Final Environmental Impact Report

Student Housing Project

Prepared for:

California State Polytechnic University, Humboldt
Planning, Design, & Construction

January 13, 2023

Final Environmental Impact Report

Student Housing Project

SCH Number 2022030008

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PREFACE TO THE FINAL EIR

In compliance with California Environmental Quality Act (CEQA) Guidelines Section 15132, this document serves as the Final Environmental Impact Report (Final EIR) for the proposed California State Polytechnic University, Humboldt (Cal Poly Humboldt) Student Housing Project (project) (State Clearinghouse [SCH] No.2022030008). This Final EIR has been prepared under the direction of the California State University (CSU) Board of Trustees (Trustees), acting as lead agency, in accordance with the requirements of CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 15000 et seq.). In accordance with Sections 15087 and 15105 of the State CEQA Guidelines, the Draft EIR was circulated for public review and comment for a period of 45 days, from October 20, 2022, through December 5, 2022.

State CEQA Guidelines Section 15132 requires that the Final EIR consist of the following components:

1. the Draft EIR or a revision of the draft;
2. comments and recommendations received on the Draft EIR either verbatim or in summary;
3. a list of persons, organizations, and public agencies commenting on the Draft EIR;
4. the responses of the lead agency to significant environmental points raised in the review and consultation process; and
5. any other information added by the lead agency.

This Final EIR contains the public comments received on the Draft EIR for the project, as well as all written responses to those comments. A list of the persons, organizations, and public agencies that commented on the Draft EIR is provided in the "Comments and Responses to Comments" chapter of this document. In addition, the "Comments and Responses to Comments" chapter documents the revisions to the Draft EIR, with additions shown in underline (<u>underline</u>) and deletions shown in strikethrough (~~strikethrough~~). Those revisions have been incorporated into this clean version of the Final EIR.

INTRODUCTION

This preface, which serves as an introduction to the Final EIR, provides a summary of the public review process, an overview of the Final EIR contents, and a summary of the changes made to the Draft EIR text in response to comments and community input received during the public comment period.

Public Review Process

The Trustees, acting as lead agency, prepared the Draft EIR to inform decision makers and the public of the potential significant environmental effects associated with implementing the proposed project. The Draft EIR was circulated for public review and comment for a period of 45 days, from October 20, 2022, through December 5, 2022. A public notice of availability of the Draft EIR was published in a newspaper of general circulation and mailed to all organizations and individuals previously requesting notice. Cal Poly Humboldt provided copies of the complete Draft EIR with appendices to the State Clearinghouse, which, in turn, distributed the Draft EIR to all interested state agencies for review and comment. The Draft EIR, this Final EIR, and associated appendices were made available for review online at https://facilitymgmt.humboldt.edu/craftsman-student-housing. In addition, a virtual public meeting was held on November 15, 2022, at which time members of the public had the opportunity to provide verbal and written comments.

Interested persons and organizations had the opportunity to submit their written comments on the Draft EIR during the public review period. Comment letters received on the Draft EIR, reproduced in their entirety, and responses to those comments are provided in the "Comments and Responses to Comments" chapter, which follows this preface.

Section 15088(c) of the State CEQA Guidelines specifies that the focus of the responses to comments shall be on the disposition of significant environmental issues. Responses are not required for comments regarding the merits of the project or on issues not related to potential physical environmental impacts or the Draft EIR's analysis of such impacts. Comments on the merits of the project or other comments that do not raise environmental issues are nevertheless included in the record for consideration as part of the project approval process. The responses address environmental issues and indicate where issues raised do not pertain to environmental impacts or to the analysis or address the merits of the project. In the latter instance, no further response is provided.

Although some of the comments have resulted in changes to the text of the Draft EIR, none of the changes constitute "significant new information," which would require the Draft EIR's recirculation. "Significant new information" is defined in Section 15088.5(a) of the State CEQA Guidelines as follows:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

(4) The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

None of these circumstances has arisen from comments on the Draft EIR; therefore, recirculation is not required.

As required by CEQA Section 21092.5 and State CEQA Guidelines Section 15088(b), at least 10 days before consideration of the Final EIR for certification, Cal Poly Humboldt provided a written proposed response (hard or electronic copy) to each public agency that submitted written comments on the Draft EIR.

Overview of the Final EIR

This Final EIR consists of the Draft EIR (October 2022) with a new chapter, "Comments and Responses to Comments," which is inserted before the Executive Summary and includes the following components:

- list of persons, organizations, and public agencies commenting on the Draft EIR;
- comments received on the Draft EIR, verbatim;
- responses from the lead agency to significant environmental points raised; and
- text edits or additions made to the Draft EIR, with additions shown in underline (underline) and deletions shown in strikethrough (~~strikethrough~~).

REVISIONS TO THE DRAFT EIR

The following list summarizes the substantive changes made to the EIR since public review. All changes are incorporated into this clean version of the Final EIR, and are identified in the "Comments and Responses to Comments" chapter, with additions shown in underline (underline) and deletions shown in strikethrough (~~strikethrough~~). Where necessary, supporting materials that supplement these revisions have been included in updated appendices, as noted below.

Executive Summary

- Clarification to the wording of Mitigation Measure 3.11-1 to more explicitly apply to pedestrian and bicycle improvements.

Section 3.9, “Population and Housing”

- Revision to clarify the role of the Humboldt County Association of Governments with respect to population projects.

Section 3.10, “Public Services”

- Revisions to prior information collected with respect to fire service provided to the region by Arcata Fire District.

Section 3.11, “Transportation”

- Clarification to the wording of Mitigation Measure 3.11-1 to more explicitly apply to pedestrian and bicycle improvements.

Appendix G, “Draft EIR Comment Letters”

- Reproduced and bracketed comment letters submitted on the Draft EIR.

PROJECT DECISION PROCESS

This Final EIR will be considered by the Trustees before a decision on whether to approve the project. If the Trustees decide to approve the project, they, as required by State CEQA Guidelines Section 15090, must first certify that the Final EIR was completed in compliance with CEQA’s requirements, was reviewed and considered by the Trustees, and reflects its independent judgment and analysis. The Trustees are then required to adopt findings of fact on the disposition of each significant environmental impact, as required by State CEQA Guidelines Section 15091. If significant and unavoidable impacts (those that cannot feasibly be mitigated to a less than significant level) would result from implementing the project, the project can still be approved, but the Trustees must issue a “statement of overriding considerations,” explaining in writing the specific economic, social, or other considerations that they believe, based on substantial evidence, make those significant effects acceptable (PRC Section 21002; State CEQA Guidelines Section 15093). A mitigation monitoring and reporting program, which is required by State CEQA Guidelines Section 15091(d) must be adopted by the Trustees in conjunction with any project approval.

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LIST OF ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
AFV	alternative fuel vehicle
afy	acre-feet per year
AQAP	air quality attainment plan
BMP	best management practice
CAA	federal Clean Air Act
CAAQS	California ambient air quality standards
CA DOJ	California Department of Justice
CAFE	Corporate Average Fuel Economy
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California State Building Energy Efficiency Standards
California Energy Code	California State Title 24, Part 6, Building Energy Efficiency Standards
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	climate action plan
CAP	criteria air pollutant
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations

cfs	cubic feet per second
CHRIS	California Historical Resources Information System
City	City of Sacramento
CIWMA	California Integrated Waste Management Act
CMC	California Mobility Center
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
County	Sacramento County
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSU	California State University
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWC	California Water Code
CYA	California Youth Authority
dB	decibels
dBA	A-weighted decibels
dbh	diameter at breast height
Delta	Sacramento River–San Joaquin River Delta
diesel PM	particulate matter exhaust from diesel engines
DOT	U.S. Department of Transportation
Draft EIR	draft environmental impact report
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EGU	electric generating units
EO	Executive Order
EOP	City of Sacramento Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 1992

EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
ESA	federal Endangered Species Act
EUI	Energy Use Index
EV	electric vehicles
Final EIR	final environmental impact report
FR	Federal Register
FTA	Federal Transit Administration
FWTP	Fairbairn Water Treatment Plant
GHG	greenhouse gas
GSF	gross square feet
HAP	hazardous air pollutant
HazMat	City of Sacramento Hazardous Materials Program
HCP	habitat conservation plan
HMD	Sacramento County Hazardous Materials Division
HVAC	heating, ventilation, and air conditioning
Hz	hertz
kV	kilovolt
kW	kilowatt
lb/day	pounds per day
LCFS	Low Carbon Fuel Standard
L_{dn}	day-night level
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent continuous sound level
L_{max}	maximum sound level
LRT	light rail transit
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level

mgd	million gallons per day
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MOU	Memorandum of Understanding
mPa	micro-Pascals
MPO	metropolitan planning organizations
MSA	Sacramento-Roseville-Arden Arcade Metropolitan Statistical Area
$MTCO_2e$/year	metric tons of carbon dioxide equivalent per year
MTP/SCS	Metropolitan Transportation Plan/Sustainable Communities Strategy
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	natural community conservation plan
NCIC	North Central Information Center
NIC	Natural Investigations Company
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
NYRC	Northern California Youth Reception Center
OPR	California Governor’s Office of Planning and Research
OSHA	federal Occupational Safety and Health Administration
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM_{10}	respirable particulate matter with aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with aerodynamic diameter of 2.5 micrometers or less
PPV	peak particle velocity
project site	25-acre Ramona Property
project	The Hub, Sacramento State Research Park Project
psi	pounds per square inch

PRC	Public Resources Code
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RWQCB	regional water quality control board
SACOG	Sacramento Area Council of Governments
Sacramento State	California State University, Sacramento
SacRT	Sacramento Regional Transit District
SARA Title III	Superfund Amendments and Reauthorization Act of 1986
SASD	Sacramento Area Sewer District
SB	Senate Bill
SCI	Sacramento Center for Innovation
SCS	Sustainable Communities Strategy
SCUSD	Sacramento City Unified School District
sf	square feet
SFD	Sacramento Fire Department
SHS	State Highway System
SIP	State implementation plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SO_2	sulfur dioxide
SOV	single-occupant vehicle
SPCC	Spill Prevention, Control, and Countermeasure
SPL	sound pressure level
SR	State Route
SRCSD	Sacramento Regional County Sanitation District
SRWTP	Sacramento River Water Treatment Plant
SSS	separated sewer system
STARS	Sustainability Tracking, Assessment, and Rating System
SVAB	Sacramento Valley Air Basin
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board

SWRCB-DDW	State Water Resources Control Board Division of Drinking Water
TAC	toxic air contaminant
TAZ	traffic analysis zone
TDM	transportation demand management
The Hub	The Hub, Sacramento State Research Park Project
TISG	*Vehicle Miles Traveled-Focused Transportation Impact Study Guide*
TISM	California State University *Transportation Impact Study Manual*
tpy	tons per years
Trustees	Board of Trustees
UAIC	United Auburn Indian Community of the Auburn Rancheria
University	California State University, Sacramento
UPRR	Union Pacific Railroad
US 50	U.S. Highway 50
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VdB	vibration decibel
VMT	vehicle miles traveled
WWTP	wastewater treatment plant
ZEV	zero-emission vehicles
ZNE	zero-net energy

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COMMENTS AND RESPONSES TO COMMENTS

This chapter of the final environmental impact report (Final EIR) contains the comment letters received during the public review period for the Draft EIR, which concluded on December 5, 2022. In conformance with Section 15088(a) of the State CEQA Guidelines, written responses were prepared to address comments on significant environmental issues received from reviewers of the Draft EIR.

COMMENTERS ON THE DRAFT EIR

Table 1 lists the comment letters received, and the alphanumerical designation, author, and date of each letter. Comment letters are numbered in the order in which they were received by Cal Poly Humboldt.

Table 1 List of Commenters

Letter Number	Agency/Organization	Commenter	Date
State			
S1	California Department of Transportation, District 1	Jesse Robertson	December 5, 2022
S2	California Department of Toxic Substances Control	Isabella Roman	December 7, 2022
Local			
L1	Arcata Fire District	Randy Mendosa	December 2, 2022
Organization			
O1	Coalition for Responsible Transportation Priorities; Environmental Protection Information Center; Northcoast Environmental Center	Colin Fiske; Tom Wheeler; Caroline Griffith	December 1, 2022
Individual			
I1	Glen Colwell		November 1, 2022
I2	Margaret Kelso		November 29, 2022
I3	Fred Johansen		November 30, 2022
Public Hearing			
PH1-1	Fred Johansen		November 15, 2022
PH1-2	Anne Carlisle		November 15, 2022
PH1-3	Natalie Calderon		November 15, 2022
PH1-4	Anne Carlisle		November 15, 2022
PH1-5	Anne Carlisle		November 15, 2022

COMMENTS AND RESPONSES ON THE DRAFT EIR

The written comments received on the Draft EIR and the responses to those comments are presented below. Each comment is reproduced in its entirety and is followed by the response. Comment letters in their original form are included in Appendix G; individual comments are bracketed and numbered, and correspond to the comments presented in this section.

State

LETTER S1 CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 1

Jesse Robertson, Transportation Planning
December 5, 2022

Comment S1-1

Thank you for giving Caltrans the opportunity to comment on the Draft Environmental Impact Report (EIR) to develop student housing for California State Polytechnic University, Humboldt (Cal Poly Humboldt). The project would include the development of up to 964 student beds in approximately 240 apartment-style, student residence units. The project site is located near the intersection of the St. Louis Road and U.S. Highway 101 (US 101) overcrossing, approximately 0.5 mile north of Cal Poly Humboldt. We offer the following comments for your consideration:

Response S1-1

The comment provides an introduction to the letter and describes the project site in terms of its proximity to U.S. Highway 101 (US 101). No specific comment on the adequacy, accuracy, or completeness of the EIR is provided; therefore, no further response is necessary.

Comment S1-2

Hydrology

With respect to the physical improvements at the Craftsman Mall/project site, we note that Caltrans has a two-foot diameter culvert at US 101 postmile 87.26 that discharges to the area that is planned as parking in the southeast corner of the planned project. The expectation is that storms will become more intense with climate change which may result in the need to increase the diameter of this culvert to accommodate an increase in storm water runoff. If stormwater quantities do increase over time, Caltrans will continue to accept and convey storm water at this location. We note that storm water will be retained on-site, however we suggest that the parking and water conveyance facilities be designed to ensure that the potential increase in flow rates can be accommodated.

Response S1-2

The comment provides suggestions related to existing and future flows of stormwater through a culvert at US 101 postmile 87.26 onto the southeastern corner of the project site. Stormwater collection and drainage is addressed in Section 3.12, "Utilities and Service Systems," in the Draft EIR. Impact 3.12-4 discusses the potential relocation or construction of new or expanded stormwater drainage facilities, noting that the project would include low impact development (LID) methods to be implemented to maintain pre-project runoff level…." The Draft EIR, within Impact 3.12-4, further states that, "[b]ecause final drainage design specifications have not been completed, including stormwater flow paths and magnitudes based on a finalized site plan, development of the project site has the potential to cause an increase in surface runoff that would exceed the capacity of the stormwater drainage system, resulting in on-site and off-site flooding and erosion. As a result, this impact would be considered **significant** (second paragraph on page 3.12-16 of the Draft EIR)." Mitigation Measure 3.12-4 requires, "adequate on-site storm drainage retention/detention facilities to accommodate the potential stormwater demands and runoff from the project site to rates not exceeding pre-development conditions (first paragraph on page 3.12-17 of the Draft EIR)."

Although the comment indicates that some stormwater flows to the site via a culvert that exists under US 101, implementation of the proposed mitigation measure, as well as compliance with National Pollutant Discharge Elimination System (NPDES) requirements would ensure that stormwater flows at the project site are conveyed, detained, and treated appropriately at the project site and to existing stormwater facilities. In addition, stormwater flows generated at the project site would generally be conveyed to the west of the project site and are not anticipated to increase flows to Caltrans right-of-way. No changes to the document are required in response to this comment.

<u>Comment S1-3</u>

The DEIR discusses the cumulative effects from Cal Poly Humboldt's enrollment increases on transportation and it notes the location and scale of other campus educational and student housing facilities. We have not evaluated the potential impacts of increased stormwater runoff from increased development on campus as this review appears to be for the proposed new housing to the west of 101 only. The cumulative impacts of additional stormwater runoff with Cal Poly Humboldt infrastructure improvements do not appear to have been addressed. We offer to work with Cal Poly Humboldt to evaluate any needed improvements to US 101 cross drains as a result of increased impervious surfaces.

<u>Response S1-3</u>

The comment states that the project contribution to cumulative impacts on stormwater do not appear to have been evaluated in the Draft EIR. In response, it is noted that cumulative impacts of the project are addressed in standalone Chapter 4, "Cumulative Impacts," in the Draft EIR. As stated in the last paragraph on page 4-13, "…future utility demands include development within the cumulative context, the analysis provided in Section 3.12, "Utilities and Service Systems," is considered inherently cumulative. As a result and based on the analysis provided above and in Section 3.12, the project would not make a cumulatively considerable contribution, and impacts would be **less than significant** with respect to utilities and service systems." As discussed above in Response S1-2 above, Mitigation Measure 3.12-4 requires, "adequate on-site storm drainage retention/detention facilities to accommodate the potential stormwater demands and runoff from the project site to rates not exceeding pre-development conditions (first paragraph on page 3.12-17 of the Draft EIR)."

The comment does not cite the cumulative utilities and service systems impact discussion in Chapter 4 or provide substantial evidence to support a significant cumulative impact to stormwater accumulation on the project site under existing or proposed conditions. Further, Chapter 4 does consider individual projects that are currently planned and under construction within the Cal Poly Humboldt campus. Cal Poly Humboldt will also be initiating a Master Plan process in the near future to address potential additional land use changes associated with campus growth. However, at this time, no plans have been developed and the potential changes in pervious versus impervious and stormwater flows are not able to be assessed. Consistent with CEQA requirements, Cal Poly Humboldt will evaluate the potential need for additional stormwater infrastructure within the campus as a result of future Master Plan development within the forthcoming Master Plan EIR. No changes to the document are required in response to this comment.

<u>Comment S1-4</u>

Transportation

As it relates to State priorities to reduce Vehicle Miles Traveled that result from new development, we support the project objectives as described in E.S.2.3, particularly with respect to providing additional housing near existing and planned mobility infrastructure (i.e., pedestrian and bicycle facilities and transit) to reduce vehicle trips, vehicle miles travelled, and parking demand; and to support and advance Cal Poly Humboldt's educational mission by guiding the physical development of housing proximate to campus to accommodate gradual student enrollment growth up to a future enrollment of 12,000 full-time-equivalent students per the 2004 Master Plan while preserving and enhancing the quality of campus life.

We concur with the conclusions of the Vehicle Miles Traveled (VMT) assessment; that the student housing project is expected to result in insignificant levels of VMT. We recognize and appreciate Cal Poly Humboldt's efforts to contribute toward the State's Greenhouse Gas (GHG) emission reduction goals and to incorporate multimodal travel into the design and mitigation for the project. We offer to partner with Cal Poly Humboldt, the City of Arcata, and other local transportation stakeholders to ensure that students have safe and accessible modes of travel to and from the University campus.

The following insights are offered for further consideration with the proposed mitigation efforts or as part of Cal Poly Humboldt's ongoing transportation center/Travel Demand Management (TDM) program. The recommendations are not CEQA-required mitigation measures for this project, but may contribute towards other campus-expansion projects:

- The DEIR Appendix A, NOP project description on page 5 (pdf p. 300) proposes a bus/shuttle stop along the project site, as stated here: In addition, the project would include creation of a bus/shuttle stop at the St.

Louis Road turnaround, located along the eastern boundary of the project site." (DEIR App A, p.5, pdf p. 300)." While the concept from the NOP was not carried through to the DEIR project concept and mitigation, we encourage Cal Poly Humboldt to provide a transit bus or shuttle stop for the project site, with or without coordinated HTA service. The transit facility should include an all- weather bus shelter, signage, lighting, ADA and other improvements.

- Cal Poly Humboldt is encouraged to work with Caltrans and the City of Arcata to further improve a connection between the Annie & Mary Trail and campus, as well as pedestrian and bicycle access along Sunset Avenue at L.K. Wood Boulevard and H Streets should be considered.
- As part of the mitigation proposal to provide a connected bicycle and pedestrian facility to L.K. Wood Blvd via St. Louis Road, we recommend extending the southbound bike lane from St Louis Road beyond where the bike lane ends at Granite Ave to the intersection at Sunset Ave. If there is an intent for cyclists destined for the University campus to exit L.K. Wood right-of-way at Granite Ave, please consider working with the City of Arcata to provide an intersection crossing treatment to protect bicyclists making left turns across uncontrolled travel lanes in the north- and southbound directions.
- We encourage Cal Poly Humboldt to add a parking study and parking management to the suite of existing Travel Demand Management (TDM) measures already employed for students, faculty, and staff.

Feel free to contact me with questions or for further assistance with the comments provided at (707) 684-6879 or by email at: <jesse.robertson@dot.ca.gov>.

Response S1-4

The comment correctly states that the NOP indicates that a bus/shuttle stop would be located along the project site. The bus/shuttle stop is also identified in Chapter 2 of the Draft EIR, "Project Description," in the last sentence of the second paragraph on page 2-17, of the Draft EIR. Recommendations related to the design of the transit facilities, including an all-weather bus shelter, signage, lighting, and ADA improvements will be considered and evaluated by Cal Poly Humboldt during detailed design of the project.

The comment expresses general support for the project objectives and Vehicle Miles Traveled (VMT) assessment and provides recommendations for other campus expansion projects and off-site improvements. Cal Poly Humboldt, as part of implementation of Mitigation Measure 3.11-1, would work with the City of Arcata to ensure pedestrian and bicycle facilities are provided, based on the analysis conducted, for the safe passage of pedestrians and bicyclists to and from the project site to the main campus. However, the additional recommendations provided by Caltrans will be considered and evaluated by Cal Poly Humboldt with respect to future campus growth and opportunities for interagency coordination in order to provide a more integrated multimodal transportation system.

LETTER S2 CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Isabella Roman, Environmental Scientist
December 7, 2022

Comment S2-1

I had a comment for the Cal Poly Humboldt Student Housing Project. I had the comment drafted, but didn't get around to sending it until now. I realize I'm now outside the comment period, but thought I'd send you my comment anyway, in case you can include it. See my comment below:

Response S2-1

The comment correctly acknowledges that the Draft EIR public comment period ended before it was submitted. Regardless, the comment and a response have been incorporated into the Final EIR. No specific comment on the adequacy, accuracy, or completeness of the EIR is provided; therefore, no further response is necessary.

Comment S2-2

Hello,

I represent the Department of Toxic Substances Control (DTSC) reviewing the Draft Environmental Impact Report (DEIR) for the Student Housing Project.

The DEIR states that the site was used as a lumber mill until the 1970s. The DEIR does not provide much information about lumber mill operations, especially not in relation to potential contamination at the site. Past land uses could have resulted in hazardous materials releases within the project area that should be investigated for public health protection. Past land uses could indicate the need for conducting a Phase 1 Environmental Site Assessment (ESA), Phase2 ESA or other environmental sampling activities.

Response S2-2

The comment states that past land uses of the project site, including lumber mill operations, may have resulted in release of hazardous materials. Consistent with the recommendations in the comment, as stated at the beginning of Chapter 3 of the Draft EIR, Environmental Impacts and Mitigation Measures, under Effects Found Not To Be Significant – Hazards and Hazardous Materials (p.3-3) and as cited in Chapter 8, References, the Draft EIR reflects the results of a Phase I Environmental Site Assessment (ESA) and a Phase II ESA that were prepared for the site in 2015. While several recognized environmental conditions were identified in the Phase I ESA, further testing indicated that there are no recognized environmental conditions or hazardous materials on the project site (Blue Rock Environmental 2015a and 2015b). The text in the second paragraph of Draft EIR has been modified as follows to address the results of the Phase I and Phase II ESAs

> The SWRCB GeoTracker website does not identify any active hazards related to underground storage tanks (USTs) and other types of contamination within the project site or surrounding area (SWRCB 2022). <u>A Phase I Environmental Site Assessment (ESA) and a Phase II ESA were prepared for the site in 2015. While several recognized environmental conditions were identified in the Phase I ESA, including two properly disposed underground storage tanks, further testing indicated that there are no recognized environmental conditions or hazardous materials on the project site (Blue Rock Environmental 2015a and 2015b).</u> ~~Historically, two USTs were located on-site and were disposed of appropriately. As a result, they are not considered current recognized environmental conditions at the project site (Blue Rock 2015).~~ Further, the California Department of Toxic Substances Control's (DTSC's) EnviroStor website also does not identify any hazards related to any cleanup sites within the project site (DTSC 2022). For these reasons, the project site is not included on a list of hazardous-materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List) (CalEPA 2022). Transportation of hazardous materials on area roadways is regulated by the California Highway Patrol and California Department of Transportation, whereas use of these materials is regulated by DTSC, as outlined in CCR Title 22. Cal Poly Humboldt would be required to use, store, and transport hazardous materials in compliance with local, State, and federal regulations during facility construction and operation. Any disposal of hazardous materials would occur in a manner consistent with applicable regulations and at an appropriate off-site disposal facility. Therefore, adverse impacts related to the handling of potentially hazardous materials as a result of the project are not anticipated.

Local

LETTER L1 ARCATA FIRE DISTRICT

Randy Mendosa, President, Board of Directors
December 12, 2022

Comment L1-1

The Arcata Fire District (AFD or District) provides fire services within a 62 square mile District that has a resident population of approximately 36,000 residents living in five communities: the City of Arcata; Bayside; Manila; McKinleyville; and Jacoby Creek. The City of Arcata, including the Cal Poly Humboldt campus, is the largest community served by AFD with a population of about 18,000. Fire services include fire prevention and suppression, emergency medical services, rescue, hazardous materials response, and public assists among others. AFD responds to approximately 3,300 incidents per year; about eight percent are fires and about 50 percent are medical. The District has 20 fire suppression employees, only seven of which are typically on duty at any time, including one duty chief, operating from three stations (McKinleyville, Mad River, and Arcata), each with one engine staffed with two firefighters.

The AFD and its predecessors have provided fire protection to the University since 1913. AFD provides full-service emergency response to the Cal Poly Humboldt campus as the entirety of the main campus is located within the District boundary. AFD and Cal Poly Humboldt have partnered for over 20 years in conducting joint training with University Police and Housing staff.

