated

	Indoor/Out	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

Unmitigated

	Waste	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

11.0 Vegetation

Species Class

	Number of	Total CO2	CH4	N2O	CO2e
		MT			
Mixed Hardwood	38	27.8920	0.0000	0.0000	27.8920
Total		**27.8920**	**0.0000**	**0.0000**	**27.8920**