The AFD is supportive of the transformation from Humboldt State University to Cal Poly Humboldt. The AFD is also supportive of Cal Poly Humboldt's plans to increase enrollment and increase the proportion of on-campus housing for students. However, the AFD feels that it is essential that plans and designs for expanded student housing, academic, and instructional buildings be implemented in a manner within with AFD's capacity to provide services under safe conditions commensurate with industry standards.

While California Environmental Quality Act (CEQA) case law clarifies that funding impacts associated with a project are not CEQA impacts, physical changes and the ability to adequately serve those changes most definitely are. The Draft Environmental Impact Report (DEIR) determination of significance must be whether new impacts, including substantial new housing construction, would significantly reduce acceptable fire service staffing ratios, response times and other life safety performance objectives. Not only will existing property tax revenues supporting fire services be lost, due to Cal Poly status as exempt from property tax, there will be a future lack of District revenues to address project related changes. The physical services impact from a constrained District, due to the applicant's actions and directly attributable to the project, must be considered significant, as noted in this comment letter.

Response L1-1

The comment provides general information about Arcata Fire District (AFD) and suggests that the Draft EIR determination of significance must be whether new impacts, including substantial new housing construction, would significantly reduce acceptable fire service staffing ratios, response times, and other life safety performance object. However, the threshold of significance, which is drawn from the State CEQA Guidelines Appendix G Environmental Checklist Form, bases potential impact significance on the need for new or physically altered governmental facilities, *the construction of which* could cause significant environmental impacts. As stated in the first bullet on page 3.10-7 of the Draft EIR:

- result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
  - fire,
  - police protection,
  - schools,
  - parks, and
  - other public facilities

Impact 3.10-1 addresses this threshold in terms of fire facilities (page 3.10-8 of the Draft EIR) appropriately and in accordance with CEQA requirements.

Comment L1-2

The DEIR does not provide an adequate fire protection services baseline or adequately analyze potential impacts of substantially increased services needs and response to multi-story buildings and approximately 1,000 new student residents. These omissions, as described below, must be addressed and the DEIR recirculated. As part of preparing a revised DEIR, Cal Poly Humboldt should coordinate closely with AFD regarding existing fire service capabilities and needed firefighting personnel, facilities, and equipment necessary to respond to the proposed project.

Population and employment together comprise the "service population" of a fire department. Together with service area building types, the service population's geographic distribution, and adequate fire response and life-saving resources are all critical factors that must be analyzed to determine significant effects on fire protection services.

The DEIR includes errors and misstatements regarding population and housing within the City of Arcata and as a result, the evaluation of population and housing related impacts is inadequate.

Response L1-2

The comment provides introductory comments related to concerns presented within the remainder of Comment Letter L1, specifically noting concerns related to the methods used to determine significant effects. The Draft EIR's analysis was prepared in accordance with CEQA requirements and appropriate thresholds related to public services and impacts were determined to be less than significant (Section 3.10 of the Draft EIR, “Public Services”). Please refer to Response L1-1, which addresses the threshold of significance related to an impact to public services; and Response L1-11, which addresses the need for new or expanded facilities related to the project.

Further, Cal Poly Humboldt has coordinated and continues to coordinate with AFD regarding fire protection services for the project site. Notably, during a July 2022 meeting between Cal Poly Humboldt and AFD, the project engineer and Cal Poly Humboldt staff met with AFD staff to discuss elements of the project including fire lanes, aerial fire apparatus access, drive aisles, hydrant locations, and fire protection water supply and ensure that adequate on-site facilities (including emergency access to, from, and through the project site) are provided as part of the project. In October 2022, Cal Poly Humboldt met with AFD to discuss project status and seek further input regarding existing service agreements between the two entities. Additionally, AFD provided “local fire authority - access approval” in October, which is a CalFire form that AFD uses to indicate approval of adequate access to the site, including elements such as general access, connection, alarms, and elevators.

Comment L1-3

Further, the DEIR cumulative impacts analysis relies upon the inadequate analysis of fire services, population and housing and also omits important probable future development projects in the vicinity of the project site that have some relation to the environmental impacts of construction and operation of the proposed project.

Response L1-3

The comment provides general statements regarding the cumulative analysis of fire services, population, and housing; however, no specific reasons were provided. Because the comment does not provide details related to the adequacy, accuracy, or completeness of the EIR is provided, no further response is necessary.

Comment L1-4

The DEIR analysis should disclose the changes to the service population and building types that would result from the proposed project and important probable future development projects in the project vicinity must be described and analyzed to determine the potential for significant environmental impacts of new or physically altered governmental facilities, and the potential effects on acceptable service ratios, response times or other performance objectives.

In comparison to national consensus-based standards, AFD has provided a summary of existing service demands and service levels (including from automatic and mutual aid partners), and expected service demands from the project. The attached Exhibit 1 should be used as the basis of analysis in the DEIR to determine the potential for significant environmental impacts of new or physically altered governmental facilities, and the potential effects on acceptable service ratios, response times or other performance objectives. Exhibit 1 should also be used to develop mitigations to ensure that adequate fire services are available to the proposed project.

Response L1-4

The comment states that Exhibit 1, provided as part of Comment Letter L1, should be used to determine existing service demand and the effects of the project on service demand. Exhibit 1 includes background information related to AFD's operations and provides recommended actions for Cal Poly Humboldt to support adequate response levels by AFD. While Exhibit 1 notes that AFD needs a new ladder truck and may need to expand one or more existing fire stations, no new or modified station been formally proposed and it is not clear that an environmental impact may result from either action. Further, according to the most recent Humboldt Bay Regional Fire Services Municipal Services Review, the Mad River Station previously had a ladder truck, in addition to a frontline engine and reserve engine (Humboldt LAFCo 2017). Because substantial evidence that indicates the project itself directly or indirectly contributes to the need for new or expanded fire facilities, the construction of which may cause environmental impacts was not provided as part of this comment or in Exhibit 1, no changes to the document are necessary.

Please see Response L1-1 for a discussion related to the CEQA Guidelines Appendix G threshold for a significant impact related to fire facilities.

Comment L1-5

The narrative contained in the final paragraph on page 3-3, that extends to page 3-4 and is repeated on page 3-5 in a description of wildfire risk, incorrectly states that "the project site is not located within a High or Moderate Fire Hazard Severity Zone." The Office of the State Fire Marshal publishes maps of Fire Hazard Severity Zones (FHSZ) for State Responsibility Area (SRA) and recommended Fire Hazard Severity Zones for Local Responsibility Area (LRA). FHSZ maps for LRA in Humboldt County can be found at the following link https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/fhsz/fire-hazard-severity-zones-maps/. These maps indicate that the project site (specifically Assessor's Parcels 505-022-011, 503-372-002, -003, -004, -005, -006) are mapped as Moderate FHSZ and are directly adjacent to High FHSZ. In addition, the entire project site is Wildland Urban Interface (Wildland Urban Interface mapping is available from the California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) https://frap.fire.ca.gov/mapping/gis-data/).

The project site and the City of Arcata are within the Humboldt Bay Area Planning Unit of the Humboldt County Community Wildfire Protection Plan (CWPP), last updated in 2019, which is a comprehensive plan to inspire and guide actions to mitigate the potential for wildfire loss in all vulnerable communities in Humboldt County. The CWPP identifies only a limited wildland fire history for the Humboldt Bay Area Planning Unit, which includes the project site, but describes the October 2017 "Blue Fire" in the City of Blue Lake, igniting on the same day as the tragic fires in Sonoma County, which came very close to being the catastrophic event that local firefighters are most concerned about. The Blue Fire was caused by downed power lines and occurred in an area mapped as Moderate and High FHSZ during Red Flag Warning conditions with winds gusting to 20 miles per hour. The fire was contained relatively quickly due to the presence of air firefighting resources in the area at another fire in Humboldt County. These conditions occur on rare occasions within the Planning Area, which includes the project site, but are expected to occur with greater frequency in the future and when they are coupled with climate change and drought the consequences can be disastrous. The California's Fourth Climate Change Assessment - North Coast Regional Report states that "(f)uture wildfire projections suggest a longer fire season, an increase in wildfire frequency, and an expansion of the area susceptible to fire."

Given the presence of documented wildland fire hazards at the project site, to which approximately 1,000 students are proposed to be exposed, these hazards will likely only increase over time. The DEIR should fully evaluate the potential for the project to "expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands," per CEQA Guidelines Appendix G, VIII(h). Further, a Fire Hazard and Risk Assessment should be prepared for the project based on guidance contained in the Governor's Office of Planning and Research Fire Hazard Planning Technical Advisory. This assessment is particularly important given that the Cal Poly campus and surrounding area is largely classified as High FHSZ, located less than 1,250 feet from the project site, and does not have a plan to lessen hazards associated with wildland fire.

Response L1-5

In response to the comment and the links provided, the Draft EIR has been modified to indicate that the project site contains small portions that are designated as moderate fire hazard severity zones that are located within the Local Responsibility Area. The text beginning in the last paragraph on page 3-3 of the Final EIR has been revised to state:

> Regarding wildland fire risk, and as noted in further detail below, the eastern edge of the project site is ~~not located~~ designated as ~~within~~ a ~~High or~~ Moderate Fire Hazard Severity Zone within the Local Responsibility Area (CalFire 2007). The area is not located within a high or very high fire hazard severity zone. The project would involve development on an infill site that is surrounded by urban/suburban development within the City. The project would not expose people or structures to increased risks related to wildland fires. Therefore, no impacts related to risk, loss, or injury involving wildfires would occur. As demonstrated above, no potentially significant impacts (either through regulatory compliance or otherwise) would occur with respect to hazards and hazardous materials; therefore, these issues are not discussed further in this EIR.

Additionally, in late December 2022, updated fire hazard severity zone maps were released by CalFire (CalFire 2022). As shown in these maps, the nearest high fire hazard severity zone to the project site is located 4.5 miles to the southeast. While the comment notes that the project site is located within the Wildland Urban Interface or WUI, and that the Blue Fire occurred within land designated as moderate and high severity, the project would include several elements that would reduce fire risk within the site compared the existing conditions. For instance, the project would be subject to the Campus Fire Safety Right-to-Know Act in the Higher Education Opportunity Act, which requires supervised fire drills, on-campus student housing facility fire strategy systems (e.g., fire sprinkler systems), policies and rules related to electrical appliances, smoke, and open flames, and evacuation procedures. As further described in Impact 3.10-1:

> All new on-site buildings would be designed to meet minimum fire and emergency safety requirements identified in the California Building Code and California Fire Code and would include appropriate fire safety measures and equipment, including the use of fire-retardant building materials, inclusion of emergency water infrastructure (fire hydrants and sprinkler systems), installation of smoke detectors and fire extinguishers, emergency response notification systems, and provision of adequate emergency access ways for emergency vehicles. Further, adequate right-of-way for emergency vehicles would be provided around the proposed on-site structure with hydrants spaced according to applicable requirements. As a result, development under the project would be adequately serviced by existing fire stations and facilities, and the project is not anticipated to result in a substantial increase in service calls that would require new or expanded fire protection employees or facilities. Additionally, due to the improvements in on-site circulation, including the provision of dedicated emergency access from the project site to Eye Street, the ability for AFD to respond to emergency calls for service to and through the project site may improve.

While the comment provides an example of another fire in the County and indicates that it occurred within a similarly designated area (moderate and high fire hazard severity zones), it does not provide any substantial evidence to indicated that the Student Housing Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. As discussed on page 3-3 of the Draft EIR, "[t]he project would involve development on an infill site that is surrounded by urban/suburban development within the City." As an infill development project, it would not bring new development closer to the wildland-urban interface or increase the potential for wildfire ignition. No changes to the document are necessary.

Please note that the Draft EIR reflects the Appendix G Environmental Checklist Thresholds that were updated in 2018, while the comment references versions of the thresholds that predate the 2018 CEQA amendments.

Comment L1-6

The DEIR incorrectly states that the Humboldt County Association of Governments (HCAOG) develops regional population, employment, and housing forecasts for the county and the individual cities and communities within the county. The HCAOG Regional Housing Needs Plan (RHNP) does not include any reference to planned growth in student enrollment at Cal Poly. The following edits addressing errors and what AFD considers to be omission or inaccuracies, must be made to the population and population growth description on page 3.9-4:

> As part of its regional planning functions, HCAOG **is required to adopt a RHNP that allocates a share of the regional housing need to each city and county to aid in the preparation of housing elements** ~~develops regional population, employment, and housing forecasts for the county and the individual cities and communities within the county~~. The housing elements of the City's and County's respective general plans each incorporate **the Regional Housing Needs Allocation (RHNA)** ~~projected population and housing estimates~~ from HCAOG into their overall planning efforts. **The Department of Finance, Demographic Research Unit, prepares population projections for the state and each county. No regional population projection is prepared for cities or communities within the county**. A discussion of population trends in the city and county are discussed below.

Response L1-6

Please refer to Response L1-9 regarding consideration of student enrollment at Cal Poly Humboldt by HCAOG. The recommended edits presented in this comment provide suggested clarifications to the text; however, it is incorrect to state that no regional population projections are prepared for cities or communities within the County. California Housing Element Law requires each city and county to adopt a general plan for future growth. This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, HCD estimates the relative share of California's projected population growth that would occur in each county in the state, based on DOF population projections and historic growth trends. Where there is a regional council of governments, such as HCAOG, HCD provides the regional housing need to the council. The council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations. HCD oversees the process to ensure that the council of governments distributes its share of the state's projected housing need. In response to this comment, the noted paragraph on page 3.9-4 of the Draft EIR has been amended as follows:

> As part of its regional planning functions, HCAOG is required to adopt a RHNP that allocates a share of the regional housing need to each city and county to aid in the preparation of housing elements ~~develops regional population, employment, and housing forecasts for the county and the individual cities and communities within the county~~. The housing elements of the City's and County's respective general plans each incorporate the Regional Housing Needs Allocation (RHNA) ~~projected population and housing estimates~~ from HCAOG into their overall planning efforts. The Department of Finance, Demographic Research Unit, prepares population projections for the state and each county. The Department of Housing and Community Development provides the regional housing needs to HCAOG. A discussion of population trends in the city and county ~~are discussed~~ is provided below.

These changes do not result in a new significant impact or impact of greater severity than disclosed in the Draft EIR. No further changes are necessary.

Comment L1-7

US Census and Department of Finance data indicate that the population in the City of Arcata has not "swelled," rather, growth in the City has been moderate and the projected future population in Humboldt County is projected to decline. The following edits - shown using strikethrough and underline, to address errors, and to address what AFD considers to be mischaracterizations - are requested to be made to the description of population and population growth on page 3.9-4:

> Humboldt County (County) is a rural county with a large land area and low population density. Per California Department of Finance (DOF) statistics, the county's population in 2022, inclusive of

incorporated cities, is 135, 168 residents, which represents a decrease of 1,295 compared to the County's 2020 population but an increase of 545 residents over 2010 county population (DOF 2021a, 2022). As of 2022, there are 62,771 households in Humboldt County with an average person-per-household ratio of 2.31 (DOF 2022).

The City of Arcata is one of the primary population centers in the County. In 2010, City population was 17,231, and **increased** ~~then swelled~~ to 18,592 in 2020 **at an annual average rate of less than one percent per year**, before decreasing ~~slightly~~ in the years 2021 and 2022 to 18,059 (DOF 2021a, 2022). The city's population is largely determined by student enrollment at Cal Poly Humboldt. With 42 percent of residents being age 18-24, the City has the largest share of college-age adults in the County (City of Arcata 2019). Table 3.9-1 displays the current and historic populations of both the County and the City between 2010 and 2022. As shown in this table, the **rate of** population growth ~~experienced~~ in the City between 2010 and 2022 was almost 10 times that ~~experienced~~ in the County over that same period. **Most of the population growth in Humboldt County during that period (a total of 545 persons) likely occurred within the City of Arcata (which grew by 823 persons), while other areas of the County declined in population by a total of 283 persons.**

As indicated by the changes in population described above, very little population growth has occurred over the last twenty years in the County and only a small amount of growth has occurred in the City of Arcata. ~~In terms of~~ **Based on Department of Finance** population projections (2019 baseline, published in 2021), countywide population is anticipated to ~~fluctuate~~ ~~somewhat~~ **decline by an average of nearly 200 persons per each year** over the next ~~20~~ 18 years ~~but would experience an incremental decline in overall population~~ from its current 134,623 residents to 130,791 by 2040 (DOF 2021b). **Revised population projections based on the 2020 Census are expected in July 2023.**

Response L1-7

The comment provides suggested modifications to the Draft EIR that do not affect the analysis or data provided in the Draft EIR. The suggested edits represent speculation regarding why growth occurred or didn't occur within the County. As a result, the recommended changes have not been incorporated into the Final EIR. No changes to the Draft EIR are necessary in response to this comment.

Comment L1-8

The use of percentages or absolute values alone when describing past changes in housing or population in the DEIR, without including both together with appropriate context, can exaggerate the actual level of change. The following edits, shown using strike through and underline, to address errors, and to address what AFD considers to be omission or inaccuracies, are requested to be made to the description of housing units and vacancy on page 3.9-5 and following pages:

Regional Housing

Humboldt County

According to DOF, there were a total of 62,120 housing units in the county in 2020, which is an increase of 561 over the county's total housing units in 2010 (DOF 2021a), **a total increase of less than one percent in ten years**. The number of housing units within the county did not increase between 2020 and 2022 (DOF 2022). Over 44,000 units were single-family housing (attached and detached) whereas approximately 22,000 housing units were multi-family housing, about 35 percent of the County's housing supply (DOF 2022).

The housing vacancy rate is a measure of general housing availability and represents the percentage of all available housing units that are vacant or unoccupied at a particular time. A low vacancy rate, 5 percent or less, suggests that housing availability is low; conversely, a high vacancy rate (over 8 percent) may indicate a high number of housing units are available for occupancy, a high number of seasonal units are vacant, or there is an oversupply of housing. By maintaining a "healthy" vacancy rate between 5 percent and 8 percent, housing consumers have a wider choice of housing types and prices to choose from. As vacancy rates drop, shortages generally raise housing costs and limit choices. The county's housing vacancy rate usually exceeds the state's vacancy rate. In 2020, the vacancy rate of the county was 9.20 percent, while California's vacancy rate was ~~4.1~~ **6.7** percent. The County's vacancy rate increased to 9.9 percent in 2022 (DOF 2022). **It should be noted that COVID-19 pandemic may have had an effect on changes in vacancy rates, especially in areas with significant university populations, which were found to have housing disruptions or changes effecting over 20 percent of students in the far west institutional region, which includes Cal Poly Humboldt, according to the U.S. Department of Education Institute of Education Sciences 2019-2020 National Postsecondary Student Aid Study.**

The County's average persons per household (pph) has been consistently lower than that of the State. In 2022, the household size of the county has averaged 2.31 persons per household compared to California's average of 2.81 persons per household in 2022 (DOF 2022).

City of Arcata

According to DOF, there were a total of 8,502 housing units in the City of Arcata in 202~~0~~**2** (DOF 2022), which is an increase of ~~561~~ **79** units over the city's total in 2020 and 780 units over the city's total in 2010 (DOF 2021a). Of those, 4,077 units were single-family housing (attached and detached), and 4,425 housing units were multi-family housing, about 52 percent of the City's housing supply (DOF 2022). The City's multi-family housing units represent approximately 20 percent of the County's total housing supply.

Arcata's annual vacancy rate between 2010 and the end of 2019 was stable at 4.4 percent. Since 2020, **the beginning of the COVID-19 pandemic**, the City's housing vacancy rate ~~has generally been~~ **increased to** over 6 percent. ~~In~~ 2020, ~~the City had 573 vacant housing units, representing a vacancy rate of 6.8 percent~~. The vacancy rate grew to 7.8 percent in 2022 with 667 vacant units out of the total 8,502 units within the city (DOF 2022). **However. a more accurate representation of housing vacancies may be the historic rate, 4.4 percent, which excludes the anomalous COVID19 disruption and that indicates that housing availability in Arcata is low**. In 2022, the average household size in the City was 2.11 persons per household (DOF 2022).

Response L1-8

The comment provides suggested editorial changes to the Draft EIR that do not affect the analysis in the Draft EIR and reflect the opinion of the commenter. In considering the comment, a typographical error was identified in the text. A modification to the text has been incorporated into the Final EIR on page 3.9-5, as shown below.

The housing vacancy rate is a measure of general housing availability and represents the percentage of all available housing units that are vacant or unoccupied at a particular time. A low vacancy rate, 5 percent or less, suggests that housing availability is low; conversely, a high vacancy rate (over 8 percent) may indicate a high number of housing units are available for occupancy, a high number of seasonal units are vacant, or there is an oversupply of housing. By maintaining a "healthy" vacancy rate between 5 percent and 8 percent, housing consumers have a wider choice of housing types and prices to choose from. As vacancy rates drop, shortages generally raise housing costs and limit choices. The county's housing vacancy rate usually exceeds the state's vacancy rate. In 2020, the vacancy rate of the county was 9.20 percent, while California's vacancy rate was ~~4.1~~ 6.4 percent. The County's vacancy rate increased to 9.9 percent in 2022 (DOF 2022).

No further changes presented in this comment have been incorporated into the Final EIR. The modified text shown above does not result in a new significant impact or an impact of greater severity than disclosed in the Draft EIR. No further changes are necessary.

Comment L1-9

Displace Substantial Numbers of Existing People or Homes

The DEIR analysis of whether the project would displace substantial numbers of existing people or homes uses a vacancy rate for the City of Arcata to compute available units that is likely skewed by COVID-19 as indicated in the requested edits above. The description of housing units and vacancy must be revised to demonstrate that there are likely to be substantially fewer available units than suggested. The DEIR must fully evaluate the displacement of substantial numbers of existing people or homes.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Directly or Indirectly Induce Substantial Unplanned Population Growth and Housing Demand

The DEIR incorrectly states that planned student enrollment increases contained in the 2004 Humboldt State University (HSU) Master Plan are considered in regional and local housing planning, including in Section 6.1.2 on page 6-2 relating Growth-Inducing Impacts of the Project. There is one reference to HSU in the HCOAG 2019 RHNA found in the Methodology section on page 8 stating that: "(t)he housing needs generated by the presence of a private university or a campus of the California State University or the University of California within any member jurisdiction. The City of Arcata accommodates the majority of the student housing needs based on its proximity to Humboldt State University (HSU). *No data or statistical information was provided to be incorporated into the RHNA methodology*." Although the City of Arcata describes current enrollment levels (2019) and includes programs to coordinate with Cal Poly to promote student housing opportunities, there is no reference in the 2019 Housing Element to Cal Poly, the 2004 HSU Master Plan, or projected increases in university enrollment or instructional or administrative staff, the Housing Element does not address projected Cal Poly Humboldt growth under the 2004 Master Plan.

Given that local and regional housing and population planning does not include the 2004 HSU Master Plan, the DEIR must be revised to reflect that the HCAOG RHNA and the Arcata Housing Element do not reflect the 2004 HSU Master Plan or expected student enrollment increases.

The following edits, shown using strike through and underline, to address errors, and to address what AFD considers to be omission or inaccuracies, must be made to the housing units and vacancy description on page 3.9-5 and following pages:

> In terms of operational impacts, and as noted above, Cal Poly Humboldt currently faces a shortage of student housing, both on- and off-campus, as many students have had to take up residence within available rental housing, including single-family housing units. In addition, Cal Poly Humboldt's student population is expected to double from 5,862 to 11,724 FTES within the next seven years because of Cal Poly Humboldt's recent conversion to a polytechnic institution. Of note, the 2004 Master Plan for the campus anticipated a similar increase in student enrollment (up to 12,000 FTES), which ~~was also~~ is not reflected in HCAOG growth projections, for the region upon adoption of the Master Plan by CSU. The City's most recent Housing Element also identifies that "the addition of new homes for students is needed~~" as a result of~~, however the Housing Element does not consider the potential impacts of projected Cal Poly Humboldt growth under the 2004 Master Plan (City of Arcata 2019).

Response L1-9

Contrary to the comment and suggested edits, Appendix A of the City's Housing Element indicates that the 2004 Master Plan was considered while developing its housing needs for the City. Notably, in a bullet list on page 34 of Appendix A of the City's Housing Element, the Chancellor's Office of the California State University was cited as a source for the development of estimates of historic enrollment for Humboldt State University. and Humboldt State University was cited as a source of demographic profiles of student population and for the provision of the current campus master plan document. The City's growth projections (inclusive of Cal Poly Humboldt) are then considered as part of HCAOG's regional planning efforts, as indicated in the Draft EIR. The edits provided in this comment are inaccurate and have not been incorporated into the Final EIR.

Comment L1-10

California Department of Forestry and Fire Protection (page 3.10-2)

The narrative description of California Department of Forestry and Fire Protection on page 3.10-2 in Section 3.10 Public Services and Recreation, 3.10.1 Regulatory Setting - State, does not properly reflect CAL FIRE's role within Humboldt County and Arcata Fire Protection District State Responsibility Area. "State responsibility Areas" (SRA) is the area of the state in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the state and CAL FIRE's primary responsibility is preventing and suppressing wildfires in SRA. CAL FIRE's response to incidents other than wildland fires in SRA is more nuanced than suggested in the above paragraph. California Public Resources Code Section 713 states that "(t)he department is responsible for the fire protection, fire prevention, maintenance, and enhancement of the state's forest, range, and brush land resources, contract fire protection, associated emergency services, and assistance in civil disasters and other non-fire emergencies." In addition, Public Resources Code Section 4114(b), states that "(t)he department may provide, when available and to the extent that it does not require additional funds, rescue, first aid, and other emergency services to the public in SRA." Although portions of the Arcata Fire Protection District are within SRA, the project site and the City of Arcata are not within SRA.

In Humboldt County, CAL FIRE operates nine seasonal forest fire stations. Seasonal fire stations are in service during fire season and during non-fire season most stations are closed, with one exception discussed below. Some seasonal forest fire stations may be used by a very limited number of engine companies performing fuel reduction activities. The closest CAL FIRE stations to the project site are Trinidad, which is approximately 15 miles from Cal Poly Humboldt, and Fortuna approximately 26 miles from Cal Poly Humboldt. Local fire-related districts and non-district fire companies within Humboldt County operate effectively with CAL FIRE, often arriving before CAL FIRE to wildland fires in SRA and are regularly supported by CAL FIRE in responses to structure fire and other incidents in communities throughout the County. CAL FIRE has an agreement with Humboldt County to maintain one fire engine company during non-fire season at the Trinidad Fire Station to provide structural fire protection to County Service Area No. 4. This engine covers an approximately 17,000-acre district serving the communities between Westhaven and Big Lagoon. The CAL FIRE Trinidad station is operated year-round, typically staffed with two wildland engines during fire season and one engine with a minimum of two firefighters during non-fire season.

Response L1-10

Please refer to Response L1-5, which provides a discussion of the fire hazard severity zone associated with the project site.

Comment L1-11

The following edits, addressing errors omissions *[sic]* and/or inaccuracies, are provided for the AFD current service levels description on pages 3.10-3 and 3.10-4:

Arcata ~~City~~ Fire District ~~Department~~

> The project site and the City of Arcata are located within the Arcata Fire District (AFD). The AFD boundaries encompass 62~~5~~ square miles and extend west to the Pacific Ocean, north to the Clam Beach area, east to Essex, south to Indianola and west to Manila. The AFD protects a population of approximately 36,000 residents, including 5,700 Cal Poly students and approximately 1,200 faculty and staff members, about 20 percent of the AFD service population. The AFD is an all-risk fire department responsible for protecting life, property, and the environment from the hazards of fire and hazardous materials incidents and providing emergency medical services.
>
> The AFD is governed by a five-member, independently elected Board of Directors and has a paid staff that includes one chief, ~~three battalion~~ one assistant chief~~s~~, nine captains, and ~~12~~10 firefighters. In addition, the AFD ~~relies on a volunteer fire department consisting of approximately 25 firefighters~~ maintains a Volunteer Logistics Unit whose members are trained for and assigned to a variety of critical support tasks, freeing up firefighters for more demanding and/or dangerous assignments. All AFD firefighters are qualified, at a minimum, at ~~receive training to~~ the Firefighter I level. At a minimum, one ~~battalion~~ chief officer, three captains, and ~~four~~ three ~~paid~~ career firefighters are on duty at any given

time (Schuette, pers. comm., 2022). In addition to providing fire protection and emergency services, the AFD works to educate the public about fire hazards and disseminate information on public safety.

The AFD responded to ~~more~~ ~~than 2,500~~ approximately 3,300 calls for service in 2021 from three fire stations within its district (Schuette, pers. comm., 2022). Two of the stations are located in Arcata, and one is located in McKinleyville. The project site is located within ~~in~~ the response area for the Mad River Station, located at 3235 Janes Road in the City of Arcata, and the Arcata Station ~~Main Fire Hall~~, located at 631 9th Street in the City of Arcata, provides backup/support to the project site. The Mad River Station is approximately 1.5 miles. northwest of the project site, and the Arcata Station ~~Main Fire Hall~~ is approximately 1.25 miles south of the project site. **AFD fire stations have up to three bedrooms, which is necessary to house the minimum desired staffing level of three personnel per station. The Mad River Fire Station is at capacity for housing fire equipment. Any new engine or ladder truck housed there would require a complete remodel of the apparatus bays.**

AFD staffing is not sufficient to respond to structure fire-related incidents without automatic and mutual aid assistance from neighboring fire departments. National consensus-based standards {National Fire Protection Association (NFPA) 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments) indicates that 14 firefighters arriving within eight minutes are necessary to staff the essential roles to safely carry suppression operations for a fire in a single-family dwelling. For a garden-style apartment or high-rise building, between 25 and 38 firefighters would be required {these building types represent the level of staffing required for a fire in a seven-story dormitory). With a daily staffing of seven firefighters, AFD relies on mutual aid for all fires. Due to distance, and the fact that most of AFDs mutual aid partners are volunteers (with the exception of career firefighters at Humboldt Bay Fire in Eureka and CAL Fire in Trinidad), a total of sixteen firefighters may be available at scene within 13 minutes and 38 firefighters may be available at scene in over 40 minutes.

AFD has stated that even with the automatic and mutual aid resources that would augment District response to a fire in the building type proposed in this DEIR, there is not enough available firefighting resources on-duty and immediately available to evacuate and rescue occupants and contain a fire.

Response L1-11

The comment provides suggested text changes to pages 3.10-3 and 3.10-4 of the Draft EIR. While some of the changes are editorial, the general point made is that AFD does not have adequate, trained firefighters on-duty and immediately available to evacuate and rescue occupants and contain a fire it if were to occur within the building type proposed in the Draft EIR. As noted above in Response L1-1, the threshold for significance related to adequate fire protection pertains to the need for new or physically altered facilities, the construction of which would result in environmental impacts. As discussed under Impact 3.10-1 in the Draft EIR, "the project site is located within the current service area of the AFD and would be designed and constructed in accordance with applicable requirements, including the California Fire Code. Therefore, no additional fire protection facilities are anticipated to be necessary for AFD to adequately serve the project site, and no significant decrease in response time is expected" (refer to Impact 3.10-1 on page 3.10-8 of the Draft EIR.) Although the comment indicates that more staff would be necessary to accommodate firefighting services for the project, the provision of additional firefighters or vehicles would not result in, and is not considered, a significant physical environmental impact under CEQA.

With respect to the Mad River Fire Station, according to the most recent Humboldt Bay Regional Fire Services Municipal Services Review, the Mad River Station had a ladder truck, in addition to a frontline engine and reserve engine (Humboldt LAFCo 2017). According to a quote by Randy Mendonsa, president of the Arcata Fire District Board of Directors in the North Coast Journal, the Mad River Station no longer has a ladder truck because it was sold because funding was not available to properly train staff (Weinreb 2022). A shortage of funding for staff or staff training needs is not an environmental impact; moreover, because a ladder truck had been housed at the station, it is reasonable to assume that modifications or expansion of facilities would not be required as the result of the sale, although equipment may be shifted to other stations or other actions available to AFD. Regardless, there is not a clear connection between the operation of the Student Housing Project and the need for a new apparatus at the Mad River Station, the acquisition or ownership of which would require construction that could cause significant environmental impacts. No changes to the document are required in response to this comment.

Comment L1-12

Impact 3.10-1: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision of or the Need for New or Physically Altered Fire Facilities to Maintain Acceptable Service Ratios

The analysis of impacts to fire services is cursory and appears to suggest that adequacy of fire service for any infill development is a simple binary question: if fire service is present, it must therefore be adequate. As is made clear by the edits below, AFD relies on mutual and automatic aid from neighboring fire departments for all fire-related incidents and the addition of tall and densely occupied housing units will require significant increases in staffing and require even greater levels of outside assistance. Given the need for additional personnel to maintain acceptable service ratios, the potential environmental effects of expanding AFD fire stations needs to be fully evaluated.

The following edits, shown using strike through and underline, to address errors, and to address what AFD considers to be omission or inaccuracies, are requested to be made to the analysis of the need for new or physically altered fire facilities to maintain acceptable service ratios on page 3.10-8:

> The project would result in an increase in on-site population and ~~the~~ density of development on-site**, from a limited number of daytime employees and residents to approximate 1,000 residents and daytime employees**, which ~~could~~ would result in additional calls for service to the project site. ~~However~~, The project site is located within the current service area of the AFD and would be designed and constructed in accordance with applicable requirements, including the California Fire Code. **The Arcata Fire District Mad River Station is located approximately 1.5 miles from the project site**. ~~Therefore, no additional fire protection facilities are anticipated to be necessary for~~ **As indicated in the introduction above,** AFD **does not have sufficient staffing to respond to fires in large structures such as those proposed for the project. AFD does not have sufficient personnel** ~~to~~ adequately serve the **proposed** project. ~~site, and no significant decrease in response time is expected. Impacts would be less than significant.~~
>
> As noted above, fire protection and emergency medical services are currently provided to the project site by AFD**, in a manner commensurate with the demand for service (the project site contains one single family residence and low intensity commercial operations).** Under the project, the project site would be redeveloped with a new student housing community composed of approximately 240 units with up to 964 student beds in two multi-story buildings in the central portion of the project site**, an approximately 2.8 percent increase in AFD service population. Changes in population are directly related to changes in service calls for fire departments. Based on historic population growth and incident data (AFD records show that as population rises over time, call for services rise in a generally proportionate manner)**, ~~This~~ **the proposed significant** increase in population **at the project site would** ~~could~~ result in an increase in the number of calls for service, to which the AFD would respond, initially from the Mad River Station, approximately 1.5 mile**s** northwest of the project site. ~~Although the project would increase the on site population, an increase in population by itself would not increase demand for fire protection services~~. **The project involves an approximately 65-fold increase in service population at the project site and the introduction of building types different than existing buildings in the service area, which require special fire suppression training and substantially more firefighters than almost all other buildings served by AFD. Fire level of service is commonly evaluated using the Commission on Fire Accreditation, International Template for Standards of Response Coverage, which considers both service population (residents plus employees) and the geographic distribution of structures and fire stations**. ~~Typically, an expansion of geographic distribution, not simply an increase in population, impairs emergency response times and therefore potentially requires additional services and facilities.~~ **Significant increases in service population or the introduction of new building types that require special operations or levels of response that exceed current staffing, and changes in the distribution of development can impair response requiring additional services and facilities. The proposed project does not change the distribution of**

development, but substantially increases the service population for the AFD and introduces building types for which structure fires would far exceed current staffing levels, equipment, and training. ~~As noted above, the project would not result in an expansion of the current service area of the AFD.~~

All new on-site buildings would be designed to meet minimum fire and emergency safety requirements identified in the California Building Code and California Fire Code and would include appropriate fire safety measures and equipment, including the use of fire-retardant building materials, inclusion of emergency water infrastructure (fire hydrants and sprinkler systems), installation of smoke detectors and fire extinguishers, emergency response notification systems, and provision of adequate emergency access ways for emergency vehicles. Further, adequate right-of-way for emergency vehicles would be provided around the proposed on-site structure with hydrants spaced according to applicable requirements. ~~As a result, development under the project would be adequately serviced by existing fire stations and facilities, and the project is not anticipated to result in a substantial increase in service calls that would require new or expanded fire protection employees or facilities.~~ Additionally, due to the improvements in on-site circulation, including the provision of dedicated emergency access from the project site to Eye Street, the ability for AFD to respond to emergency calls for service to and through the project site may improve.

~~Therefore, although~~ T~~t~~he project ~~may~~ would increase AFD service population by 2.8 percent increase and increase service population at the project site 65-fold and would likely result in a ~~incremental~~ proportional increase in the number of service calls and place a greater demand on fire protection services, Potential fires in project-related buildings require approximately six times the fire suppression staff than the AFD can support, and automatic and mutual aid assistance from neighboring departments would take approximately 40 minutes to arrive. ~~it would not result in~~ Given these circumstances, ~~the need for~~ the expansion or construction of new fire protection facilities may be needed to house additional firefighters to maintain current acceptable service ratios or to provide acceptable service ratios. AFD ~~currently has sufficient~~ facilities must be expanded and maintained to adequately serve the project site and the population within its service area, for Impacts to be less than significant.

Response L1-12

The comment points to the Commission on Fire Accreditation, International Template for Standards of Response Coverage as the basis for why a population level increase is associated with new staffing needs; however, the comment does not provide substantial evidence regarding a potentially significant environmental effect related to a need for expanded facilities. As stated in Response L1-1, above, the CEQA threshold of significance related to fire protection refers to the potential for significant environment impacts due to the need for new or physically altered governmental facilities. While the comment indicates a potential need for additional staff, the recommended text modifications presented in this comment have not been incorporated into the EIR because they are not supported by substantial evidence relate to the potential need for expanded facilities that could result in significant physical environmental impacts. Please refer to Response L1-1 regarding the threshold of significance pertinent to fire protection services.

Comment L1-13

4.2 CUMULATIVE SETTING

Table 4-2, Cumulative Projects List, does not include important probable future development projects in the vicinity of the project site that have some relation to the environmental impacts of construction and operation of the proposed project. The City of Arcata has devoted significant resources, time, and energy to the preparation of the Arcata Gateway Area Plan, where a second draft plan was released to the public in October 2022. The Gateway Area Plan is anticipated to be adopted in 2023, with development occurring between 2023 and 2045. The Arcata Gateway Area Plan implementation is reasonably foreseeable and therefore should be included in Table 4-2 and included in the cumulative impacts analysis.

The DEIR analysis states that "Cal Poly Humboldt's student population is expected to double from 5,862 to 11,724 FTES within the next seven years because of Cal Poly Humboldt's recent conversion to a polytechnic institution. Of note, the 2004 Master Plan for the campus anticipated a similar increase in student enrollment (up to 12,000 FTES)." This indicates that, consistent with the 2004 Master Plan, Cal Poly Humboldt is committed to provide housing and academic/administrative facilities to accommodate up to 12,000 students in the next seven years, or by 2029. While the project description cites the current (2004) Master Plan many times, the DEIR limits the cumulative project list to only those Cal Poly Humboldt development projects that are "approved and pending," without clearly defining what constitutes approved or pending.

In what appears to be a clear step towards implementing the 2004 Master Plan, Cal Poly Humboldt announced the purchase of the Creek Side Mixed Occupancy Residential Annexation Project site ("Creek Side Project") on July 5, 2022 "to support any of a number of institutional priorities aligned with our polytechnic transformation" (https://now.humboldt.edu/news/property-acquisition-polytechnic-transformation). The Creek Side Project was approved by the City of Arcata in 2017 and subsequently annexed. It includes planned lots for 57 residential and 100 residential care units. The acquisition of the Creek Side Project site by Cal Poly to implement projects consistent with the 2004 Master Plan appears reasonably foreseeable, and/or a project consistent with City of Arcata planned land uses is reasonably foreseeable. As a result, the Creek Side Project must be included in Table 4-2 and evaluated as part of the cumulative impacts analysis.

In addition, due to the rapid timeline for implementation of the housing and academic/administrative facilities to accommodate up to 12,000 students consistent with the 2004 Master Plan, Cal Poly must include any project listed in Table 4.1, Master Plan Proposed Facilities and Phasing, not just approved or pending, in the cumulative projects list and evaluate the cumulative effects of such projects in the DEIR.

Response L1-13

Chapter 4 of the Draft EIR contains an analysis of the potential cumulative impacts of the Student Housing Project considered together with other past, present, and probable future projects resulting in related impacts. The analysis is consistent with the goal of the analysis, as defined in the first paragraph on page 4-1:

> first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant, and second, to determine whether the incremental contribution to any such cumulatively significant impacts by the project would be "cumulatively considerable" and thus significant. (See State CEQA Guidelines Sections 15130[a]–[b], Section 15355[b], Section 15064[h], and Section 15065[c] and *Communities for a Better Environment v. California Resources Agency* [2002] 103 Cal. App. 4th 98, 120.)

As noted in the last paragraph on page 4-2 of the Draft EIR, "Table 4-2 [of the Draft EIR] lists past, present, and probable future development projects in the vicinity of the project site. This list is not intended to be an all-inclusive list of projects in the region but rather an identification of projects constructed, approved, or under review in the vicinity of the project area that have some relation to the environmental impacts of construction and operation of the proposed project." The comment states that the City's Gateway Area Plan and expectations for increased enrollment should be included in Table 4-2 of the Draft EIR. However, no specific projects for which environmental impacts could be discussed with specificity are known in connection with either the City's Gateway Area Plan or increased enrollment potential at Cal Poly Humboldt.

Regarding the Creek Side project, this property is not owned by the university outright. It is owned by the Cal Poly Humboldt Foundation, a non-profit corporation that is affiliated with the university. Neither the Foundation nor Cal Poly Humboldt has determined what facilities or level of development may be constructed on the site as of yet. Thus, assumptions related to how 2000 Foster Avenue may be used are considered speculative, and any plans for the Creek Side project site are appropriately not included in the list of cumulative projects.

Humboldt will be initiating a Master Plan process to reflect the physical development as a result of the campus's conversion to a California State Polytechnic University. This process will likely affect future development and may dramatically change plans included in the 2004 Master Plan. The currently planned and in process projects are appropriately reflected as the currently anticipated level of development within the campus. No changes to the document are necessary.

Comment L1-14

The cumulative population and housing impacts analysis states that the project would not "increase student enrollment at Cal Poly Humboldt" by artificially separating this project from the other projects on the cumulative project list and the 2004 Master Plan's objective to increase student enrollment. This statement must be clarified, the project alone may not increase student enrollment, however, other projects on the cumulative project list and other Master Plan elements are intended to encourage and accommodate planned student enrollment increases in the next seven years.

The DEIR conclusions in Section 4.3.9, Population and Housing, relate only to the student housing component of the proposed project and not to any on-site employees or additional Cal Poly or contract staff who may not be located on-site but will be needed to operate and maintain the proposed student housing project. The conclusion must consider all population and housing related impacts of the project, including student housing, direct increases in employment to operate and maintain the project, and projects from the cumulative list, as amended. The conclusion must acknowledge that increased student enrollment is not included in local or regional plans.

The following edits, address errors omission and/or inaccuracies, must be made to the cumulative impacts to population and housing analysis on pages 4-10:

> As described in Section 3.9, "Population and Housing," population within the City has increased by 4. 79 percent since 2010 (refer to Table 3.9-1). In addition, the County's housing vacancy rate has been consistently higher than the State's vacancy rate, while the City's housing vacancy rate has generally remained at ~~just over 6~~ **approximately 3.4 percentage points below the State vacancy rate. The City's normal vacancy rate was 3.6 percentage points below the State vacancy rate from 2010 to the beginning of 2020, prior to COVID-19 Cal Poly student disruptions, and 2.4 percentage points below the statewide average between 2020 and 2022.** Implementation of the project would not ~~increase student enrollment at Cal Poly Humboldt, nor would it~~ exceed growth projections for the campus as established in the current Master Plan for Cal Poly Humboldt. Rather, the project would provide additional student housing on Cal Poly Humboldt property and accommodate ~~an~~ **planned** ~~anticipated~~ increase in student enrollment within campus housing. The project would not represent a substantial contribution to potential housing demand or consume a substantial portion of the available housing stock; rather, it would reduce stresses on the local and regional housing market related to students living off-campus. For these reasons, the population and housing impacts related to implementation of the project would not result in a considerable L1-13Cont.L1-14 contribution to cumulative population and housing impacts, and the impact would be less than significant.

Response L1-14

The comment suggests that the Draft EIR ignores the impacts related to increased student enrollment at Cal Poly Humboldt. Increases in enrollment are not related to individual projects; rather, they reflect the changes in academic programming and the associated space requirements, along with current technologies and educational practices. As a point of clarification, the Master Plan for any CSU campus does not encourage increases in student enrollment. Rather, it is intended to accommodate anticipated enrollment growth at the university and provide the physical facilities necessary to accommodate such growth. Actual enrollment, and enrollment increases, are due to various factors such as demand from graduating high school seniors and transfer students, legislative efforts to increase access to higher education in California, and direction from the Chancellor's office. In addition, current student population at Cal Poly Humboldt (as stated on page 3.9-7 of the Draft EIR) is 5,862 full time equivalent (FTE) students, which is 1,230 FTE students less than 2004 conditions evaluated under the Campus Master Plan. Section 6.1, "Growth Inducement," of the Draft EIR provides a discussion of the potential growth-inducing impacts of the project and generally determines that the project has the potential to stimulate the economy both directly (by providing jobs and housing) and indirectly (by creating a demand for local goods and services) in the region; however, the project would address anticipated housing needs and would not contribute to population growth beyond that anticipated as a direct result of the project (last paragraph on page 6-2 of the Draft EIR). It is important to note that on-site employment opportunities for retail and other on-site services are anticipated to be absorbed by student residents and existing campus staff and are considered unlikely to be fulfilled by residents outside of the City (second paragraph on page 6-2 of the Draft EIR). Please also refer to Response L1-13 for a discussion related to requirements for cumulative impacts.

Furthermore, it is important to note that recent legislation addresses the potential for impacts related to student enrollment increases. In Spring 2022, SB 118 was passed to remedy a ruling by the California Supreme Court that found that student enrollment, in and of itself, is subject to CEQA. Under SB 118, California's public college and university campuses will still be required to conduct CEQA review of long-range development plans and the impacts of a campus' planned overall population increase, including for its faculty, administrators, students and staff; however, CEQA review would not be required solely because of increases to student enrollment. Consistent with the requirements under SB 118, student enrollment increases do not, by default, indicate that there would be a significant environmental impact.

The recommended changes, which reflect a comparison to the State of California's vacancy rate, are immaterial to the assessment of the physical environmental impacts of the project with respect to population and housing. Because the changes do not inform the analysis, these changes have not been incorporated into the Final EIR. No changes to the document are necessary in response to the suggested edits.

Comment L1-15

The analysis in Section 3.1 0 and Section 4.3.10 relating to fire protection services does not acknowledge that, aside from the proposed project and other projects consistent with the 2004 Master Plan, increasing demands for fire-related services in Humboldt County are primarily related to economic and demographic changes and to housing subdivisions or housing development projects, which typically occur over an extended period of time.

The proposed project, unlike typical private housing subdivisions, will not build-out over time based on demand and other local factors but instead will be occupied all at once, likely with new Cal Poly students, most of whom are not already part of the AFD service population.

The DEIR Section 3.10 direct fire-related impacts analysis must be revised to reflect existing service levels and adequate fire service levels required for a seven-story student housing project.

Response L1-15

AFD identifies current staffing needs and indicates that automatic and mutual aid assistance from neighboring fire departments allows for a sufficient response (see Comment L1-11). Comment L1-11 also indicates that the Mad River Fire Station is at capacity, but a facility currently being at capacity does not necessitate expansion of the facility due to construction of the proposed project. While a ladder truck may be necessary to serve the project, the Mad River Fire Station was able to house one in the past and could therefore accommodate one in the future (see Response L1-11). Although the Comment L1-11 indicates that the Mad River Fire Station is at capacity, that does not mean that acquisition of a ladder truck would require a remodel. Rather, it could be that an existing apparatus is replaced with the ladder truck. For these reasons, impact discussions presented in the Draft EIR remain valid, because, "although the project may result in an incremental increase in the number of service calls and place a greater demand on fire protection services, it would not result in the need for the construction of new fire protection facilities to maintain acceptable service ratios. AFD currently has sufficient facilities to adequately serve the population within its service area. Impacts would be **less than significant**," as stated in the second to last paragraph on page 3.10-2 of the Draft EIR. This analysis is based on the fact that the project site is within the existing service area and would be designed and constructed in accordance with applicable requirements, including the California Fire Code. In contrast and as clarified in the responses above, no additional fire protection facilities are anticipated to be necessary for AFD to adequately serve the project site, and no significant decrease in response time is expected (see Impact 3.10-1). Because no substantial evidence has been provided to support the need for new or modified facilities, the construction of which could result in significant environmental impacts, no changes to the document are necessary.

Comment L1-16

The fire protection services analysis is not adequate to make a determination of environmental impact and therefore cannot support the conclusion in the cumulative impacts section as to whether the proposed project, when considered with the full list of cumulative projects, would result in substantial adverse physical construction-related impacts associated with the provision of or the need for new or physically altered fire facilities to maintain acceptable service ratios. In addition, the cumulative analysis must incorporate the additional probable foreseeable project identified above and their contribution to potential impacts to fire services. This will result in a significant cumulative impact.

As stated earlier, this DEIR does not provide an adequate fire protection services baseline or adequately analyze potential impacts of substantially increased services needs and response to multi-story buildings and approximately 1,000 new student residents and must also be revised to correct the errors, inaccuracies, and omission described above.

The AFD has provided significant new information not contained in the DEIR, without which the public and decision makers cannot assess the project's impacts or feasibility. To address these issues, Cal Poly Humboldt, in close coordination with the AFD, must prepare and recirculate a revised EIR.

Response L1-16

The comment states that the project would result in a significant cumulative impact. However, this comment and previous comments do not provide substantial evidence of a need for new or expanded fire facilities, the construction of which would result in significant environmental impacts. Please refer to Responses L1-1 through L1-15 for further discussion of this issue.

In accordance with Public Resources Code (PRC) Section 21092.1 and Title 14 California Code of Regulations (CCR) Section 15088.5, when "significant new information is added to an environmental impact report (EIR) after notice has been given pursuant to Section 21092" and the draft EIR has undergone public review, a lead agency must renotice and recirculate the environmental document for public review of the new information. "Significant new information" can include substantial changes to the project description. Recirculation is not required unless the EIR is changed in a way that would deprive the public of the opportunity to comment on significant new information, including a new significant impact for which no feasible mitigation is available to fully mitigate the impact (thus resulting in a significant and unavoidable impact), a substantial increase in the severity of a disclosed significant environmental impact, or development of a new feasible alternative or mitigation measures that would clearly lessen environmental impacts but that the project proponent declines to adopt (Title 14 CCR Section 15088.5[a]). Recirculation is not required when the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR (Title 14 CCR Section 15088.5[b]). Because significant new information has not been provided in this comment letter that indicates any of these circumstances has occurred, recirculation of the EIR is not required.

Comment L1-17

EXHIBIT 1

Required Staffing for Fire Suppression Operations

Evaluating the adequacy of staffing, equipment, and facilities, for fire protection, emergency medical, and hazard response for projects, such as the proposed Cal Poly Humboldt Student Housing is not simply a matter of concluding that if a fire department (district) is present, then it must therefore be adequate. To evaluate the adequacy of fire suppression staffing, the number of on-duty firefighters and available equipment and apparatus must be considered together with their geographic distribution. As described in detail below, most fire departments, including AFD, rely on mutual and automatic aid from neighboring departments for all fire-related incidents. The proposed Cal Poly project will require significant increases in AFD staffing and also greater levels of outside assistance to provide adequate service.

AFD Historical Fire Suppression Staffing

AFD was formed in 1944 and is staffed primarily by career firefighters, with support from a Volunteer Logistics Unit whose members are trained for critical support tasks, freeing up firefighters for specialized assignments, and very limited volunteer firefighting personnel. The District's ability to rely on volunteers for fire suppression operations has diminished over time from being an exclusive volunteer department prior to the 1 %O's, to hiring limited career staff with 30 to 40 volunteers in the 1970's through early 2000's, to a career department with less than a handful of non-suppression volunteers today. The following is a summary of AFD's historical firefighting staffing:

1976 to 2006:

- 3 Chief Officers; 7 paid firefighters, & 40 volunteer firefighters
  - Arcata Fire Station - Chief Officers during business hours
  - Mad River Fire Station - 1 firefighter on duty
  - McKinleyville Fire Station - 1 firefighter on duty

2006 to 2013:

- 4 Chief Officers; 15 paid firefighters, & 20 volunteer firefighters
  - Arcata Fire Station - Chief Officers during business hours
  - Mad River Fire Station - 2 firefighters on duty
  - McKinleyville Fire Station - 2 firefighters on duty

2013 to 2016:

- 3 Chief Officer; 18 firefighters, & 20 volunteer firefighters
  - Arcata Fire Station - Chief Officers during business hours, 2 firefighters on duty
  - Mad River Fire Station - 2 firefighters on duty
  - McKinleyville Fire Station - 2 firefighters on duty

2016 to 2020:

- 4 Chief Officers; 18 firefighters, & 10 volunteer firefighters
  - Arcata Fire Station - 2 firefighters on duty
  - Mad River Fire Station - 2 firefighters on duty
  - McKinleyville Fire Station - 2 firefighters & 1 Shift Chief officer on duty

2020 to 2022

- 2 Chief Officers; 15 firefighters, & 4 volunteer firefighters available
  - Arcata Fire Station - 2 firefighters on duty
  - Mad River Fire Station – Unstaffed
  - McKinleyville Fire Station - Chief Officers during business hours, 2 firefighters on duty

2022 to present

- 2 Chief Officers; 18 firefighters, & 1 volunteer firefighter
  - Arcata Fire Station - 2 firefighters on duty
  - Mad River Fire Station - 2 firefighters on duty
  - McKinleyville Fire Station - Chief Officers during business hours, 2 firefighters on duty

Consensus-Based Fire Response Standards

National consensus-based standards for fire suppression operations are established by the National Fire Protection Association (NFPA, 2020), and NFPA 1710[1] is applicable to AFD. AFD strives to meet NFPA standards, but budget constraints limit AFD's staffing options and regional mutual- and auto-aid is limited.

The following table lists the NFPA 17101 recommended number of appropriately trained personnel arriving within a specific period of time to perform critical tasks to suppress fires in different types of structures.

Single Family Dwelling Minimum of 14 firefighters	Critical Task	Needed Personnel
The initial full alarm assignment to a structure fire in a typical 2000 ft2 (186 m2), two-story, single-family dwelling without a basement and with no exposures must provide for a minimum of 14 members in 8 minutes (15 if an aerial device is used)	Command	1
	Pump Operator	1
	Fire Attack	2
	Backup	2
	Search	2
	Ventilation	2
	Rapid Intervention Crew	4
	Total	**14**

Strip Mall/Garden Style Apartment Minimum of 25 firefighters	Critical Task	Needed Personnel
The initial full alarm assignment to a structure fire in a typical open-air strip shopping center ranging from 13,000 ft2 to 196,000 ft2 (1203 m2 to 18,209 m2) in size must provide for a minimum of 25 members in 8 minutes (26 if an aerial device is used).	Command	1
	Fire Attack (3 teams)	6
	Backup	3
	Pump Operator (2 pumps)	2
	Search (2 teams)	4
	Ventilation (2 teams)	4
The initial full alarm assignment to a structure fire in a typical 1200 ft2 (111 m²) apartment within a three-story, garden-style apartment building must provide for a minimum of 25 members (26 if an aerial device is used).	Rapid Intervention Crew	4
	Safety	1
	Total	**25**

High-Rise Minimum of 38 firefighters	Critical Task	Needed Personnel
The initial full alarm assignment to a fire in a building with the highest floor greater than 75 ft (23 m) above the lowest level of fire department vehicle access must provide for a minimum of 38 members in 10 minutes (39 if the building is equipped with a fire pump).	Command	2
	Pump (FDC)	1
	Fire Attack (2 Teams)	4
	Hose team Floor above	2
	Rapid Intervention Crew	4
	Search (2 teams)	4
	Fire Floor Supervisor	2
	Floor above Supervisor	2
	Evacuation (2 teams)	4
	Elevator Control	1
	Safety	1
	Interior Staging Officer	1
	Rehab	2
	Ventalation	4
	Lobby Control	1
	Equipment Transport	2
	External Staging	1
	Total	38

- Single-Family Residential Structure. NFPA 1710 recommends that 14 firefighters, arriving within eight minutes, are necessary to staff the essential roles to safely carry suppression operations for fires in single-family dwellings.
- Low-Rise Apartments and Commercial Structures. For more complicated structure fires (multi-family residential buildings and commercial buildings), NFPA 1710 recommends 25 firefighters to fill essential roles, arriving within eight minutes, are required.
- High-Rise Structures. NFPA does not establish staffing standards for fires in what may be referred to as "mid-rise" buildings, or buildings roughly four to seven stories. However, firefighting in mid-rise buildings

presents most, if not all, of the same challenges as high-rise buildings (defined as by the International Building Code as a "building with an occupied floor located more than 75 feet above the lowest level of fire department vehicle access"). While there are no explicit NFPA response standards for mid-rise buildings, AFD concludes that it would be prudent to treat operations for fires in the proposed student housing buildings, mid-rise residential structures, like fires in high-rise buildings. NFPA 1710 recommends that 38 firefighters to fill essential roles arriving within ten minutes are required for a high-rise fire.

Mutual and Automatic Aid is Essential

AFD alone does not have adequate staffing for structure fires and relies on automatic and mutual aid from neighboring fire departments for all fires. All on-duty AFD firefighters (six firefighters and one chief officer) would be expected to arrive on scene for any structure fire on campus. The first two engines would arrive within approximately 5 minutes, the third engine and chief officer arriving 5 minutes later. Since AFD does not have sufficient staffing, mutual or automatic aid partners are required. Because neighboring fire stations are remote and staffed by volunteers, it typically takes an additional thirteen or more minutes for sufficient staffing (-15 firefighters) from up to four aid partners to respond to a single-family residential structure fire in the City of Arcata. For a commercial or multi-family structure fires, it takes 19 or more minutes for sufficient staffing (-25 firefighters) from up to six aid partners. For a mid-rise fire for buildings between four to seven stories, it would take over 40 minutes for recommended staffing levels (-38 firefighters) from up to eleven response partners.

Whether an aid partner can arrive in a timely manner depends upon their staff availability at the time of the incident. Apart from Humboldt Bay Fire, AFD's aid partners are almost entirely staffed by volunteers. In any given circumstance it is uncertain whether the aid partners will be appropriately staffed at the time of the automatic or mutual aid request. Volunteers often work in Eureka or Arcata and may not be available to report to their respective rural station during work hours. This effects response times and whether or not the aid partner can respond. Also important in evaluating aid partner capacity is staffing, apparatus, equipment, and training. Career departments assure essential qualifications and training levels of all firefighters. Volunteer departments, however, have differing minimum qualifications and training and experience levels. Whereas career firefighters are likely able to perform any task required at scene, volunteer firefighters may not be able to. Further, although all firefighters may be exposed to mid-rise fire suppression operations in their basic firefighter certification training, volunteer departments may never drill on the required skills for operating within mid-rise or high-rise buildings. As is the case across the nation, volunteer firefighter recruitment and retention are in decline and AFDs aid partners struggle to maintain staffing levels.

AFD Current Responses to Cal Poly Humboldt

The AFD covers a geographic area of approximately 62 square miles, protecting a population of approximately 36,000 residents, including 5,700 Cal Poly Humboldt students and approximately 1,200 faculty and staff members, about 20 percent of the AFD service population. Calls for service at the Cal Poly Humboldt campus usually are to student housing, and AFD effectively responds with a joint response from University Police and Facilities staff. On average, approximately 4 percent of incidents for the District are to the Cal Poly Humboldt campus. Actual responses to the Cal Poly campus range from 2 to 5 percent per year. Although the percentage of total responses is lower than the percentage of total service population, the campus contains the largest buildings that pose the greatest hazard to the most people (student housing and large classroom/lab buildings) within the district and the highest potential fire operations risk for AFD firefighters.

AFD Fire Service Funding

AFD is authorized to operate as a Limited Purpose California Special District, the focus being fire protection and emergency response services. State law provides only limited authority for FPDs to establish new funding sources. AFD is funded through an allocation of ad valorem

property taxes (based on the assessed value of land, buildings, and fixtures), a special tax approved by voters, and a special assessment on property approved by landowners (both based on the use of property and together referred to hereafter as the AFD fire service direct charges). In comparison to most career fire departments in California that serve California State University campuses, the AFD receives a very small proportion of the property tax revenue collected within the District. Pursuant to the regulations for the implementation of Proposition 13, the proportion of property tax revenue that AFD receives was permanently fixed based on the amount of property tax revenue received by the district in 1977, when there were only 10 paid employees. The special assessment was most recently reauthorized and increased by District property owners in 2006. The special tax was approved in November 2020 and has allowed AFD to re-open a third station which had been closed due to inadequate funding. There are no other on-going revenue sources available to AFD. The AFD fire service direct charges are the largest of any in Humboldt County. As a result, there is little chance that the property owners/voters of the AFD would approve a higher fire service direct charge to support increased Cal Poly Humboldt fire protection services.

Although actual assessed value information is not available for Cal Poly Humboldt land, buildings, and fixtures, AFD has prepared a rough estimate of total assessed value. Based on this estimate, if Cal Poly Humboldt were subject to property tax, the allocation of annual property tax revenue received by AFD would be approximately $267,127 per year. AFD does not suggest that the total annual funding for fire service direct charges and estimated property tax revenue would be sufficient to fund the recommended staffing levels for buildings on the Cal Poly Humboldt campus or the proposed student housing project. This information is only provided to show that the staffing levels needed to respond to structure fires at Cal Poly Humboldt are high and the revenue that is currently available from the University through fire service direct charges and the special services agreement is insufficient to support such services and inequitable.

Unique Characteristics of Cal Poly Humboldt's Location

There are 23 CSU campuses in California. Except for Cal Poly Humboldt and Sonoma State University, fire services to CSUs are provided by city fire departments or countywide fire departments/districts. City fire departments are typically funded through the city general funds, which may be supported by property tax, sales tax, real property transfer tax, transient occupancy tax, vehicle license in-lieu revenue, business license tax, utility user tax, etc., and in addition the city may have special funds available as well such as a special tax or assessment for fire service. Depending upon how the countywide fire department or district was formed, it may have access to a similar range of general revenue sources as a city fire department or the district may have substantially more revenue than a smaller fire district due to its geographic size and urban density. City fire departments and countywide fire departments/districts are much more likely to have the funding necessary to support NFPA response standards than individual fire districts, especially those in rural areas. **AFD HAS THE LOWEST LEVEL OF FUNDING OF ANY FIRE DEPARTMENT PROTECTING A CSU CAMPUS.**

Recommendations Actions to be Evaluated by Cal Poly

The following are recommended actions by Cal Poly Humboldt to support adequate response levels by AFD to the Cal Poly campus and should be evaluated as part of close coordination between Cal Poly Humboldt and AFD. Actions are not ranked in priority order, the list of actions is not exhaustive, and in some instances actions may or may not be mutually exclusive:

- **Evaluate Existing and Needed Future Service Levels**. Fund a Commission on Fire Accreditation, International Template for Standards of Response Coverage analysis of AFD fire service capabilities and needed capabilities for buildout of Cal Poly Humboldt.
- **Building Design**. Design buildings and parking structures to be of a size and configuration (height, occupancy levels, building density, materials, fire protection infrastructure, access and egress) commensurate with AFD capacity.
- **Funding to Support Adequate Response Levels**. Cal Poly Humboldt should commit to providing regular annual funding to support the level of staffing necessary to support adequate response levels for the entire student population and faculty, including mid-rise fire suppression operations if this building configuration is adopted by CPH.
- **High-Rise Firefighting Training**. If CPH ultimately decides that mid-rise buildings are an unavoidable option, then extensive and ongoing training will be required. AFD and its aid partners perform only limited high-rise

firefighting training. Additional funding and coordination are needed to adequately train and prepare firefighters.

  - Ongoing regional high-rise specific training is essential for AFD and its aid partners to allow AFD firefighters to carry out training and be available to respond to incidents.
  - Special facilities are required to allow realistic training. A 5-7 story training drill tower for ladder and rope work and advancing hose lines is needed. In this training building firefighters can fight live fires providing enough area to allow firefighters to conduct drills.

- Equipment and Facilities Improvements.
  - Due to firefighter staffing requirements, apparatus purchase costs, and maintenance requirements, AFD has not retained a ladder truck. The proposed project would trigger the need for a truck equipped with a long aerial device (length to be determined based on the final building design and configuration). Funding for firefighting staff, training, apparatus, and maintenance will be required to purchase and operate a truck with an adequate length aerial.
  - One or more existing fire stations may need to be expanded to accommodate additional duty staff and new firefighting apparatus.

[1] NFPA, 2020. NFPA 1710. Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments

Response L1-17

Please refer to Response L1-4 regarding the content of Exhibit 1 to Letter L1.

Organization

LETTER O1 COALITION FOR RESPONSIBLE TRANSPORTATION PRIORITIES; ENVIRONMENTAL PROTECTION INFORMATION CENTER; NORTHCOAST ENVIRONMENTAL CENTER

Colin Fiske, Executive Director; Tom Wheeler, Executive Director; Caroline Griffith, Executive Director
December 1, 2022

Comment O1-1

The Coalition for Responsible Transportation Priorities (CRTP) has reviewed the Student Housing Project Draft Environmental Impact Report (DEIR) (SCH Number 2022030008). We recognize the urgent need for student housing and the appropriateness of the location near both the Cal Poly Humboldt campus and downtown Arcata. Therefore, we support this project in concept. However, we have identified certain deficiencies in the DEIR, and we therefore submit these comments so that the document can be amended and the project improved before final adoption.

Impact on Vehicle Miles Traveled

The DEIR concludes that the project will not have a significant impact on vehicle miles traveled (VMT) under CEQA Guidelines Section 15064.3(b), but does not provide sufficient information to support the per capita VMT estimate for future project residents nor to justify the selected significance threshold.

The DEIR uses the Humboldt County Association of Governments (HCAOG) Travel Model to estimate the project's per capita VMT. However, the document nowhere reveals what inputs were used to generate the estimate. Appendix E, the Transportation Impact Study, merely says that "the proposed project was input into the HCAOG Travel Model." However, the DEIR is unclear about key details which would affect VMT, including:

Response O1-1

The comment provides a general introduction and a general summary of concerns related to the VMT analysis presented in the Draft EIR. Please refer to specific responses to the detailed comments provided below, which address specific concerns associated with the analysis.

Comment O1-2

At p.2-17, the DEIR says that there will be an on-site "bus/shuttle stop." Yet at p.3.11-10, it says "existing transit services would adequately accommodate any increase in demand" and "the project would not alter any existing transit stops." Whether there will be an on-site transit stop, and what kind (bus or shuttle), on what route, and with what connections, are all key details influencing the likelihood of transit ridership that the DEIR does not provide. We further note that the project cannot commit to an on-site bus stop without prior consultation with the relevant transit agency (Arcata & Mad River Transit Service or Humboldt Transit Authority).

Response O1-2

Impacts to transit services are discussed under Impact 3.11-1, as reproduced below:

> As discussed above in the Environmental Setting section, A&MRTS provides fixed route bus service in the project area, served by the Gold and Red Route which both have stops on L.K. Wood Boulevard and Ridge Road. Local and regional plans do not identify any future planned or programmed transit improvements in the vicinity of the project site. Although the project would be expected to generate an increase in demand for transit ridership in the area, it is anticipated that the existing transit services would adequately accommodate any increase in demand. Additionally, as detailed in the Regulatory Setting section, above, the OPR Technical Advisory suggests that lead agencies generally should not treat the addition of new transit users as an adverse impact because infill development improves proximity and accessibility as well as improves regional vehicle flow by adding less vehicle travel onto the regional network.
>
> Cal Poly Humboldt would continue to work with the Humboldt Transit Authority to address its transit needs (Fehr & Peers 2022: 8). Furthermore, the project would not conflict with existing transit stops east of the project.

> Local and regional plans do not include transit improvements in the project area, and the project is not expected to generate a substantial increase in transit ridership. Additionally, the project would not alter any existing transit stops in the vicinity of the project site. Therefore, the project would not conflict with a program, plan, ordinance, or policy addressing transit services. Thus, the impact on transit services would be less than significant.

As noted in the text above, the addition of the proposed transit stop is not an indication of inadequate transit service to the project site under existing conditions. Further, the project would not modify/alter/remove existing transit stops, and transit providers, CEQA, and CEQA lead agencies generally do not treat increases in transit ridership as an adverse impact because infill development improves proximity and accessibility as well as improves regional vehicle flow by reducing vehicle travel across the regional network. Adequate right-of-way around and through the site is provided for regional transit and emergency vehicles. Cal Poly Humboldt will continue to partner with Humboldt Transit Authority to adaptively manage the transit needs of the campus and students, faculty, and staff located in the area. Further, contrary to statements made in the comment, the Draft EIR notes that the Gold and Red Routes serve the project area.

Comment O1-3

In various places, the DEIR says that the project will provide "indoor" bike parking (e.g., pp.1-1,2-13), while in others it does not specify that the parking will be indoors (e.g., p.2-8). This may seem like a minor discrepancy, but in fact, the availability of specifically indoor (i.e., weather-protected and secure) bike parking is critical to facilitating resident bike ownership and use.

Response O1-3

Consistent with the third paragraph on page 2-13, indoor bicycle parking would be provided and would be located adjacent to the proposed café within the southeastern portion of the project site. Additional bike parking/racks would also be provided along the exterior of on-site structures.

Comment O1-4

At p.2-18, the DEIR states that reducing peak-hour traffic by providing flexible work schedules is a VMT reduction measure. In fact, changing the timing of trips may reduce congestion, but it has no effect on VMT.

Response O1-4

The comment correctly states that congestion is not related to VMT. The text of the Draft EIR has been modified as follows, beginning in the second paragraph on page 2-18:

> The circulation framework for the project would integrate various transportation demand management strategies that reduce vehicle miles traveled from single-occupant automobile trips, such as:
>
> - provide safe, covered bicycle parking areas near building entrances for visitors and inside buildings for residents and employees;
> - design and incorporate traffic-calming features within the development; and
> - encourage ~~flexible work scheduling and~~ on-site employment for proposed support services ~~to minimize peak-hour traffic~~.
>
> With respect to alternative transportation facilities, and in addition to the aforementioned Annie & Mary Rail Trail that would be located along the eastern boundary of the site, student residents would have access to campus via St. Louis Road and the US 101 overcrossing, which would provide secondary pedestrian/bicycle access to the Cal Poly Humboldt main campus. As previously stated, a central concourse/promenade would be provided within the proposed student housing development, connecting residences to support facilities and primary bicycle/pedestrian connections to campus. Within the southern end of the proposed development, indoor bicycle parking would be provided, in addition to on-site, exterior bicycle storage facilities.

These changes do not affect the discussion regarding VMT under Impact 3.11-2, or result in new environmental impacts in additional to those disclosed in the Draft EIR. No further changes to the document are necessary.

Comment O1-5

Scoping comments submitted by us as well as those submitted by Caltrans point out the key influence of free residential parking on VMT. However, the DEIR makes no mention of the relationship between parking and VMT. Although the project is not subject to the City of Arcata's land use regulations, it is notable that the project provides substantially more parking than required by those regulations, suggesting it may result in higher per capita VMT.

Response O1-5

Within Appendix E of the Draft EIR, the Transportation Impact Study (TIS) for the project evaluates the potential transportation impacts of the project, including consideration of the proposed amount of on-site parking, in accordance with the CSU Transportation Impact Study Manual (TISM). Within the Draft EIR, Impact 3.11-2 discusses operational VMT impacts and concludes that impacts would be less than significant. The comment does not indicate any flaws in the analysis or suggestions for how free residential parking could affect VMT that would materially change what is presented in the EIR. No changes to the document are necessary.

Comment O1-6

The DEIR suggests that the project's design will encourage bicycle and pedestrian transportation, but also admits that "based on the conceptual nature of the site plan, it is not possible to conclude that pedestrian and bicycle safety in the vicinity of the project site would be sufficient" (p.3.11-12). Unsafe, uncomfortable, or merely inconvenient conditions for walking or biking make these modes much less likely to be used, and the DEIR does not provide sufficient information to judge likely mode choice. See below for additional discussion of this issue.

Response O1-6

The comment correctly quotes text from the Draft EIR, which goes on to state that, "The project would increase vehicular, bicycle, and pedestrian travel in the surrounding area which could potentially increase the risk of pedestrian- and bicycle-vehicle conflicts. For this reason, the project's impact related to transportation hazards during operations would be potentially significant (fifth paragraph on page 3.11-13)." As discussed in the first paragraph of page 3.11-12 of the Draft EIR, "The Transportation Analysis Memo used the HCAOG Travel Model to calculate the VMT per resident anticipated to be generated by the project. The trip patterns in the HCAOG Travel Model were checked against location-based services "Big Data" to confirm that the model is reasonably replicating existing travel patterns related to Cal Poly Humboldt." Further and as noted above, the TIS was prepared consistent with CSU TISM (Fehr & Peers 2019). Mitigation measures are provided in the Draft EIR related to specific on-site and off-site features that are considered necessary to promote the pedestrian and bicycle activity to and from the project site. Contrary to statements made in this comment, adequate information is considered to be provided, and no changes to the Draft EIR are necessary in response to this comment.

Comment O1-7

The DEIR notes that VMT modeling results were also used in the assessment of air quality, greenhouse gas, and energy impacts, heightening the importance of providing sufficient justification for the results. The EIR must specify the inputs used to obtain the VMT estimate for the project, and must provide enough detail about transit service and the site plan to judge the appropriateness of those inputs.

Response O1-7

Appendix E of the Draft EIR contains the TIS, which provides a description of the analysis methodology, a discussion of impacts, and conclusions. The analysis relies on the project description provided in Appendix E of the Draft EIR, which states that the project would construct a student housing community with approximately 240 units, up to 964 student beds, 340 single-occupancy parking spaces, and other amenities (see page 1 of Appendix E of the Draft EIR). Page 7 of Appendix E of the Draft EIR provides details related to the methodology used to calculate VMT:

> As noted previously in the discussion regarding the CEQA significance criteria for VMT impacts, the Humboldt County Association of Governments Travel Model (HCAOG Travel Model) has been selected as the tool to calculate VMT per capita metrics for the proposed project. The use of a travel demand model to calculate VMT and related metrics is recommended by OPR in the Technical

> Advisory, and the CSU TISM notes that the travel demand model is applicable for the project area and VMT calculation context. The HCAOG Travel Model covers the entirety of Humboldt County, including the proposed project area. Caltrans District 1 maintains the HCAOG Travel Model and periodically updates the model to reflect changing travel conditions and approved land use projects and programs. This analysis used the latest HCAOG Travel Model as received from Caltrans District 1 in early 2022. The trip patterns in the HCAOG Travel Model were checked against location-based services "Big Data" to confirm that the model is reasonably replicating existing travel patterns related to the University.

No specific comment on the adequacy, accuracy, or completeness of the EIR is provided; therefore, no further response is necessary.

Comment O1-8

We further strongly urge Cal Poly Humboldt to reduce the number of parking spaces provided and increase housing proportionately.

Response O1-8

The comment provides a suggestion related to design of the project and does not address the adequacy, accuracy, or completeness of the EIR analysis; therefore, no further response is necessary. The suggested design change to the project is part of the record and will be considered by the Board of Trustees during their deliberation concerning the project merits.

Comment O1-9

Additionally, the baseline per capita VMT calculation used in the DEIR to calculate the significance threshold is not appropriate. The DEIR uses countywide per capita VMT as the baseline. As we pointed out in our scoping comments, the baseline should include only the Arcata-Eureka-McKinleyville area, which "encompasses both the vast majority of the university's student and employee residential catchment area as well as all areas potentially feasible for the development of future student housing." HCAOG, whose Travel Demand Model the DEIR employed, made exactly the same request. Yet the DEIR ignored both comments and used countywide VMT as a baseline instead.

The attempted justification for this choice is misleading at best. The DEIR points out that the limits of the analysis area "should not be arbitrarily truncated at political boundaries" (p.3.11-9). This is not what we nor HCAOG suggested, but exactly what the DEIR itself does by using county boundaries. The DEIR also points out that many students live outside the city limits of Arcata, which is exactly why we and HCAOG suggested using the greater Humboldt Bay region. Very few students live in remote eastern and southern Humboldt, where per capita VMT is very high. Using the county boundaries for the baseline VMT calculation is almost as arbitrary as using the entire state.

In addition to providing justification for its project VMT calculation, the EIR must adjust its threshold calculation to a more reasonable and restricted geography.

Response O1-9

The comment disagrees with the VMT methodology and suggests that a smaller area should be considered when analyzing changes to VMT related to the project. It is important to note that, as required under CEQA, the NOP comments were considered during preparation of the Draft EIR. Formal responses to NOP comments are not required. During consideration of the NOP comments, as well as OPR guidance it was determined that because a substantial number of students and staff at Cal Poly Humboldt live off-campus and outside of the City of Arcata and Humboldt Bay, evaluation of the entire county was appropriate as the baseline for the Draft EIR's VMT analysis. As noted on page 3.11-9 of the Draft EIR:

> The recommended VMT significance criteria included in the OPR Technical Advisory are based on statewide GHG reduction targets, which are defined at the Metropolitan Planning Organization (MPO) level. Although the Humboldt County Association of Governments is a Regional Transportation Planning Agency, and not an MPO, the entirety of Humboldt County represents a logical boundary for the evaluation of VMT impacts based on the methodology used by OPR to

develop the thresholds identified in the OPR Technical Advisory. The OPR Technical Advisory also notes that the VMT calculation itself should not be arbitrarily truncated at political boundaries (i.e., an arbitrarily defined sub-area boundary), and thus using a Humboldt County-wide geography represents a good faith effort at the full accounting of the VMT effects of the project. This County-wide analysis also represents the extents of the Humboldt County travel demand model.

In addition to the methodological reasoning for the selection of a Humboldt County-wide benchmark for VMT, student housing location data from Cal Poly Humboldt, location-based services "Big Data" regarding Cal Poly Humboldt-related trips, and data from the Humboldt County Association of Governments Travel Model (HCAOG Travel Model) indicate that there is a substantial regional student housing component consisting of students living off-campus and outside of the City of Arcata. Because the project does not propose to increase student enrollment, it is reasonable to assume that the net effect of the project would be that students who would otherwise be living outside of the City of Arcata would move closer to campus. Therefore, a regional basis (i.e., a Humboldt County-wide basis) is the most reasonable for evaluating the effect of the project. Therefore, the Humboldt County-wide average was used as the basis for the assessment of project-generated VMT impacts.

The Draft EIR's analysis represents a good-faith attempt at a full accounting of the VMT effects of the project and is considered consistent with OPR guidance. The discussions provided in Section 3.11, "Transportation," are supported by the TIS (Appendix E of the Draft EIR), which was prepared by qualified traffic engineers who are experts in the field of transportation analyses. Suggestions for a smaller area of analysis presented in this comment were considered but due to the regional nature of the university, the countywide analysis was considered more appropriate and in accordance with applicable guidance from OPR and CSU. No information is presented in this comment to suggest that the project would result in a significant impact that was not disclosed in the Draft EIR. No changes to the Draft EIR's analysis are considered necessary.

Comment O1-10

Consistency with Transportation Plans and Policies

The DEIR notes that the California State University (CSU) system has adopted policies promoting low-carbon transportation modes such as walking, biking and public transit, and committing to transportation demand management (TDM) and VMT reductions (pp.3.6-6, 3.11-3). These are also identified in the DEIR as purposes of the student housing project (p.2-20). However, the DEIR provides no analysis to justify how or whether the project will be consistent with several of the adopted policies, including:

- CSU TDM Manual Objective 1A (developing TDM policies)
- CSU TDM Manual Objective 1B (monitor to ensure TDM effectiveness)
- CSU TDM Manual Objective 3B (use financial incentives for non-single occupancy vehicle modes)
- Cal Poly Humboldt Climate Action Plan TRA Strategy 1.1 (establish a TDM plan)
- Cal Poly Humboldt Climate Action Plan TRA Strategy 1.2 (adjust parking policies, programs and infrastructure) *
- Cal Poly Humboldt Climate Action Plan TRA Strategy 1.4 (alternative transportation programs) *
- Cal Poly Humboldt Climate Action Plan TRA Strategy 1.5 (public transportation) *

The measures marked with an asterisk (*) are not even mentioned in the DEIR. The DEIR concludes correctly that without mitigation, the project would conflict with policies promoting active transportation due to potential safety conflicts in the surrounding area. However, the DEIR fails to address consistency with policies related to parking, financial incentives, improvement of public transportation, and implementation and monitoring of TDM plans. On its face, the project's abundant parking would seem to conflict with CSU TDM and Cal Poly Humboldt Climate Action Plan parking policies.

Furthermore, the DEIR states at p.4-8 that the project is only "likely" to include TDM strategies. Without a firm commitment to TDM strategies as required by the above-referenced policies, the project would not pass the consistency step.

Response O1-10

The comment states that the Draft EIR does not address consistency with the CSU TDM Manual nor Cal Poly Climate Action Plan policies. The CSU Transportation Demand Management (TDM) Manual (Nelson Nygaard 2012) addresses the unique transportation needs of different campuses and provide a systemwide framework for implementing sustainable transportation programs. The manual contains a set of goals, criteria, and best practices that encourage students, faculty, and staff to commute to and from campus via bus/rail transit, carpools, vanpools, bicycling, and walking to lessen reliance upon single-occupant vehicle (SOV) travel and reduce vehicle trips to campuses. The project would be located near to campus (approximately 1 mile via bike or pedestrian route) and would contain features that would support alternative modes of transportation (e.g., indoor bicycle parking, proximity to the Annie & Mary Bike Trail). TDM strategies are adaptively managed by the campus, and the project, in and of itself, would not hinder the campus' ability to implement, monitor, and adaptively manage its TDM efforts. As such, the project is considered generally consistent with the CSU TDM's goals related to sustainability.

With respect to the Cal Poly Humboldt Climate Action Plan, it is addressed in Chapter 3.6, "Greenhouse Gas Emissions" and consistency with these strategies is evaluated and addressed under Impact 3.6-2. More specifically, the Draft EIR states on page 3.6-16:

> Consistency with Cal Poly Humboldt Climate Action Plan 2.0
>
> The Cal Poly Humboldt CAP 2.0 aims to exceed the CSU Sustainability Policy by setting a carbon neutral goal by 2050. As part of that commitment, locating a higher percentage of students closer to the main campus is considered necessary and would be partially fulfilled by the project. For the same reasons that the project would be consistent with Climate Leadership Commitment, the project would implement sustainable design features that would put Cal Poly Humboldt on track toward meeting emission reduction goals. These features include no natural gas use, energy and water efficiency systems, and EV-ready parking spaces. Thus, the project would be consistent with the CAP.

Further, the commenter's statement regarding statements made on page 4-8 of the Draft EIR is incorrect. The statement to which the commenter refers is describing how projects listed within Chapter 4, "Cumulative Impacts," would also likely include consideration of TDM strategies in accordance with City and Cal Poly Humboldt goals and objectives. No changes to the document are necessary.

Comment O1-11

When considering the adopted Regional Transportation Plan (RTP), the DEIR also fails to assess the project's consistency with that plan's Safe and Sustainable Transportation Targets, despite those targets being central to the RTP and being specifically called out in HCAOG's scoping comment letter.

Response O1-11

Impact 3.11-1 addresses conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. While the comment notes that the adopted RTP's Safe and Sustainable Transportation Targets are not included, as explained in the "California State University Autonomy" section in Chapter 3 of the Draft EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. The RTP establishes several goals, including a reduction of regional VMT, an increase in transit ridership, a transition to zero-emission fleets, accessibility improvements through better land use, increased safety for pedestrians and cyclists, and increased active transportation education. Through on-site design and mitigation measures, the project includes features that are consistent with and support sustainable transportation as provided in the adopted RTP. More specifically, the project would include 1) the provision of EV-ready spaces, 2) housing close to campus, 3) on-site transit considerations, 4) adequate pedestrian and bicycle facilities that provide two appropriate routes to campus. Because the comment does not indicate any environmental impact related to the project that were not disclosed in the Draft EIR, no changes to the document are necessary.

Comment O1-12

Transportation Safety

The "conceptual site plan" (DEIR Figure 2-9) presents an island of buildings and landscaping surrounded by streets and parking lots, and does not make clear how people walking, biking or rolling will have safe, comfortable and convenient access to and from the buildings through these vehicle-dominated spaces. The DEIR repeatedly describes "interconnected pedestrian and bicycle paths" on-site (e.g., pp.2-17, 3.11-10, 3.11-13), which we appreciate, but does not explain how these paths will connect to off-site facilities. The text also claims that there will be a "central concourse/promenade" that connects to off-site facilities (pp.2-13, 2-18, 3.11-13), and asserts that on-site paths will "direct student residents north to the L.K. Wood Boulevard-US 101 overcrossing or east to the future extension of the Annie & Mary Rail Trail project" (p.2-17), but the conceptual site plan does not show any such connections.

Response O1-12

The Draft EIR provides a good-faith effort at presenting the project through both a narrative discussion and through the use of figures. Renderings of the project, showing pathways and access through the site are presented in Chapter 2, "Project Description;" and, a description of the on-site circulation is provided in Section 2.4.3 of the Draft EIR, "On-Site Circulation." Additionally, Mitigation Measures 3.11-3 includes requirements for appropriate signage and crossings to reduce impacts to safety (discussed under Impact 3.11-3). Because the comment does not indicate any environmental impact related to the project that were not disclosed in the Draft EIR, no changes to the document are necessary.

Comment O1-13

Additionally, the DEIR claims that the project will provide "signage" to prevent people walking and biking from using the planned southern emergency entrance to access Eye and Jay Streets (p.2-18). However, this will be one of the most direct paths of travel from the project to campus, downtown Arcata, and other major destinations, and signage will be unlikely to deter usage. As noted in the DEIR, Eye Street has no bicycle or pedestrian facilities (pp.3.11-7, 3.11-8).

Response O1-13

As discussed in the first paragraph under Section 2.4.3 of the Draft EIR, "[t]he proposed circulation network for the project site is intended to limit changes to the existing circulation patterns in the area and minimize the potential for project-related vehicular traffic to affect local residential streets, including Eye Street, Maple Lane, and Stromberg Avenue." Pedestrian and bicycle access would not be provided to and from the project site via Eye Street. Access would be prevented through a combination of barriers and signage, including gates, bollards, signs at the project site and likely at access points along the Annie & Mary Rail Trail. Students would be required to use the Annie & Mary Rail Trail or travel to and from the site via St. Louis Road. No changes to the document are necessary.

Comment O1-14

We appreciate the DEIR's acknowledgement that there will be significant impacts to bicycle and pedestrian safety (Impacts 3.11-1 and 3.11-3). We also appreciate the proposed mitigation measures, including providing sidewalks along St. Louis Road and high visibility crosswalks and signage at other locations. However, these measures are insufficient to fully mitigate the impact. First, St. Louis Road must also be provided with bicycle facilities between the project site and the Highway 101 overpass, as suggested by Caltrans in their scoping comments.

Second, despite the DEIR's claims, it is unlikely that most project residents will walk or bike north from the site. As noted above, the most important destinations, including campus, are south and east. Thus, the project should also anticipate pedestrian and bicycle use of Eye Street and provide bicycle and pedestrian facilities and traffic calming improvements there. The project must also include mitigation measures to address the intersections at Sunset Ave/G Street/H Street/Highway 101 ramps, and Sunset Ave/LK Wood Blvd/Highway 101 ramps, which are widely recognized as the most dangerous in the city for people walking, biking and rolling. Project residents using Eye Street or the future Annie & Mary trail to travel between the project site and campus—the most direct routes available—will be forced to navigate these intersections. We acknowledge that plans are under way at the City of Arcata to improve safety at the L.K. Wood intersection, but we are aware of no current plans for the G/H Streets intersection.

Response O1-14

Generally, and as noted in the second paragraph on page 3.11-13 of the Draft EIR, "[o]n-site circulation would provide interconnected pedestrian and bicycle paths throughout the development to promote multimodal transportation choices, all of which are intended to direct student residents to the US 101 overcrossing or the City's Annie & Mary Rail Trail project which would be located along the eastern project site boundary." The project was evaluated in a manner consistent with CEQA requirements and the CSU TISM for potential physical environmental impacts pertaining to transportation and where necessary, based on appropriate thresholds, mitigation measures were identified. With respect to pedestrian and bicycle improvements north of the project site, Mitigation Measure 3.11-1 would ensure the provision of safe passage north from the project site for both student pedestrians and bicyclists, and has been clarified as follows:

> **Mitigation Measure 3.11-1: Provide Pedestrian and Bicycle Facilities along St. Louis Road**
> Cal Poly Humboldt, in cooperation with the City of Arcata, shall provide a sidewalk and adequate striping for bicycles that connects the northern access road for the project to the US 101 overcrossing and the rest of the pedestrian circulation system. The sidewalk and bicycle connections shall be built on the east side of St. Louis Road with appropriate ~~pedestrian~~ crossing provided along St. Louis Road. There is adequate right-of-way available to complete the sidewalk gaps along the roadway. The design of the off-site pedestrian and bicycle improvements shall be consistent with City design standards. The sidewalk and bicycle improvements shall be completed prior to occupancy of the project.

Based on the analysis conducted and provided in the Draft EIR, the project would not conflict with plans, policies, or programs related to the provision of adequate bicycle and pedestrian facilities. Please also refer to Response O1-13. With respect to the potential need for improvements along Sunset Avenue, it is important to note that these are already considered within the cumulative context, as they are part of the City's Annie and Mary Rail Trail project and planned/funded. Please refer to pages 4-5 and Figure 2A of the City's Annie & Mary Rail Trail IS/MND available at: https://cityofarcata.org/DocumentCenter/View/12488/Arcata-Annie-Mary-Trail-ISMND-Public-Circulation?bidId=.

Comment O1-15

Alternatives Analysis

Although the DEIR analyzes a project alternative identified as "on-campus student housing," the only on-campus location considered is a sports field. The DEIR should analyze the alternative of building student housing on an on-campus parking lot. These cover large areas of campus and would help achieve project objectives related to transportation, energy, and greenhouse gases by managing vehicle parking.

The alternatives analysis concludes that the environmentally superior alternative is the no-project alternative, and excluding that, the lower density project alternative. Part of the basis for this conclusion, however, is flawed. The DEIR concludes that the no-project alternative would "result in reduced transportation and circulation impacts" (p.5-8), and that the lower-density alternative "may also reduce vehicle trips and VMT" (p.5-10). This is inconsistent with the rest of the DEIR and very likely incorrect. Even after correcting for the VMT analysis deficiencies identified above, it is likely that the project will still produce lower VMT per capita than the area average. Therefore, a no-project or lower-density project alternative would result in higher VMT per capita, and thus a greater transportation impact under CEQA Guidelines Section 15064.3(b).

Response O1-15

The comment suggests an on-campus alternative that would be located on a parking lot; however, it does not indicate a specific parking lot that could accommodate the project not the types of environmental impacts that would be reduced, relative to the project. Without further indication of an appropriate location that could meet the objectives of the project while also reducing the significant environmental effects of the project, no further discussion can be provided. Further, the Draft EIR considers a reasonable range of alternatives to the project, consistent with CEQA requirements. The off-site location was determined based on an assessment of campus facilities and the potential for densification/intensification of use that would not necessitate construction of a facility to replace the one removed on campus.

Consistent with the State CEQA Guidelines Section 15126.6(d), the Chapter 5 of the Draft EIR contains information about each alternative to the project sufficient to allow meaningful evaluation, analysis, and comparison with the proposed project, which includes a discussion of VMT related to Alternative 1: No Project-No Development Alternative and Alternative 2: Lower-Density Student Housing Development. As noted on page 5-8, "Under the No Project–No Development Alternative, no vehicular trips would be generated as a result of on-site construction or operation of new facilities, and there would be no change to local vehicular trips because the project site would remain vacant and unused. In comparison, the project would add new trips to the local roadway network; however, vehicle miles traveled (VMT) as a result of project implementation would not exceed appropriate standard." In the second paragraph on page 5-11, the discussion states that, "[b]ecause Alternative 2 would accommodate fewer site occupants than the project, overall VMT associated with on-site uses would also be reduced. However, as noted in Section 3.11, "Transportation," no significant and unavoidable transportation impacts are anticipated." For these reasons, as indicted in the Draft EIR, there would be less VMT under the No Project-No Development Alternative and the Lower Density Alternative than the proposed project. It is generally understood that locating students closer to campus would reduce VMT and that by not doing so would not decrease VMT. However, the level to which VMT would decrease would depend on the location of students that would otherwise live at the project site in relation to the campus. On its face, Alternative 1 would result in new uses at an underutilized project site that would increase the population of the site. Some of its population (up to 340 residents) may drive on a daily/weekly basis and would thus increase the level of VMT associated with the project site, as stated correctly in the Draft EIR.

Comment O1-16

Aesthetics

The majority of impacts identified in the DEIR as both significant and unavoidable fall under the category of aesthetics. Aesthetic impacts are highly subjective, and we object to the DEIR's characterization of the aesthetic impacts of the project.

The DEIR admits that Highway 101 is not a designated scenic highway in this location, yet still concludes that the project will "damage scenic resources within a state scenic highway" (p.3.1-14). Similarly, the DEIR concludes that the project will "substantially degrade the existing visual character or quality of public views of the site and its surroundings" (p.3.1-14).

The project will replace a dilapidated industrial structure, vastly improving views of the site. And from the highway, the project will not block or impede any natural vistas at all. It strains credulity to imagine these as significant aesthetic impacts. The conclusion of significant impacts seems to rely largely on the assumption that larger buildings and denser development are inherently less aesthetically appealing that low-density development. We object strongly to this subjective characterization.

Response O1-16

The comment states that the project would not present a significant and unavoidable impact on aesthetics. Impact 3.1-1 states that, "[t]he project would… represent a change from a more natural, forested condition to a more urbanized (i.e., densely developed) quality of the project site (fourth paragraph on page 3.1-13 of the Draft EIR); "and Impact 3.1-2 states that, "the project would introduce urban/suburban, human-made elements that would alter the current condition of the project site" (first paragraph on page 3.1-14 of the Draft EIR). These impacts were nonetheless considered significant and unavoidable because they would represent the introduction of a mid-rise building in a setting characterized almost exclusively by low-rise (single-story) residences. In addition, while the project would replace dilapidated structures at the project site, it would briefly block views of the wooded hillside located to the east of the project site from vantagepoints within the neighborhood west of the project site (see pages 3.1-15 through 3.1-18 and Figure 3.1-3 of the Draft EIR). It should also be noted that the State CEQA Guidelines Appendix G Environmental Checklist Form's significance threshold against which aesthetic impacts are measured is phrased in somewhat inflexible language, asking whether a project would "substantially degrade the existing visual character or quality of the site and its surroundings," where a more nuanced threshold might ask whether the project represents or introduces a high degree of contrast with its setting, allowing for a determination of whether that is a beneficial or adverse change. The comment provides opinions related to the appreciation of denser development, but does not provide substantiation to indicate that conclusions related to significant aesthetic impacts are incorrect. The commenter's concerns as well as support for the aesthetics of the project are noted, but no changes to the document are necessary.

Comment O1-17

Solar Photovoltaics and Electric Vehicle Charging

The DEIR describes the project as "PV-ready," meaning it will not have solar panels installed, but theoretically could in the future. Solar panels are already required on most multifamily housing by state building codes, and CSU policies cited in the DEIR call for dramatically increasing both on-site renewable energy generation and renewable electricity procurement. Consistency with adopted renewable energy plans therefore requires the project to actually include photovoltaic panels when constructed.

Similarly, the DEIR states that 10% of project parking spaces will be "EV ready" (p.2-13). We strongly urge that the project actually construct the electric vehicle charging infrastructure, rather than waiting until some unidentified future date.

Response O1-17

Comments related to electric vehicle charging infrastructure are noted. As noted on page 3.5-10 of the Draft EIR, Cal Poly Humboldt is in the process of developing a larger microgrid and various other sustainability initiatives, in line with CSU Sustainability Policy goals and Cal Poly Humboldt's Climate Action Plan or CAP 2.0. Due to feasibility concerns, the degree to which the project may connect to the broader Cal Poly Humboldt Campus, including consideration of expansion of electric vehicle charging opportunities throughout campus and where such charging facilities would be most effective, has yet to be determined. No specific comment on the adequacy, accuracy, or completeness of the EIR is provided; therefore, no further response is necessary.

Comment O1-18

Conclusion

In sum, while we support this project in concept, the following changes to the project/DEIR are required:

1. Address deficiencies in the VMT analysis and adopt a more appropriate threshold of significance.
2. Reduce on-site parking and commit to TDM strategies to ensure compliance with adopted plans and policies.
3. Provide additional off-site safety improvements for bicyclists and pedestrians to mitigate for reasonably foreseeable impacts.
4. Address deficiencies in the alternatives analysis which bias the final conclusion.
5. Reconsider conclusions of significant aesthetic impacts.
6. Include PV panels and EV charging equipment in the project.

Response O1-18

The comment represents a restatement and summary of the letter's previously presented comments. Please refer to Responses O1-1 through O1-17, where the suggested changes are addressed.

Individual

LETTER I1 GLEN COLWELL

November 1, 2022

Comment I1-1

I am a resident and property owner in north Arcata, and a 1982 grad of HSU(IA&T). As such, I am cautiously optimistic about the conversion of HSU to CPH, and the potential "town and gown" benefits that may result.

Because we live close to the Craftsman's Mall property, and will be affected by any development that happens on that site, we have closely followed the proposed private development that came before the City of Arcata a few years ago and was withdrawn by the developer, and now Cal Poly Humboldt's plan.

I'm contacting you to better understand why and how CSU planners arrived at the current design. After the build-out of new student housing near the College Creekfield, which is visually attractive, the design of the Craftsman's Mall student housing buildings seems like an homage to Soviet era East German public housing.

Sadly, I'm sure it's too late at this point for a redesign, and I am aware that Arcata community residents and the City of Arcata have no say in projects built on State property. Nevertheless, for whatever it may be worth, I'm adding my two cents; Please do better!

And PLEASE don't do the same thing on the property recently purchased near Foster Avenue!

If you can help me understand how the Craftsman's Mall "Institutional Style" building design came to pass, I'd greatly appreciate it.

Response I1-1

Section 2.4.1 of the Draft EIR, "Building and Site Design," provides an overview of the layout of the project and consideration of building features. As noted in the first paragraph on page 2-12:

> As proposed, on-site buildings would generally be taller at the center of the site and step down along the perimeter of the project site, to reduce building mass and scale in proximity to the surrounding single-family residential neighborhoods. The western building, as shown in Figure 2-9, would be oriented in an L-shape with the east-west wing being five stories in height and the north-south wing being six stories in height. The eastern building would be generally seven stories in height; however, the easternmost section of the building would be limited to five stories. Overall, no on-site buildings would exceed approximately 75 feet in height. The intent of the taller building height is to maximize the available space for open space and recreational opportunities on the project site…

As further discussed in Chapter 2 of the Draft EIR, "Project Description," the project would include open-air courtyards, green spaces, and would maintain the 1.2 acres of existing natural open space lining Janes Creek in the western portion of the site (last paragraph, page 2-12). The potential aesthetic impacts of the project are addressed in Section 3.1 of the Draft EIR, "Aesthetics." Comments provided in this letter related to the appearance of the project will be considered during detailed design development and by decisions makers during consideration of project approval. No specific comment on the adequacy, accuracy, or completeness of the EIR is provided; therefore, no further response is necessary.

Comment I1-2

Also, is there any avenue for public comment on this project or for the Foster Avenue?

Response I1-2

The comment requests information for how to submit public comments on the proposed project and a future project on Foster Avenue. The public review period for the Draft EIR ended on December 5, 2022, consistent with CEQA requirements. A future project on Foster Avenue is not within the scope of the EIR or considered part of the proposed project. No further response is necessary.

LETTER I2 MARGARET KELSO

November 29, 2022

Comment I2-1

Thank you for taking public comments about the proposed Student Housing on the Craftsman site.

I have to admit that I feel hopeless that anything I say or anyone says will make any difference in the university's plans. After a lengthy negotiation with neighbors and the developers that were formerly involved in creating the Village, all agreements were thrown out when the University bought the property. The sheer size of the currently proposed structure is overwhelming. From the drawings, it looks like this building might be the largest in Humboldt county.

But I wish to reiterate my primary concern: safety. The traffic circle that unites Foster, Sunset and Jay Street is already dangerous and the addition of even more pedestrians, bicyclists, skateboarders and cars from both the new Wellness Center and at least some traffic from the dormitory will be even more so. (I realize the plan tries to direct traffic over St. Louis Road.). If there is any way that construction of this dorm can be moved to the current campus grounds, then I urge you to do so. It would solve so many issues.

Response I2-1

The comment provides opinions related to the design of the project. Please refer to Section 3.1, "Aesthetics," in the Draft EIR for evaluation of the aesthetic impacts associated with implementation of the project.

The comment also expresses concerns related to safety, particularly at the traffic circle that unites Foster, Sunset, and Jay Streets. As discussed under impact 3.11-1 in the Draft EIR, the potential for bicycle- and pedestrian-vehicles conflicts is considered to be a significant impact. Mitigation Measure 3.11-1 is provided to reduce these impacts to a less than significant level by providing pedestrian facilities connecting the project site to the area circulation system.

The comment's suggestion that the university consider an on-campus project site is reflected in Chapter 5, "Alternatives," of the Draft EIR (see Alternative 3). As noted by the comment, this alternative would result in reduced impacts to traffic, including bicycle and pedestrian modes of transportation, compared to the project (see the fourth paragraph on page 5-14 of the Draft EIR). However, as stated in the last paragraph on page 5-14, the upper playfield is considered an essential recreational amenity to the Cal Poly Humboldt main campus and the students, faculty, and staff and development of it would not optimize an underutilized site and would detract from overall campus life/experience by removing an essential recreational amenity of the existing campus. It is important to note that development of on- and off-campus housing would likely be necessary to meet long-term campus-related housing demand. Further the Draft EIR evaluated the potential impacts related to bicycle and pedestrian routes from the project site to the campus and provided mitigation to ensure two routes (one north and one south of the site) to allow for safe passage of student residents to and from Cal Poly Humboldt.

LETTER I3 FRED JOHANSEN

November 30, 2022

Comment I1-1

On November 15th Cal Poly Humboldt held an open meeting to present their EIR plan for the Craftsman Mall Dorms. There were three presenters and four attendees from the public. The EIR is published online at the Cal Poly website.

I was very interested in the proposed project to see how it was laid out, transportation to and from the Dorms, and how it will affect our neighborhood. Myself and one of my neighbors have emailed comments to Diedre and they are included in the Appendices to the EIR.

The Project

https://facilitymgmt.humboldt.edu/sites/default/files/combined_deir_with_appendices_1.pdf is the location of the EIR

The new dorms as planned will house 964 students and have parking for 340 cars. No outdoor decks are included in the seven story buildings. The two housing units are separate with the north one facing north and south and the other east and west with supporting services located between them.

The main entrance to the Dorm Complex will be a new road exiting St. Louis Rd. midway along Mad River Lumber. St. Louis Rd. then continues to the southern end of the Mad River Lumber Property. This is a major positive step to provide a safe entrance for students and services to the Dorms. It provides a stop sign where the new road enters St. Louis Rd. That slows the traffic entering St. Louis Rd. which during the day has 30 plus semi trucks entering and leaving Mad River Lumber giving the students leaving the dorms time to look down St. Louis Rd. and then to proceed safely. Today those semi's sometimes stop in St. Louis Rd. to wait to load or unload at the mill. Those semi's will now wait in a safe location in the road but out of the traffic coming into and out of the Dorm complex. Map at pg. 2-14 and it is the Conceptual Site Plan

Transportation Problems

The Plan is for students who walk, bicycle and e-transportation to travel to the separate, main campus on the new Trails by Rails path to Foster Ave. This will include pedestrian, bicycle, e-bikes and e-scooters the most direct access to the University. This will be the most risky path for students to travel due to the three intersections, the circle where Sunset Ave and Foster Ave converge, the major intersection where Foster Ave. crosses the bridge over U. S. 101, and the new Foster Ave. and L. K. Wood circle intersection. All three of these intersections have received improvements for traffic and pedestrian safety due to the 2017 Central Arcata Traffic Study.

Since that study based on an 800 bed proposal for dorms at the time of the study several additions have taken place. They are the addition of the new Opendoor facility, the always open drive way to the newly developed Arcata High School Athletic Fields, parking on the 101 bridge and of course the new circle at L.K. Wood. The circle entrance at Foster Ave. and Sunset Ave. is dangerous because of sight lines at the entrance of Foster that doesn't allow traffic entering from Foster Ave. to see the entrance of Sunset Ave. to the circle. Note: a stop sign is needed at this juncture.

If students feel that the danger and delay on this main route is due to vehicular traffic at the three intersections they will then reverse their path to St. Louis Rd. and then to L.K. Wood.

The Coalition for Responsible Transportation Priorities (CRTP), Humboldt Bay Keeper, and the Northcoast Environmental Center responded to the EIR with a letter. The third bullet in the letter is this:

We also appreciate the NOP's acknowledgement that the project could result in impacts related to "potential traffic hazards on local roadways." We request that the EIR acknowledge that a significant increase in vehicular traffic can result in traffic hazards as well as what CEQA Guidelines refer to as "incompatible uses." In other words, if 2 vehicular traffic increases significantly on a particular roadway which lacks adequate and sufficient bicycle and pedestrian facilities (including closely spaced safe crossings), the overall level of vehicular use could become incompatible with walking, biking and rolling, resulting in a significant impact under CEQA.

The increase of traffic is causing concern from my neighbors. My wife and another professor walked daily to the University over the 101 overpass and both had near misses with inattentive drivers before and after the traffic modifications were completed from the 2017 Central Arcata Traffic Study.

Each of these intersections is complex with as few as four car and four pedestrian routes coming into them and as many as six entering and leaving the intersection in the middle. Compound this with e-bikes traveling at up to 30 mph, bicycles, e-scooter and pedestrians with earbuds in and it will be very exciting.

My concern here is that the additional traffic in these three busy intersections to Cal Poly Humboldt will be seen by students as a less desirable route to the university. The alternative will be for them to travel to the university by way of L.K. Wood.

In the plan as it exists today that will put the students walking and biking walking along the front of Mad River Lumber. Again this is an Industrial site with 30 or my logging, lumber and Chip trucks entering and exiting every working day. Since the Rails by Trails will pass behind Mad River Lumber it would be convenient for it to have a path from the Rails by Trails route to the Bridge over L.K. Wood

Then the route should be via the Rails by Trails under the L.K. Wood overpass to the other side of L.K. Wood so that they wouldn't have to walk along Mad River Lumber and the, in and outgoing semi-trucks. It is important that this addition be included in the Rails by Trails project. It would secure a safe access to the University that would be usable by pedestrians, bicycles, e-bikes and e-scooters.

I'm hoping that this additional project can be included. I am really excited to see that the new entrance was included and it will make this a safer project for everyone who enters and leaves the new dorms.

<u>Response I1-1</u>

The comment expresses concerns related to safety, particularly at the traffic circle that unites Foster, Sunset, and Jay Streets. As discussed under impact 3.11-1 in the Draft EIR, the potential for bicycle- and pedestrian-vehicles conflicts is considered a significant impact. Mitigation Measure 3.11-1 is provided to reduce these impacts to a less than significant level by providing pedestrian facilities connecting the project site to the area's circulation system.

With respect to the Annie & Mary Rail Trail connections suggested by the comment, the project would connect directly to the planned Annie & Mary Rail Trail, which will be located along the project site's eastern boundary and is anticipated to be completed in 2024.

Please see Responses O1-1 through O1-18, which address the comment letter submitted by the Coalition for Responsible Transportation Priorities (CRTP), Humboldt Bay Keeper, and the Northcoast Environmental Center. Please refer to Response O1-14 regarding the text quoted from their letter.

<u>Comment I1-2</u>

I am very pleased with the proposed dorms. I hope that as the project progresses the charging stations will have the solar included. This is a time of great change and e-bikes, e-scooters are showing up in many cities in California. Seeing a young person, texting, going on an e-scooter and e-bike took my breath away. It really looks like fun but when I do I won't be texting or have earbuds in.

<u>Response I1-1</u>

The comment expresses general support for the project. No specific comment on the adequacy, accuracy, or completeness of the EIR is provided; therefore, no further response is necessary.

Public Hearing

TRANSCRIPT PH1-1 FRED JOHANSEN

<u>Comment PH1-1</u>

Thanks for having this meeting and thanks for including my e-mail in the comments that I sent earlier. I've been looking at the transportation and I so hope that this is going to be a successful project for the university. I really would not like to hear that someone had run into a logging truck or someone was killed crossing the freeway on the bridge. And I still am very concerned with that. Here's how I kind of see this is going: the students will initially walk and bicycle, most of the students, I'm hoping, will cross using the rails to trail to the main intersection at the circle where it leads to the bridge. The problem is there that the, where the trails to rails comes out is above the circle. So, getting students to cross at the circle is going to be kind of interesting because I know when I'm in a hurry I'm more liable to go across the road there. I know my wife when she was working at the university, it's always an issue crossing over to the bridge from Sunset. And she had several close calls with people just driving rather than looking for pedestrians. And we know that that's going to be an impacted intersection with the 2017 traffic study. Has there been any? So what I'm looking at is, OK, that becomes impacted. Students decide that that's so impacted for going to school that they're going to go back over St. Louis Road and to L.K. Wood. And I want to commend you, thank you for putting in the road to the center of the North End of your project. I think that's going to make it a lot safer. But it looks to me that the sidewalk that the city is putting in is on the eastern side. It would make a lot more sense if it's on the western side. There is an entrance that's going to come out of the lumber mill there that is going to be dangerous for them to cross. And then crossing across L.K. Wood and going to school, that's another, you know, maybe there's going to be a need for some traffic mitigation on L.K. Wood. So, I am concerned about the traffic. And have you discussed this? Are there more discussions ongoing with the city of Arcata? About these issues?

Response PH1-1

As noted during the hearing, Cal Poly Humboldt and the City have been in communication regarding development of the Sunset Bridge. Please see Section 3.11 of the Draft EIR, "Transportation," which addresses safety issues associated with pedestrian and bicycle ingress and egress from the project site. Please refer to Response O1-14 for more information related to traffic safety improvements associated with the project.

TRANSCRIPT PH1-2 ANNE CARLISLE

Comment PH1-2

Why haven't you notified nearby property owners of this meeting by mail? I live on Madrone and my neighbors haven't been notified.

Response PH1-2

Consistent with CEQA Guidelines Section 1087, a public notice of the availability of a draft EIR was circulated in the Eureka-Times Standard when the Draft EIR became available. The noticed included a description of the project and the dates for the public meeting on the Draft EIR. In addition, notices were mailed to people who had attended either of the scoping meetings or had previously expressed interest in the project.

TRANSCRIPT PH1-3 NATALIE CALDERON

Comment PH1-3

Mike Fisher: Natalie Calderon, I see your question here. I apologize, we've been chatting in the Q&A portion. Let me see if you can still see the screen. I'm just going to roll back to this part that captures your question best. What you see on the top part of the image is Granite Ave or that really the housing area on campus, this is Sunset Ave that goes from campus to the Sunset community. We are northwest of our campus, so it is off site by about 1/2 a mile. And we're located just on the adjacent side of the highway. Hopefully that orients you a little bit on what we're looking at. Thank you, Natalie.

Response PH-3

This comments requests a better understanding of the project site in relation to the main campus. No specific comment on the adequacy, accuracy, or completeness of the EIR is provided; therefore, no further response is necessary.

TRANSCRIPT PH1-4 ANNE CARLISLE

Comment PH1-4

Mike Fisher: Anne Carlisle, I see your comment here. When your neighbors are in the dark, understood. I appreciate that comment. We'll have to look at our strategies and make sure that we're doing better outreach. I will also say that we do have intention on being part of a future Planning Commission meeting. We are looking for a spot on the agenda with the City of Arcata. We'll be talking about this project and others. We also intend to go to other meetings, partnered with City Council, go to where meetings are already happening. So do expect that from us in the future and thank you for relating that for us.

Response PH1-4

Please refer to Response PH1-2.

TRANSCRIPT PH1-5 ANNE CARLISLE

Comment PH1-5

Has there been discussion of any added transportation plans for students living on this off-site area, such as bus or shuttle for disabilities?

Response PH1-5

The comment suggests that access to a bus or shuttle for disabilities should be integrated into the project site. No specific comment on the adequacy, accuracy, or completeness of the EIR is provided; therefore, no further response is necessary.

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

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

ES.2 SUMMARY DESCRIPTION OF THE PROJECT

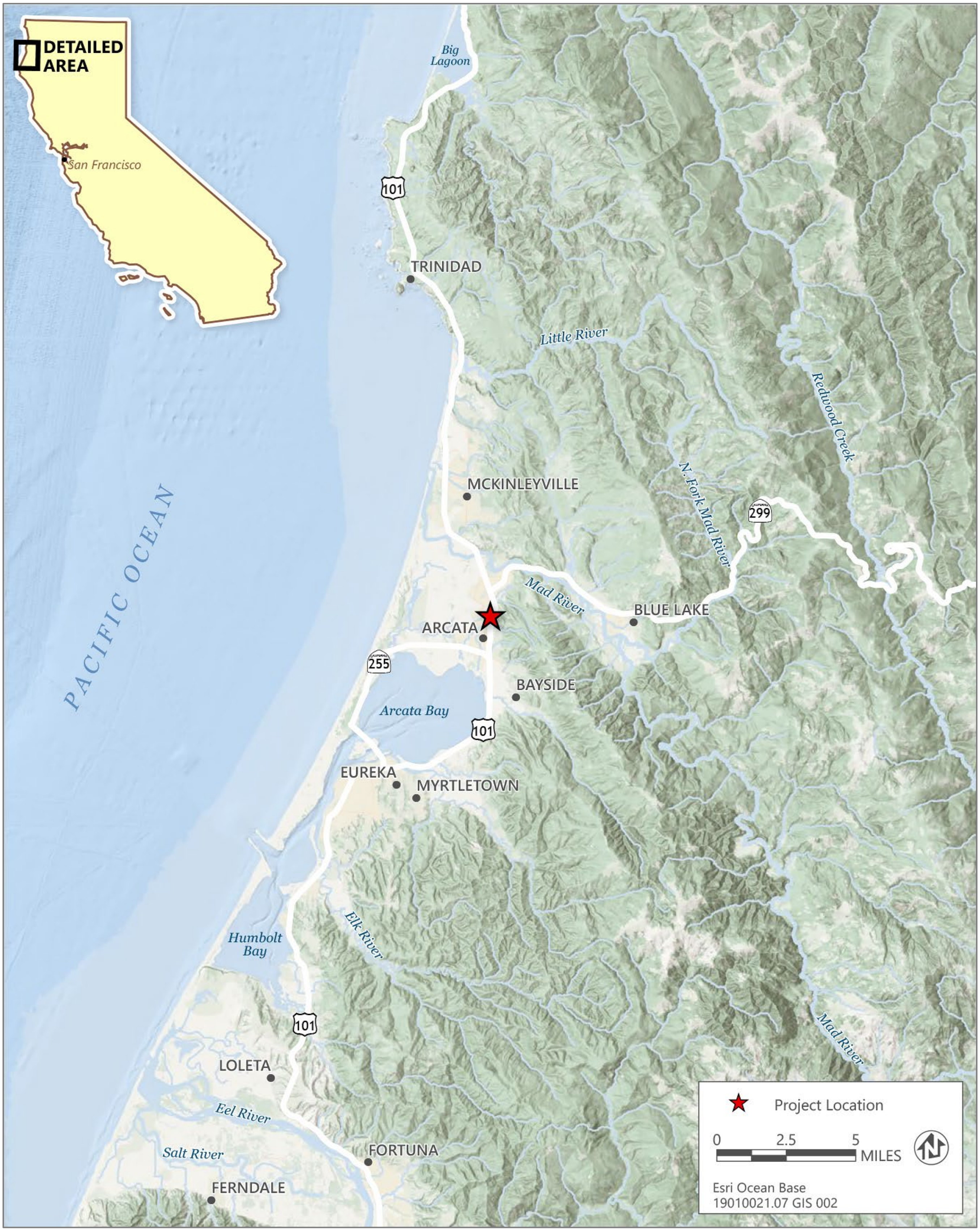
ES.2.1 Project Location

The 12.8-acre project site is located in the City of Arcata (City) on the northeast edge of the Sunset Neighborhood, near the intersection of the St. Louis Road and US Highway 101 (US 101) overcrossing (Figures ES-1 and ES-2). The project site is bordered by US 101 to the east, single-family residences to the south and west, the Janes Creek Meadows riparian wetlands and grasslands to the northwest, St. Louis Road to the north, and the Mad River Lumber Company to the northeast.

ES.2.2 Background and Need for the Project

The project site was used as a lumber mill until the 1970s. Since that time, the site has retained two of the former mill structures and provided leasable workspace and storage opportunities for the local community and businesses. In 2017 and prior to acquisition of the property by the Humboldt State University Foundation, a private developer proposed development of the project site with a 700-bed student housing project. A Draft EIR was issued in 2017, followed by a Final EIR in May 2018. The EIR was not certified, and the project was not approved. The private developer ultimately withdrew the application for development from the City in 2019.

Although as a State entity California State Polytechnic University, Humboldt (Cal Poly Humboldt) is not subject to local jurisdictional land use regulations, the project site is located within the City of Arcata and the site has been designated by the City as an infill opportunity zone for high-density residential development in the City's 2019 Housing Element (City of Arcata 2019) and in updates to the City's General Plan that are currently in preparation (City of Arcata 2022). The project site presents a unique opportunity for Cal Poly Humboldt to provide additional student housing within 0.5 mile of the campus.



Source: Adapted by Ascent Environmental in 2022

Figure ES-1 Regional Location

Source: Adapted by Ascent Environmental in 2022

Figure ES-2 Aerial Image of Project Site

ES.2.3 Project Objectives

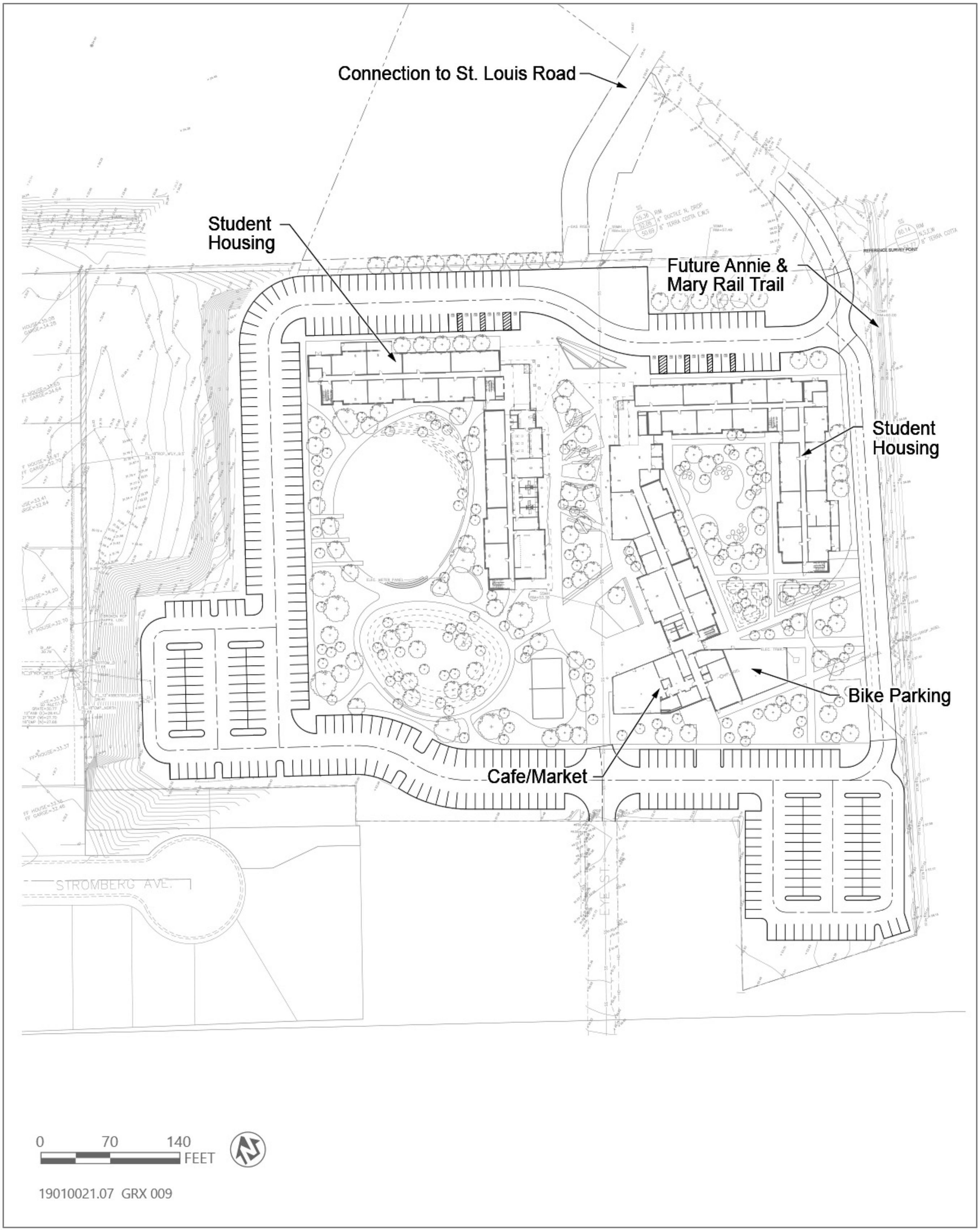
The underlying purpose of the project is to provide additional student housing proximate to campus that will reduce the student housing burden in the local community. As noted above, the objectives of the project are to:

1. provide additional housing near existing and planned mobility infrastructure (i.e., pedestrian and bicycle facilities and transit) to reduce vehicle trips, vehicle miles travelled, and parking demand;
2. provide student housing opportunities on Cal Poly Humboldt property to promote student enrollment and address current housing needs. In addition, provide housing opportunities and complementary services that may be offered to nontraditional students such as graduate students and veterans;
3. support and advance Cal Poly Humboldt's educational mission by guiding the physical development of housing proximate to campus to accommodate gradual student enrollment growth up to a future enrollment of 12,000 full-time-equivalent students per the 2004 Master Plan while preserving and enhancing the quality of campus life;
4. optimize an underutilized infill location within the City of Arcata and proximate to Cal Poly Humboldt;
5. provide housing density adjacent to Cal Poly Humboldt campus and the downtown area of the City of Arcata to reduce vehicle trips, vehicle miles travelled, and parking demand within the campus and downtown area;
6. minimize building footprints to preserve as much of the site as possible for the creation of open space and landscaped setbacks from surrounding roadways and residential uses;
7. contribute to the overall character and livability of the surrounding neighborhood and Cal Poly Humboldt by facilitating the reuse of property in a manner that enhances the visibility and aesthetic appeal of the city from US 101 and surrounding local roadways and that enhances circulation within the city and to Cal Poly Humboldt;
8. minimize impacts to on-site vegetation and potentially sensitive biological resources;
9. provide energy-efficient building design, low-water use indoor and outdoor design, and high-quality construction by incorporating national, state, and/or local sustainable design practices; and
10. advance campus-wide environmental sustainability and make progress toward goals of carbon neutrality and climate resilience.

ES.2.4 Characteristics of the Project

Cal Poly Humboldt is proposing to construct a student housing complex 0.5 mile northwest of the Cal Poly Humboldt main campus. The project would provide up to 964 student beds in approximately 240 apartment-style, student-residence units for undergraduate and graduate students attending Cal Poly Humboldt.

As shown in Figure ES-3, development would consist of two housing buildings located within the central portion of the site. The proposed buildings would provide a variety of student housing within two-, three-, and four-bedroom apartment units, with the majority being two-bedroom/two-bath units. On-site amenities to be included as part of the project include a fitness room, common lounge spaces, study spaces, computer rooms, television rooms, a café/market, conference rooms, and indoor bicycle parking. Exterior site features would include green space, recreational facilities (e.g., multifunction, pickleball, and/or volleyball court[s]), outdoor cooking amenities (e.g., barbecue area for on-site residents), and appropriate hardscapes (i.e., paths between various on-site features, including buildings and parking). Additionally, the project would include 340 single-occupancy vehicle parking spaces and additional bicycle parking (covered).



Source: Cal Poly Humboldt 2022

Figure ES-3 Conceptual Site Plan

As proposed, on-site buildings would generally be taller at the center of the site and step down in height along the perimeter of the project site, to reduce building mass and scale in proximity to the surrounding single-family residential neighborhoods. The western building would be oriented in an L-shape with the east-west extension of the building being five stories in height and the north-south extension being six stories in height. The eastern building would be generally seven stories in height; however, the easternmost section of the building would be limited to five stories. The space in between each building and within the courtyard spaces of each would accommodate accessible open space and communal activities within the proposed development. Refer to Chapter 2, "Project Description," for further information regarding the characteristics of the project.

ES.3 ENVIRONMENTAL IMPACTS AND RECOMMENDED MITIGATION MEASURES

This EIR has been prepared pursuant to the CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR], Title 14, Chapter 3, Section 15000 et seq.) to evaluate the physical environmental effects of the proposed Student Housing Project. The California State University (CSU) Board of Trustees (Trustees) is the lead agency for the project. The Trustees have sole responsibility for approving and carrying out the project and for ensuring that the requirements of CEQA have been met. After the Final EIR is prepared and the EIR public review process is complete, the Trustees are responsible for certifying that the EIR adequately evaluates the impacts of the project.

Table ES-1, presented at the end of this chapter, provides a summary of the environmental impacts for the Student Housing Project. The table provides the level of significance of the impact before mitigation, recommended mitigation measures, and the level of significance of the impact after implementation of the mitigation measures.

ES.3.1 Significant and Unavoidable Impacts and Cumulative Impacts

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

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

The project would result in the following significant and unavoidable impacts, following implementation of feasible mitigation measures:

- Impact 3.1-1: Result in a Substantial Adverse Effect on a Scenic Vista
- Impact 3.1-2: Damage Scenic Resources within a State Scenic Highway
- Impact 3.1-3: Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and Its Surroundings
- Impact 3.8-1: Generate Substantial Temporary (Construction) Noise

Cumulative impacts on aesthetics (effects on a scenic vistas, existing visual character or quality of public views of the site and its surroundings, and scenic resources within a State scenic highway corridor) would also be significant and unavoidable as a result of implementation of the Student Housing Project.

ES.4 ALTERNATIVES TO THE PROPOSED PROJECT

State CEQA Guidelines Section 15126.6, as amended, mandates that all EIRs include a comparative evaluation of the proposed plan with alternatives to the plan that are capable of attaining most of the plan's basic objectives but that would avoid or substantially lessen any of the significant effects of the plan. CEQA requires an evaluation of a "range of reasonable" alternatives, including the "no project" alternative. This section provides brief descriptions of the alternatives evaluated in this ~~Draft~~ Final EIR.

The following alternatives were evaluated in this ~~Draft~~ Final EIR:

- **Alternative 1: No Project–No Development Alternative.** This alternative would involve no improvement or modification of the project site. No development would occur and the project site would remain in its current condition for the foreseeable future, continuing to provide leasable workspace and storage opportunities for the local community and businesses.
- **Alternative 2: Lower-Density Student Housing Development.** Under this alternative, the project site would be developed with a smaller housing development, consistent with the previously proposed development at the project site. Up to 800 student beds would be provided within four four-story buildings surrounding internal courtyards, located within the central portion of the site. This alternative was previously considered by the City as part of an application for a private development on the same site, but was never approved.
- **Alternative 3: On-Campus Student Housing.** Under this alternative, the upper playfield of the main campus, approximately 2.3 acres in size, would be developed with student housing. In terms of housing density, this alternative would be similar in size and scale (~500 student beds per acre within 2 multi-story buildings) to existing Redwood and Sunset Halls, which provide on-campus housing for first-year students. This alternative would require the removal of the university's upper playfield, which is used as a multipurpose field for softball and baseball, and conversion of other on-campus recreational areas (e.g., Redwood Bowl or College Creek Soccer Field) to multipurpose facilities to replace the loss of the upper playfield and its functions.
- **Alternative 4: Faculty and Staff Housing.** Under this alternative, the project site would be developed with townhomes and apartments for faculty and staff and their families. Assuming that 0.1 acre would be required per townhome/residence including amenities (e.g., internal circulation and open space), and allowing for appropriate setbacks from the existing lumber mill to the northeast and US 101, it is anticipated that approximately 150 units could be developed on-site. Assuming 2.12 persons per household (DOF 2021), this would equate to 318 on-site residents.

State CEQA Guidelines Section 15126.6 states that an EIR should identify the "environmentally superior" alternative. It also states, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Consistent with the State CEQA Guidelines (CCR Section 15126.6[e][2]), because the environmentally superior alternative was identified as the No Project – No Development Alternative, another environmentally superior alternative is required to be identified. Based on the environmental analysis contained in this ~~Draft~~ Final EIR, Alternative 2: Lower-Density Student Development, would reduce the severity of impacts compared to the project. However, Alternative 2 would not avoid the significant and unavoidable impacts related to aesthetics and noise that are anticipated under the proposed project, and mitigation similar to that required for the project would be required for Alternative 2. In addition, Alternative 2 would not achieve the underlying purpose of the project, nor would it achieve the project objectives, to the extent of the project. Nonetheless, the Alternative 2 is considered the environmentally superior alternative.

ES.5 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

A notice of preparation (NOP) was distributed for the project on March 1, 2022, and reissued on June 28, 2022, to responsible agencies, interested parties, and organizations, as well as private organizations and individuals that may have an interest in the project. Public scoping meetings were also held on March 16 and July 20, 2022. The purpose of the NOP and the scoping meetings was to provide notification that an EIR was being prepared for the project and to solicit input on the scope and content of the environmental document. The original and revised NOP and associated public comments are included in Appendix A of this ~~Draft~~ Final EIR. Key concerns and issues expressed during the scoping process include:

- utility infrastructure,
- potential transportation and aesthetic impacts on the single-family neighborhood adjacent to the project site,
- air quality and greenhouse gas emissions,
- hazardous materials, and
- access to campus by students.

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

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Aesthetics			
Impact 3.1-1: Result in a Substantial Adverse Effect on a Scenic Vista The project would involve development of the site with a seven-story student housing complex, consisting of two separate buildings. Construction and operation of the project would intensify development on the project site and partially obstruct distant views of hills and forestlands, notably from south and west of the project site. Therefore, the project would result in a substantial adverse effect on scenic vistas.	S	Existing landscaping and trees along the periphery of the project site would be maintained/enhanced to provide screening of the proposed development. However, the proposed buildings would still be a prominent feature within the local viewsheds, including along US 101 and L.K. Wood Boulevard, due to its massing and height. The scale of the proposed on-site buildings is needed to achieve the project goal and objective of meeting on-campus housing needs, and as a result, no feasible mitigation is available to fully screen the buildings, maintain existing views, or preserve the natural feeling of the existing landscape and long-distance views in the area.	SU
Impact 3.1-2: Damage Scenic Resources within a State Scenic Highway The project site is adjacent to a segment of US 101, which is listed as an eligible State scenic highway and is notable for scenic views of forested landscapes. The project would not damage scenic resources, such as trees, rock outcroppings, or historic buildings, within a State scenic highway and would not affect the eligibility of US 101 for official designation as a State scenic highway. Although views of the project site would be fleeting, the project would introduce urban/suburban, human-made elements that would alter the current condition of the project site, which is considered part of the scenic highway corridor.	S	Existing landscaping and trees along the periphery of the project site would be maintained/enhanced to provide screening of the proposed development. However, the proposed on-site buildings would still be a prominent feature within the viewshed of US 101 due to its massing and height. The scale of the buildings is needed to achieve the project goal and objective of meeting student housing needs proximate to campus. No feasible mitigation is available to fully screen the project, maintain existing views, or preserve the forested condition of the existing landscape.	SU
Impact 3.1-3: Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and Its Surroundings Project implementation would introduce new human-made elements that would be prominent within viewsheds of the project site due to the massing and height of the proposed buildings. The project would alter the existing low-density urban/suburban and forested character of the landscape to one that is more densely developed. Additionally, the proposed on-site buildings would impede views of the wooded hillside from publicly available viewpoints and open space, especially to the south and west of the project site.	S	The project would include design features to minimize visual impacts. The building and site design, including the massing, articulation, materials, and colors, would be consistent with the design guidelines in Cal Poly Humboldt's 2004 Master Plan. Additionally, the proposed design would place the highest part of the buildings toward the northeast corner of the project site, which is intended to reduce the perceived scale of the project, as viewed from residences to the west and south. Furthermore, existing landscaping and trees along the periphery of the project site would be maintained/enhanced to provide screening of the proposed development from off-site viewpoints, including the existing residential neighborhoods to the south and west. Despite these design features, the buildings would still be prominent from each of the representative viewpoints due to its massing and height. The scale of the buildings is needed to achieve the project goal and objective of meeting on-campus housing needs. No feasible mitigation is available to fully screen the buildings, maintain existing views, or preserve the natural feeling of the existing landscape.	SU

NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.1-4: Create a New Source of Substantial Light or Glare Which Would Adversely Affect Day or Nighttime Views in the Area The project would not include new materials or surfaces that would create substantial new sources of glare. However, the project would introduce substantial new sources of nighttime lighting, including interior building lighting and exterior lighting needed for the safety and visibility of the project site. Project lighting would have spillover effects to adjacent residential land uses along the western and southern boundaries of the project site that are sensitive to nighttime lighting.	S	**Mitigation Measure 3.1-4: Reduce Light Pollution from Exterior Lighting** During project design and construction, Cal Poly Humboldt shall ensure that the following requirements are implemented as part of construction and prior to operation: ▸ Outdoor light fixtures, including temporary fixtures used during construction, that are not attached or interior to a building shall be limited to a maximum height of 14 feet. ▸ Outdoor lighting shall utilize energy-efficient fixtures and lamps and motion sensors and/or daylight sensors. ▸ Outdoor lighting fixtures, including temporary fixtures used during construction, shall be shielded or recessed to reduce light spillover to adjoining properties. ▸ Each light fixture shall be directed downward and away from adjoining private properties and Janes Creek, so that no on-site light fixture directly illuminates an area off the site. ▸ No lighting on private property shall produce an illumination level greater than 1 foot-candle on any property within a residential zoning district except on the site of the light source. ▸ No permanently installed lighting shall blink, flash, or be of unusually high intensity or brightness. ▸ An exterior barrier/fence shall be installed along the project site's southern boundary and along the western edge of the proposed parking lot that shall prevent headlights from on-site vehicles from directly illuminating off-site residences.	LTS
Air Quality			
Impact 3.2-1: Conflict with or Obstruct Implementation of an Applicable Air Quality Plan Implementation of the project would be consistent with Cal Poly Humboldt's Master Plan in that it would not exceed student enrollment projections for the campus and would provide additional student housing proximate to campus, and the City of Arcata General Plan, in that it would optimize an underutilized infill location. Because the Master Plan growth projections were used to inform the broader growth projections for the region, which were then used to develop regional air quality plans like the 1995 PM_{10} Attainment Plan, the project would	LTS	No mitigation measures are required.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
be consistent with the applicable air quality plans and planning efforts. The project would not conflict with or obstruct air quality planning efforts.			
Impact 3.2-2: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for Which the Project Region is Non-Attainment under an Applicable Federal or State Ambient Air Quality Standard Construction and operation of the project would result in emissions of VOC, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$. Construction activities would result in maximum daily emissions of VOC that would exceed NCUAQMD's thresholds of significance prior to mitigation. Operational activities would result in maximum daily emissions well below NCUAQMD's thresholds of significance.	S	**Mitigation Measure 3.2-2: Use Low VOC Coatings During Construction** To reduce VOC emissions during construction activities involving application of coatings, Cal Poly Humboldt shall require that construction contractor to use low-VOC coatings that have a VOC content of 10 g/L or less during all phases of construction.	LTS
Impact 3.2-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations Construction-related emissions of TACs associated with proposed project would be spread over the project area, not affecting any one receptor for extended periods of time, and therefore, would not result in exposure of existing receptors to substantial TAC concentrations. The project would not result in exposure of sensitive receptors to excessive TAC emissions from operational emissions.	LTS	No mitigation measures are required.	LTS
Impact 3.2-4: Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People The project would introduce construction-related odor sources into the area (e.g., temporary diesel exhaust emissions during construction). However, these odor sources would be temporary, intermittent, and dissipate rapidly from the source. Once construction is complete, the project would not introduce land uses that would emit odors long term.	LTS	No mitigation measures are required.	LTS
Archaeological, Historical, and Tribal Cultural Resources			
Impact 3.3-1: Cause a Substantial Adverse Change in the Significance of an Archaeological Resource Results of the records search and pedestrian survey did not result in the identification of archaeological resources within the project site. However, project-related ground-disturbing activities, including off-site roadway and utility improvements, could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5 or PRC Section 21083.2(g).	PS	**Mitigation Measure 3.3-1: Halt Ground-Disturbing Activity Upon Discovery of Subsurface Archaeological Features** Prior to the start of any ground disturbing activities, a qualified archaeologist meeting the United States Secretary of Interior guidelines for professional archaeologists shall be retained to develop a construction worker awareness brochure. This brochure shall be distributed to all construction personnel and supervisors who may have the potential to encounter cultural resources. The topics to be addressed in the Worker Environmental Awareness Program shall include, at a minimum:	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		▶ types of cultural resources expected in the project area; ▶ what to do if a worker encounters a possible resource;	
		▶ what to do if a worker encounters bones or possible bones; and ▶ penalties for removing or intentionally disturbing cultural resources, such as those identified in the Archeological Resources Protection Act. If any precontact or historic-era subsurface archaeological features or deposits (e.g., ceramic shard, trash scatters), including locally darkened soil ("midden"), which may conceal cultural deposits, are discovered during construction, all ground-disturbing activity within 100 feet of the resources shall be halted, and a qualified professional archaeologist shall be retained to assess the significance of the find. If the qualified archaeologist determines the archaeological material to be Native American in nature, Cal Poly Humboldt shall contact the appropriate California Native American tribes. A tribal representative from a California Native American tribe that is traditionally and culturally affiliated with the project area may make recommendations for further evaluation and treatment as necessary and provide input on the preferred treatment of the find. If the find is determined to be significant by the archaeologist or the tribal representative (i.e., because it is determined to constitute a unique archaeological resource or a tribal cultural resource, as appropriate), the archaeologist and tribal representative, as appropriate, shall develop, and Cal Poly Humboldt shall implement, appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures may include but would not necessarily be limited to preservation in place (which shall be the preferred manner of mitigating impacts on archaeological and tribal sites), archival research, subsurface testing, or contiguous block unit excavation and data recovery (when it is the only feasible mitigation, and pursuant to a data recovery plan). No work at the discovery location (i.e., within 100 feet of the discovered resource[s] unless a lesser buffer distance is determined appropriate by a qualified professional archaeologist) shall resume until necessary investigation, evaluation, and protection of the resource has been conducted.	
Impact 3.3-2: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource Tribal consultation under AB 52 has not resulted in the identification of tribal cultural resources on the project site. However, excavation activities associated	PS	**Mitigation Measure 3.3-2: Implement Mitigation Measure 3.3-1**	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
with project construction may disturb or destroy previously undiscovered significant subsurface tribal cultural resources.			
Impact 3.3-3: Disturb Human Remains Based on documentary research, no evidence suggests that any prehistoric or historic-period marked or un-marked human interments are present within or in the immediate vicinity of the project site. However, ground-disturbing construction activities could uncover previously unknown human remains. Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097 would make this impact less than significant.	LTS	No mitigation measures are required.	LTS
Biological Resources			
Impact 3.4-1: Have a Substantial Adverse Effect, Either Directly or through Habitat Modifications, on Special-Status Amphibians Implementation of the project could disturb northern red-legged frog due to ground disturbing activities in proximity to a northern red-legged frog occupied habitat area.	PS	**Mitigation Measure 3.4-1: Northern Red-Legged Frog** A preconstruction survey shall be conducted for northern red-legged frog within 48 hours of planned ground disturbance. A report summarizing the results of the survey shall be prepared and submitted to the City of Arcata Community Development Department. If the surveys are negative, no additional mitigation is required. Because this is a mobile species, a biological monitor shall be present during initial grading and a worker environmental awareness training shall be conducted with construction personnel to educate them on northern red-legged frog, their protective status (species of special concern), and avoidance measures to be implemented by all personnel, including looking under vehicles and equipment prior to moving. The training shall include steps to be taken should northern red-legged frog be observed on the construction site, including allowing the individual to leave the project site on its own accord. If the survey is positive, a qualified biological monitor with a northern red-legged frog Scientific Collecting Permit, shall be retained to be present during initial grading to monitor activities. The biological monitor shall be authorized to move individual northern red-legged frogs out of harm's way if individual frogs do not move on their own.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.4-2: Have a Substantial Adverse Effect, Either Directly or through Habitat Modifications, on Special-Status Birds Implementation of the project could disturb white-tailed kites or their nests as the result of ground-disturbing activities in proximity to suitable nesting habitat.	PS	**Mitigation Measure 3.4-2: White-tailed kite and other nesting birds** If construction activities occur within the raptor nesting season (February 1 through August 31), a pre-project nesting raptor survey shall be conducted within the project footprint and a 0.25-mile buffer for white-tailed kite and 500-foot buffer for other nesting birds no more than 14 days prior the start of ground disturbing activities or vegetation removal. Adjacent parcels under different land ownership shall be surveyed from public access areas (i.e., streets, trails, etc.) unless access is specifically granted. If construction activities lapse for more than two weeks during the breeding season, a follow up nesting bird survey shall be required. If no active nests are found, no further mitigation is required. If an active nest is detected during the nesting bird survey, avoidance buffers shall be implemented as determined by a qualified biologist, except for white-tailed kite, which should remain at 0.25-mile buffer. The buffer for other nesting birds shall be of a distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. Monitoring of the nest by a qualified biologist during construction activities shall be required if the activity has the potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases. The exclusionary buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist. If work within the designated 0.25-mile no-activity zone for nesting white-tailed kite cannot be delayed, a wildlife biologist with verifiable experience with white-tailed kite behavior shall evaluate site-specific conditions and, in consultation with CDFW, recommend a smaller buffer (if possible) that minimizes the potential to disturb the white-tailed kites (and is deemed to still allow reproductive success during the breeding season). The site-specific buffer shall consider the type and extent of the proposed activity occurring near the nest, the duration and timing of the activity, the sensitivity and habituation of the kites, and the dissimilarity of the proposed activity to background activities. Additional measures may be identified by the wildlife biologist or CDFW including regular monitoring of the kite nest by a qualified biologist, modified construction activity schedule in proximity to the kite nest.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.4-3: Result in Degradation or Loss of Riparian Habitat or Other Sensitive Natural Communities Implementation of the project would not result in the disturbance or loss of riparian habitat. As proposed, the project would avoid the identified riparian habitat associated with the unnamed Janes Creek tributary and the project would have a less-than-significant impact on riparian habitat or other sensitive natural community.	LTS	No mitigation measures are required.	LTS
Impact 3.4-4: Result in Degradation or Loss of State or Federally Protected Wetlands Implementation of the project would not result in disturbance or fill of state or federally protected wetlands. As proposed, the project would avoid the identified wetland.	LTS	No mitigation measures are required.	LTS
Impact 3.4-5: Interfere with Important Wildlife Movement Corridors and Nursery Sites Implementation of the project would result in construction of a 256-unit apartment building. All project elements would occur on developed, ruderal grassland and blackberry patch habitat; however, the project site is adjacent to the riparian area of a Janes Creek tributary, which is not a significant wildlife movement corridor.	LTS	No mitigation measures are required.	LTS
Impact 3.4-6: Substantially Reduce the Habitat of a Fish or Wildlife Species, cause a Fish or Wildlife Population to Drop Below Self-Sustaining Levels, Threaten to Eliminate a Plant or Animal Community, Substantially Reduce the Number or Restrict the Range of a Rare or Endangered Plant or Animal. While implementation of the project includes construction of new buildings and the introduction of new light sources, these features would occur within a previously disturbed site, in an urban environment and immediately adjacent to US 101. Implementation of the project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal.	LTS	No mitigation measures are required.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Energy			
Impact 3.5-1: Result in the Wasteful, Inefficient, or Unnecessary Consumption of Energy or Wasteful Use of Energy Resources Construction and operation of buildings and facilities associated with the project would result in consumption of fuel (gasoline and diesel) and electricity. Energy consumption associated with construction would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. Through adherence to and exceedance of current building code requirements, energy consumption associated with operation of the buildings and facilities would not result in wasteful, inefficient, or unnecessary consumption of energy.	LTS	No mitigation measures are required.	LTS
Impact 3.5-2: Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency Onsite renewable energy generation from the implementation of project, would result in an increase in renewable energy use, which would directly support the goals and strategies in the State's Energy Efficiency Action Plan, the CSU Sustainability Policy, and the Cal Poly Humboldt Climate Action Plan. Construction and operating project buildings in compliance with the 2022 (or as updated) California Energy Code would improve energy efficiency compared to buildings built to earlier iterations of the code. Therefore, construction and operation of the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	LTS	No mitigation measures are required.	LTS
Greenhouse Gas Emissions			
Impact 3.6-1: Generate GHG Emissions That May Have a Significant Impact on the Environment The project would generate GHG emissions from construction activities and operational activities including vehicle trips, area sources, electricity consumption, water use and waste generation. The project includes various sustainability measures consistent with CSU Sustainability Policy and the Cal Poly Humboldt CAP, which would offset a portion of project GHG emissions. Additionally, the project would achieve a 15 percent reduction in regional VMT; therefore, the project would be consistent with GHG SMAQMD's VMT reduction threshold of significance and the project's GHG emissions would be less than significant.	LTS	No mitigation measures are required.	LTS

NI = No impact LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.6-2: Conflict with an Applicable Plan, Policy or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of GHGs The project would include GHG efficiency measures consistent with CSU policies and plans adopted for the purpose of reducing GHG emissions and enabling the achievement of reduction targets. Additionally, the project would be consistent with the goals of the 2017 Scoping Plan.	LTS	No mitigation measures are required.	LTS
Land Use and Planning			
Impact 3.7-1: Cause a Significant Environmental Impact Due to a Conflict With Any Land Use Plan, Policy, or Regulation Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect The project would involve the redevelopment of an underutilized parcel with residential uses. The City of Arcata encourages appropriate redevelopment of certain parcels of land which are either underutilized, brownfields, or vacant but surrounded by existing urban/suburban development. The project site has also been identified by the City, through its Housing Element and in-progress updates to the General Plan, as an infill opportunity zone for high density residential development, both in prior planning documents for the City and currently under consideration updates to the City General Plan. Therefore, the project would not create a conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	No mitigation measures are required.	LTS
Noise			
Impact 3.8-1: Generate Substantial Temporary (Construction) Noise Hourly noise levels during construction activities would range from approximately 84 dBA to 86 dBA at the nearest residential receptor (i.e., residence at 2590 Eye Street). Based on available existing noise level data for the project site, hourly noise levels closest to the nearest sensitive receptor are 68.5 dBA L_{eq}. Considering that noise levels at this location could reach as high as 86 dBA L_{eq}, (i.e., 17 dBA over existing levels), construction noise would constitute a substantial increase (perceived more than doubling of the existing noise levels) for an extended period of time.	S	**Mitigation Measure 3.8-1: Implement Construction-Noise Reduction Measures** For all construction activities, Cal Poly Humboldt shall implement or incorporate the following noise reduction measures into construction specifications for contractor(s) implementation during project construction: ▶ All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturer recommendations. Equipment engine shrouds shall be closed during equipment operation. ▶ All construction equipment and equipment staging areas shall be located as far as possible from nearby noise-sensitive land uses, and/or located to the extent feasible such that existing or constructed noise attenuating features (e.g., temporary noise wall or blankets) block line-of-site between affected noise-sensitive land uses and construction staging areas.	SU

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		▶ Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site, using electric powered equipment instead of pneumatic or internal combustion powered equipment) where feasible and consistent with building codes and other applicable laws and regulations. ▶ Stationary noise sources such as generators or pumps shall be located as far away from noise-sensitive uses as feasible. ▶ No less than 1 week prior to the start of construction activities at a particular location, a notification shall be provided to nearby off-campus, noise-sensitive land uses (e.g., residential uses) that are located within 150 feet of the construction site (i.e., based on the construction noise modeling, distance at which noise-sensitive receptors would experience noise levels of 5 dBA over existing ambient levels). ▶ When construction requires material hauling, a haul route plan shall be prepared for construction of each facility and/or improvement for review and approval by the Cal Poly Humboldt that designates haul routes as far as feasible from sensitive receptors. ▶ The contractor shall designate a disturbance coordinator and post that person's telephone number conspicuously around the construction site and provide to nearby residences. The disturbance coordinator shall receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem. ▶ When construction activities would occur within 150 feet of existing residential land uses, the following measures shall be implemented: ▪ Use of noise-reducing enclosures and techniques around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors). ▪ Installation of temporary noise curtains installed as close as possible to the boundary of the construction site within the direct line of sight path of the nearby sensitive receptor(s) and consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side. ▪ Retain a qualified noise specialist to develop a noise monitoring plan and conduct noise monitoring to ensure that noise reduction measures are	

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		achieved the necessary reductions such that levels at the receiving land uses do not exceed 5 dBA over existing levels.	
Impact 3.8-2: Generate Substantial Temporary (Construction) Vibration Levels The operation of heavy-duty construction equipment can generate various levels of vibration that could result in disturbance to nearby sensitive land uses or potentially structural damage. Based on modeling conducted, vibration levels for a vibratory roller at the nearest structure to the project site, approximately 30 feet from where the use of construction equipment could occur, would be 91.6 VdB and 0.16 PPV in/sec. Construction vibration would occur during the less-sensitive times of the day when people are less likely to be disturbed and would be further masked by nearby existing roadway noise on US 101; thus, the potential for disturbance to nearby receptors is low. In addition, FTA's criteria of 0.2 PPV in/sec would not be exceeded at the nearest structure.	LTS	No mitigation measures are required.	LTS
Impact 3.8-3: Generate Substantial Increase in Long-Term (Traffic) Noise Levels Long-term increases in traffic noise could occur as a result of increased vehicular trips on local roads near the project site. Based on modeling conducted using project-specific daily traffic volumes and applying Arcata's allowable increase levels for transportation noise sources of 5 dB where existing levels are less than 60 dBA CNEL, 3 dB where existing levels range between 60 dBA CNEL and 65 dBA CNEL, and 1.5 dB increase when existing levels are greater than 65 dBA CNEL, in all cases, based on existing noise levels of modeled roadways, these levels would not be exceeded.	LTS	No mitigation measures are required.	LTS
Impact 3.8-4: Generate Substantial Long-Term Increase in Stationary Noise Noise generated by building mechanical equipment and parking lot activity would not exceed established noise standards for sensitive receptors exposed to non-transportation noise sources.	LTS	No mitigation measures are required. Implementation of Mitigation Measure 3.1-4, as provided in Section 3.1, "Aesthetics," would provide fencing along the western and southern boundaries, which would further reduce potential noise levels from the project.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Population and Housing			
Impact 3.9-1: Directly or Indirectly Induce Substantial Unplanned Population Growth and Housing Demand The proposed project would provide purpose-built housing for up to 964 students that would help to meet existing demand for student housing as well as future demand due to anticipated student enrollment growth, and relieve potential pressure on the local/regional housing market. Although Cal Poly Humboldt student enrollment is expected to increase in the coming years, the project itself would not attract additional students to Cal Poly Humboldt, and instead would accommodate existing demand and anticipated future enrollment growth as projected in the 2004 Master Plan and EIR. Further, the 2004 Master Plan for Cal Poly Humboldt projected an increase in student enrollment up to 12,000 FTES, which is accounted for in both the City of Arcata General Plan and regional growth projections. Therefore, the project would not result in substantial unplanned population growth and would reduce housing demand.	LTS	No mitigation measures are required.	LTS
Public Services and Recreation			
Impact 3.10-1: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision of or the Need for New or Physically Altered Fire Facilities to Maintain Acceptable Service Ratios The project would result in an increase in on-site population and the density of development on-site, which could result in additional calls for service to the project site. However, the project site is located within the current service area of the AFD and would be designed and constructed in accordance with applicable requirements, including the California Fire Code. Therefore, no additional fire protection facilities are anticipated to be necessary for AFD to adequately serve the project site, and no significant decrease in response time is expected.	LTS	No mitigation measures are required.	LTS
Impact 3.10-2: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision of or the Need for New or Physically Altered Police Facilities, to Maintain Acceptable Service Ratios The project would result in an increase in on-site population and the level of development on-site, which could result in additional calls for service to the project site. However, the project site would be served by UPD, which adaptively manages staffing based on campus population. While UPD may require additional staff to maintain adequate police response and service, the construction of new or physically altered municipal police facilities is not anticipated.	LTS	No mitigation measures are required.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.10-3: Result in Substantial Deterioration of Neighborhood and Regional Parks, or Require Construction or Expansion of Recreational Facilities Development of the project site would include new student housing and open/recreational space for on-site residents, including a gym/workout room and outdoor recreation space. The use of nearby City recreational facilities would be minimized due to the provision of these amenities in addition to amenities available to students at the main campus. As a result, the project would not result in the substantial deterioration of or need for additional recreational space.	LTS	No mitigation measures are required.	LTS
Transportation			
Impact 3.11-1: Conflict with a Program, Plan, Ordinance or Policy Addressing the Circulation System, Including Transit, Roadway, Bicycle and Pedestrian Facilities The project would not interfere with the implementation of a planned facility, including transit, roadway, bicycle, and pedestrian facilities. However, due to the current lack of pedestrian facilities along the portion of St. Louis Road, the project could increase the potential for bicycle- and pedestrian-vehicle conflicts. As such, the project would conflict with CSU policies that promote the use of bicycling and walking travel to and from campus.	S	**Mitigation Measure 3.11-1: Provide Pedestrian <u>and Bicycle</u> Facilities along St. Louis Road** Cal Poly Humboldt, in cooperation with the City of Arcata, shall provide a sidewalk <u>and adequate striping for bicycles</u> that connects the northern access road for the project to the US 101 overcrossing and the rest of the pedestrian circulation system. The sidewalk <u>and bicycle</u> connection<u>s</u> shall be built on the east side of St. Louis Road with appropriate ~~pedestrian~~ crossing provided along St. Louis Road. There is adequate right-of-way available to complete the sidewalk gaps along the roadway. The design of the off-site pedestrian <u>and bicycle</u> improvements shall be consistent with City design standards. The sidewalk <u>and bicycle improvements</u> shall be completed prior to occupancy of the project.	LTS
Impact 3.11-2: Conflict or Be Inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) Regarding Vehicle Miles Traveled Construction activities would be short-term and temporary and construction worker trips are redistributed throughout the transportation network. Additionally, the average number of daily trips made by construction workers would not exceed the small project screening threshold of 110 daily trips. Based on the modeling of operational VMT the project would not exceed the CSU TISM VMT threshold of significance for residential projects.	LTS	No mitigation measures are required.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.11-3: Substantially Increase Hazards Due to a Geometric Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment) The construction contractor would prepare a construction traffic control plan (TCP) to minimize potential hazards related to transportation and circulation during construction activities as well as obtain necessary encroachment permits from the City of Arcata. Additionally, project access at St. Louis Road would be designed in accordance with applicable site distance standards. Based on the conceptual nature of the site plan, it is not possible to conclude that pedestrian and bicycle safety in the vicinity of the project site would be sufficient.	PS	**Mitigation Measure 3.11-3: Provide Pedestrian and Bicycle Safety Improvements** The contractor shall implement pedestrian and bicycle safety improvements to enhance visibility and connectivity between pedestrian and bicycle networks in the vicinity of the project site. All improvements shall be consistent with City design standards. The following facilities, as identified in the Transportation Analysis Memo, shall be incorporated into the final design of the project: ▸ Provide high-visibility crossings by using patterns or raised crossings at the proposed northern access road and eastern driveway (at the points of connection with the Annie & Mary Rail Trail.) ▸ Add pedestrian crossing signage along the eastern driveway of the project.	LTS
Impact 3.11-4: Result in Inadequate Emergency Access Emergency access would be provided via two roadways on the northern and southern ends of the project site (i.e., St. Louis Road and Eye Street). Additionally, the internal circulation would be designed to accommodate emergency vehicles, and the project would be consistent with the 2019 California Fire Code which establishes standards regarding emergency access. Furthermore, the project would develop a TCP to ensure sufficient emergency access is maintained during construction activities. Thus, the project would provide adequate emergency access during construction and operations.	LTS	No mitigation measures are required.	LTS
Utilities and Service Systems			
Impact 3.12-1: Have Insufficient Water Supplies Available to Serve the Project and Reasonably Foreseeable Future Development during Normal, Dry and Multiple Dry Years The estimated water demand under post-project conditions is 48,200 gpd or 17.6 MGY, a projected net increase of 10.6 MGY above existing conditions for the project site. This increase in potable water demand would not exceed available supplies during normal, single-dry, and multiple-dry year conditions. Consequently, the City would have adequate water supply to serve the project under all scenarios. Further, the project would also reduce its gross projected water demand through project design and implementation of water conservation measures that would meet or exceed CALGreen Water Efficiency measures, as required for Leadership in Energy and Environmental Design version 4 (LEED v4) certification.	LTS	No mitigation measures are required.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.12-2: Require or Result in the Relocation or Construction of New or Expanded Water Infrastructure Development of the project site would increase demands on water infrastructure in the vicinity of the project site. Based on modeling conducted of potential fire flow requirements, which would result in the greatest hydraulic demand on local infrastructure, existing water pipelines in the area are anticipated to provide adequate fire flow and daily water supplies to accommodate the demands generated at the project site.	LTS	No mitigation measures are required.	LTS
Impact 3.12-3: Require or Result in the Relocation or Construction of New or Expanded Wastewater Collection and Treatment Infrastructure Development of the project would increase wastewater generation and demands on wastewater infrastructure in the vicinity of the project site and in the City. Based on sewer generation rates for student housing at Cal Poly Humboldt, existing sewer pipelines in the area appear to have adequate capacity to accommodate peak wet weather flows with operation of the project. However, due to historic inflow and infiltration issues within the City's wastewater collection system, capacity will need to be verified prior to construction.	S	**Mitigation Measure 3.12-3: Verification and Potential Upsizing of Sewer Connection** Prior to initiation of construction, Cal Poly Humboldt shall coordinate with the City of Arcata and conduct a refined engineering analysis, including flow monitoring, of the existing sewer lines between the project site and the existing 10-inch sewer line located at Janes Creek and Acheson Way to confirm adequate flow capacity. If determined necessary, Cal Poly Humboldt shall replace the existing 8-inch sewer line that extends from the project site with a 10-inch pipe. Should additional sewer pipe upsizing be deemed necessary through coordination with the City, Cal Poly Humboldt shall replace those pipes before occupancy of on-site uses.	LTS
Impact 3.12-4: Require or Result in the Relocation or Construction of New or Expanded Stormwater Drainage Facilities Development of the project site would increase the level of impervious surfaces due to the additional structures and paved areas (e.g., parking lots, walkways, etc.), which could increase the level of stormwater runoff generated at the project site.	S	**Mitigation Measure 3.12-4: Verification and Design of Stormwater Infrastructure** Before any construction-related ground disturbance, Cal Poly Humboldt shall complete final drainage plans, which shall be reviewed with the City with respect to the potential connection to City stormwater infrastructure. Plans shall demonstrate that all runoff shall be appropriately conveyed through the project site and not leave the site at rates exceeding pre-project runoff conditions. The drainage design for the contemplated development shall limit the 10-year and 100-year peak runoff from the project site to no more than pre-project conditions. The plan shall include, but not be limited to, the following items: ▸ An accurate calculation of pre-project and post-project runoff scenarios, obtained using appropriate engineering methods, that accurately evaluates potential changes to runoff, including increased surface runoff; ▸ A description of the proposed maintenance program for the on-site drainage system; project-specific standards for installing drainage systems; and	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		▶ The final drainage plan shall meet the necessary requirements, which requires that 100-year flood flows be appropriately channeled and contained, such that the risk to people or damage to structures within or down gradient of the project site do not occur. New storm drainage facilities shall be constructed in accordance with the final drainage plans, and existing facilities reconfigured in order to accommodate increased surface flows associated with the project's increase in impervious surfaces. Final project design shall incorporate design features that shall minimize flood risk by controlling the anticipated increase in flow and stormwater runoff and reduce off-site runoff to rates not exceeding pre-project conditions. New detention basins or ponds shall temporarily detain stormwater runoff to allow sediment and other pollutants to settle and prevent them from flowing directly into receiving water bodies. The facilities shall adhere to the requirements of the existing NPDES permit, including the associated monitoring and reporting program. However, expanded or entirely new detention basins may need to be constructed. The final drainage plan shall also specify any treatments necessary to protect earthen channels from erosion, and modifications that may be needed to existing underground pipe and culvert capacities. Other LID methods shall be used to maintain pre-project runoff levels, including planning and design considerations for buildings, landscaping, parking lots, and roads that maximize runoff infiltration into the ground and reduce the peaks of stormwater hydrographs. All North Coast RWQCB requirements shall be followed in the development of the final drainage plan.	
Impact 3.12-5: Generate Solid Waste in Excess of State or Local Standards or in Excess of the Capacity of Local Infrastructure or Otherwise Impair the Attainment of Solid Waste Reduction Goals or Requirements Implementation of the project would increase solid waste generation at the project site. However, adequate landfill capacity is available at local and regional landfills to accommodate additional solid waste generated by the project. Compliance with the CSU Sustainability Policy would continue to reduce landfill contributions, consistent with CIWMA, AB 341, AB 1826, SB 1374, and SB 1383.	LTS	No mitigation measures are required.	LTS

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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.12-6: Require or Result in the Relocation or Construction of New or Expanded Electricity, Natural Gas, or Telecommunications Facilities As part of the project, Cal Poly Humboldt would extend electrical and telecommunications connections to proposed uses on-site that border the project site. However, the construction or relocation of existing infrastructure is not anticipated. No natural gas connection to the project site would be provided.	LTS	No mitigation measures are required.	LTS

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1 INTRODUCTION

This ~~draft~~ final environmental impact report (~~Draft~~ Final EIR) evaluates the environmental impacts of the proposed California State Polytechnic University, Humboldt (Cal Poly Humboldt) Student Housing Project (project). This ~~Draft~~ Final EIR has been prepared under the direction of the California State University (CSU) Board of Trustees (Trustees) in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines. This chapter of the ~~Draft~~ Final EIR provides information on:

- project requiring environmental analysis (synopsis);
- type, purpose, and intended uses of this ~~Draft~~ Final EIR;
- scope of this ~~Draft~~ Final EIR;
- agency roles and responsibilities; and
- organization of this ~~Draft~~ Final EIR.

1.1 PROJECT REQUIRING ENVIRONMENTAL ANALYSIS

This section presents a synopsis of project characteristics. For a detailed discussion of the project, see Chapter 2, "Project Description."

Cal Poly Humboldt proposes construction of a student housing complex 0.5 mile northwest of the Cal Poly Humboldt main campus. The project would provide up to 964 student beds in approximately 240 apartment-style, student residences for undergraduate and graduate students attending Cal Poly Humboldt. Student housing opportunities will be provided in a variety of two-, three-, and four-bedroom apartment-style units, with the majority being two-bedroom/two-bath units. Development would consist of two housing buildings located within the central portion of the site. Several on-site amenities would be included as part of the project, including a fitness room, common lounge spaces, study spaces, computer rooms, television rooms, a café/market, conference rooms, and indoor bicycle parking. Exterior site features would include green space, recreational facilities (e.g., multifunction, pickleball, and/or volleyball court[s]), outdoor cooking amenities (e.g., barbecue area for on-site residents), and appropriate hardscapes (i.e., paths between various on-site features, including buildings and parking). Additionally, the project would include 340 single-occupancy vehicle parking spaces and additional bicycle parking (covered).

As proposed, the on-site buildings would generally be taller at the center of the site and step down along the perimeter of the project site, to reduce the building mass and scale in proximity to the surrounding single-family residential neighborhoods. The western building would be oriented in an L-shape with the east-west extension of the building being five stories in height and the north-south extension being six stories in height. The eastern building would be generally seven stories in height; however, the easternmost section of the building would be limited to five stories. The separation between the buildings and within the courtyard spaces of each building would allow for accessible open space and communal activities within the proposed development.

The 12.8-acre project site is located in the City of Arcata (City) on the northeast edge of the Sunset Neighborhood, near the intersection of the St. Louis Road and US Highway 101 (US 101) overcrossing. The project site is bordered by US 101 on the east, single-family residences on the south and west, the Janes Creek Meadows riparian/open space area and St. Louis Road on the north, and the Mad River Lumber Company on the northeast.

1.2 PURPOSE AND INTENDED USES OF THIS ~~DRAFT~~ FINAL EIR

As noted above, this ~~Draft~~ Final EIR has been prepared under the Trustees' direction in accordance with the requirements of CEQA (PRC Sections 21000-21177) and the State CEQA Guidelines (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3, Sections 15000-15387). The Trustees serve as the lead agency under CEQA for consideration of certification of this EIR and potential project approval; CCR Section 151367 defines the lead agency as the agency with principal responsibility for carrying out and approving a project. Cal Poly Humboldt is part of the CSU, a constitutionally created entity of the State of California with the power to consider and provide authority for all land use decisions on property owned or controlled by the CSU that are in furtherance of the CSU's education purposes.

According to CEQA, preparation of an EIR is required whenever it can be fairly argued, based on substantial evidence, that a proposed project may result in a significant environmental impact. An EIR is an informational document used to inform public-agency decision makers and the general public of the significant environmental impacts of a project, identify possible ways to minimize the significant impacts, and describe reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project. This ~~Draft~~ Final EIR has been prepared to meet the requirements of Section 15126 of the State CEQA Guidelines. As described in CEQA Guidelines Section 15126, an EIR must consider all phases of a project when evaluating its impact on the physical environment, including:

(1) significant environmental effects of the project,

(2) significant environmental effects that cannot be avoided if the project is implemented,

(3) significant irreversible environmental changes that would be involved in the project should it be implemented,

(4) growth-inducing impacts of the project,

(5) mitigation measures proposed to minimize the significant effect, and

(6) alternatives to the proposed project.

As noted in Chapter 2, "Project Description," this ~~Draft~~ Final EIR evaluates the entire project. This ~~Draft~~ Final EIR also identifies alternatives to the Student Housing Project that would reduce or avoid potential adverse environmental effects. Mitigation measures are identified in this EIR that, if adopted, would be implemented to reduce and minimize physical environmental effects of the project components, where feasible. Should the project be approved and the EIR certified, implementation of mitigation measures will be monitored to ensure implementation as the Student Housing Project moves forward in a manner consistent with the Final EIR.

1.3 SCOPE OF THIS ~~DRAFT~~ FINAL EIR

As described in further detail in the notice of preparation (NOP) (Appendix A), this ~~Draft~~ Final EIR evaluates the potential direct and indirect environmental impacts of the project. This ~~Draft~~ Final EIR includes an evaluation of the following environmental issue areas, as well as other CEQA-mandated issues (e.g., cumulative impacts, growth-inducing impacts, significant and unavoidable impacts, alternatives):

- Aesthetics;
- Air Quality;
- Archaeological, Historical, and Tribal Cultural Resources;
- Biological Resources;
- Energy;
- Greenhouse Gas Emissions;
- Land Use and Planning;
- Noise;
- Population and Housing;
- Public Services and Recreation;
- Transportation; and
- Utilities and Service Systems.

The remaining issue areas identified in Appendix G of the CEQA Guidelines were evaluated as part of the scoping process, and it was determined that potentially significant impacts on these issue areas would not occur as a result of project implementation, as discussed in the "Effects Found Not to Be Significant" section in Chapter 3 of this EIR. Under the CEQA statutes and the State CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental effects when such effects are not considered potentially significant (PRC Section 21002.1[e]; State

CEQA Guidelines Sections 15128, 15143). The determination of which impacts would be potentially significant and therefore evaluated in detail in this EIR was made for this project based on review of applicable planning documents, fieldwork, feedback from public and agency consultation, comments received on the NOP (see Appendix A of this ~~Draft~~ Final EIR), research, and analysis of relevant project data.

1.4 RESPONSIBLE AND TRUSTEE AGENCIES

Under CEQA, responsible agencies are State and local public agencies other than the lead agency that have the authority to carry out or approve a project or that are required to approve a portion of the project for which a lead agency is preparing or has prepared an EIR. Trustee agencies are State agencies with legal jurisdiction over natural resources affected by a project that are held in trust for the people of the State of California.

Chapter 2, "Project Description," identifies the agencies which may have responsibility for or jurisdiction over implementation of elements of the project. The list is not intended to imply that specific permits or actions would occur; rather, it lists agencies that *may* have responsibilities over project components and the potential associated reasons. Chapter 3 of this EIR provides detailed analysis that explores further the potential for the need for responsible agency action. This EIR and any environmental analysis relying on this EIR are expected to be used to satisfy the CEQA requirements of the listed responsible and trustee agencies.

EIR PROCESS

An NOP for the project was originally distributed on March 1, 2022, to responsible agencies, interested parties, and organizations, as well as private organizations and individuals that may have an interest in the project. During the 30-day public review period of the NOP, a virtual public scoping meeting was held on March 16, 2022. The purpose of the NOP and the scoping meeting was to provide notification that an EIR for the project was being prepared and to solicit input on the scope and content of the environmental document. As a result of the review of existing information and the scoping process, it was determined that each of the issue areas listed above should be evaluated fully in th~~is~~e Draft EIR.

However, during refinement of the design of the project, the size of the project was increased from 850 student beds (as identified in the March 2022 NOP) to 1,060 student beds. As a result of the increase in size of the project site and the substantial increase in potential on-site student beds, an NOP of an EIR for the project was reissued for a 30-day public review period on June 28, 2022, ending on July 27, 2022. In addition, a second scoping meeting was held virtually on July 20, 2022. The NOP (original and revised) and responses to the NOP are included in Appendix A of this ~~Draft~~ Final EIR. The NOP was also available online at https://facilitymgmt.humboldt.edu/craftsman-student-housing and was posted with the State Clearinghouse (SCH Number 2022030008). As noted in further detail in Chapter 2, "Project Description," and as a result of further refinement of the design and engineering of the project, the project evaluated in this EIR proposes up to 964 student beds on the project site.

Th~~is~~e Draft EIR ~~is being~~ was circulated for public review and comment for a period of 45 days, beginning on October 20, 2022, and ending on December 5, 2022. During this period, comments from the general public, as well as organizations and agencies, on environmental issues ~~may be submitted to~~ were accepted by the lead agency.

Upon completion of the public review and comment period, ~~a~~this Final EIR ~~will be~~was prepared that ~~will~~ included comments on the Draft EIR received during the public review period, responses to those comments and any necessary clarifications or revisions to the Draft EIR in response to public comments. The EIR for the project will comprise both the Draft EIR and Final EIR documents.

Before approving the Student Housing Project, the lead agency is required to certify that the EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the lead agency.

1.5 ~~DRAFT~~ FINAL EIR ORGANIZATION

This ~~Draft~~ Final EIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Chapter 3, "Environmental Impacts and Mitigation Measures," and Section 3.5, "Energy"):

Executive Summary: This chapter introduces the Student Housing Project; provides a summary of the environmental review process, effects found not to be significant, and key environmental issues; and lists significant impacts and mitigation measures to reduce significant impacts to a less-than-significant level, where feasible.

Chapter 1, "Introduction": This chapter provides a description of type, purpose, and intended uses of this ~~Draft~~ Final EIR; the scope of this ~~Draft~~ Final EIR; agency roles and responsibilities; and the public review process.

Chapter 2, "Project Description": This chapter describes the location, background, and goals and objectives for the project and describes the project elements in detail.

Chapter 3, "Environmental Impacts and Mitigation Measures": This chapter evaluates the expected environmental impacts that would occur as a result of project implementation, arranged into sections by subject area (e.g., aesthetics, air quality). Within each subsection of Chapter 3, the regulatory background, existing conditions, analysis methodology, and thresholds of significance are described. The anticipated changes to the existing conditions after development of the project are then evaluated for each subject area. For any significant or potentially significant impact that would result from project implementation, mitigation measures are presented and the level of impact significance after mitigation is identified. Environmental impacts are numbered sequentially within each section (e.g., Impact 3.2-1, Impact 3.2-2, etc.). Any required mitigation measures are numbered to correspond to the impact numbering; therefore, the mitigation measure for Impact 3.2-2 would be Mitigation Measure 3.2-2.

Chapter 4, "Cumulative Impacts": This chapter provides information required by CEQA regarding cumulative impacts that would result from implementation of the project together with other past, present, and probable future projects.

Chapter 5, "Alternatives": This chapter evaluates alternatives to the project, including alternatives considered but eliminated from further consideration, the No-Project Alternative, and three alternative development options. The environmentally superior alternative is identified.

Chapter 6, "Other CEQA Sections": This chapter evaluates growth-inducing impacts and irreversible and irretrievable commitment of resources and discloses any significant and unavoidable adverse impacts.

Chapter 7, "Report Preparers": This chapter identifies the preparers of this document.

Chapter 8, "References": This chapter identifies the documents and individuals used as sources for the analysis.

2 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

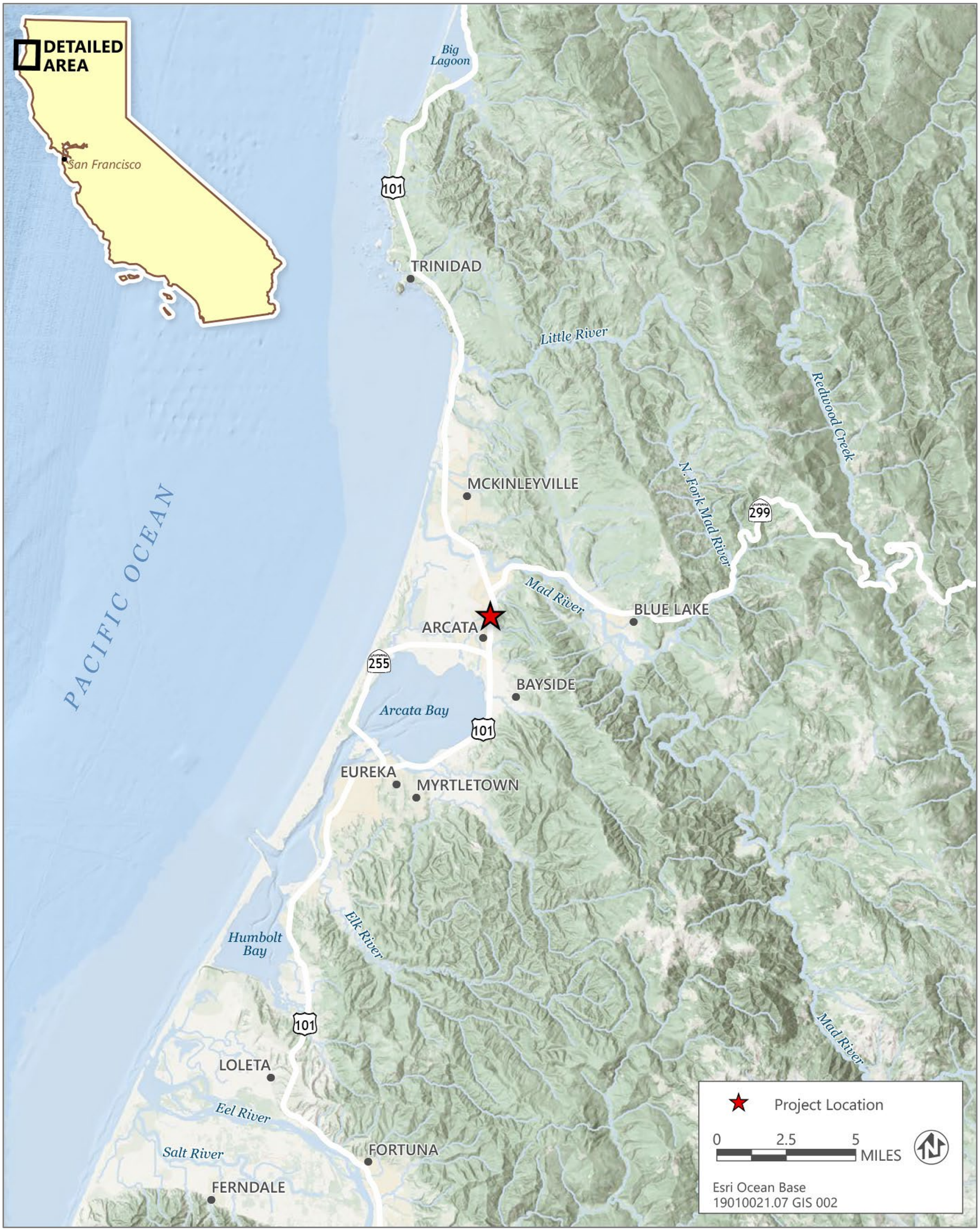
California State Polytechnic University, Humboldt (Cal Poly Humboldt or University) is one of 23 campuses and one of three polytechnic universities in the California State University (CSU) system. Established in 1913 as a teacher's college, Cal Poly Humboldt is the primary higher education institution serving the Humboldt region of California. Cal Poly Humboldt's 144-acre main campus is located east of US Highway 101 (US 101) and within the eastern jurisdictional boundaries of the City of Arcata (City). Cal Poly Humboldt is proposing to construct a 964-bed student housing complex approximately 0.5 mile north of the main campus that would provide apartment-style student residential units for undergraduate and graduate students attending Cal Poly Humboldt. The proposed new buildings would support living space for Cal Poly students. The project is described in detail in this chapter, including the project location, setting, goals and objectives, and development components, as well as the permits and approvals that may be necessary for project implementation.

2.2 PROJECT SITE CONDITIONS, LOCATION, AND SETTING

The project site encompasses 12.8 acres in the City on the northeast edge of the Sunset Neighborhood near the intersection of the St. Louis Road and US 101 overcrossing (Figures 2-1 and 2-2). Figure 2-2 identifies the project site on a topographic map in relation to Cal Poly Humboldt's main campus. The project site is bordered by US 101 to the east, single-family residences to the south and west, the Janes Creek Meadows riparian wetlands and grasslands to the northwest, St. Louis Road to the north, and the Mad River Lumber Company property to the northeast.

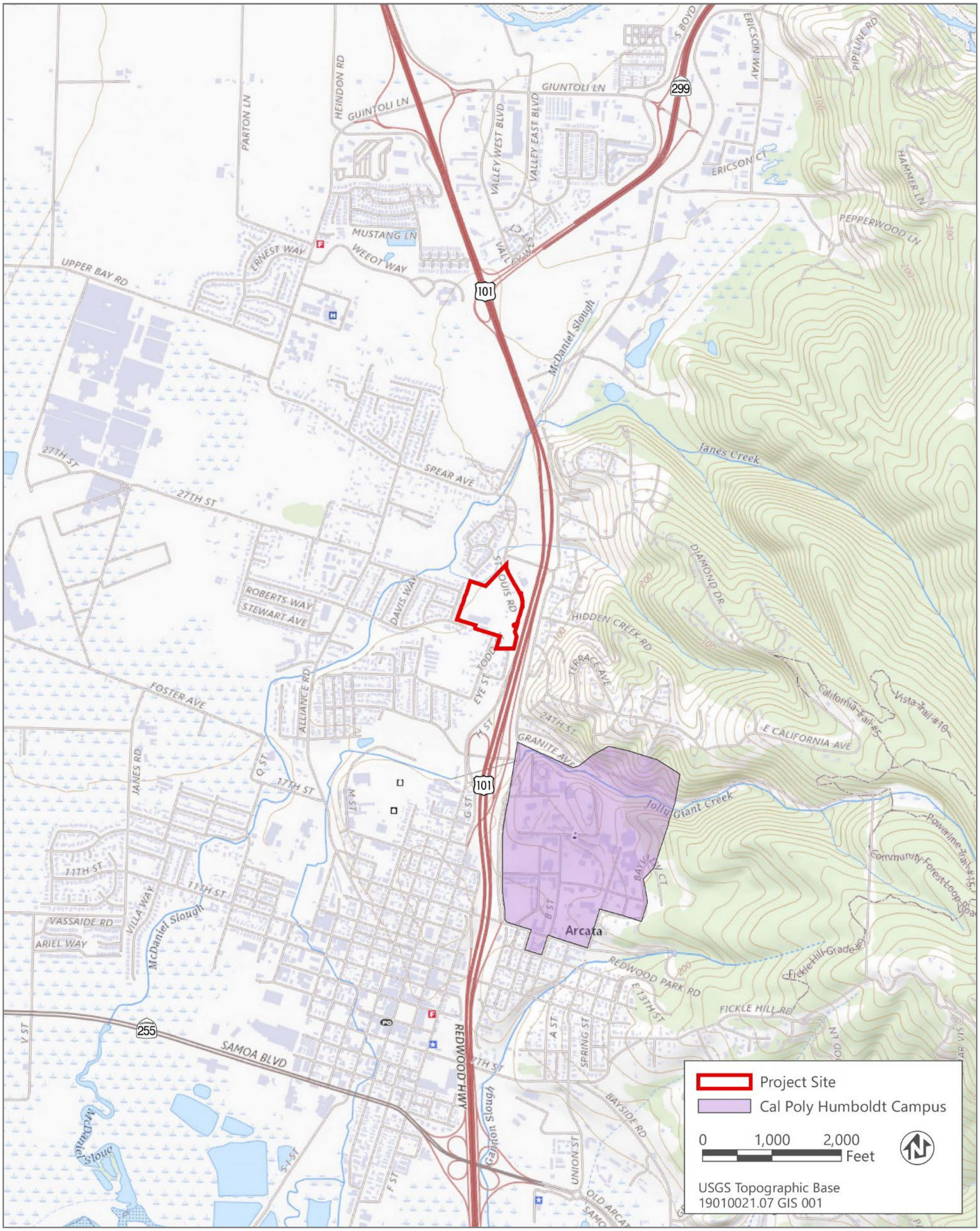
The project site includes the following assessor's parcel numbers: 505-022-011, 505-022-012, 503-372-002, 503-372-003, 503-372-004, 503-372-005, 503-372-006, 505-011-002, 505-011-006, 505-011-007, 505-011-010, and 505-012-004. Currently, as shown in Figure 2-3, the project site consists primarily of Craftsman's Mall, a collection of wood-framed warehouse buildings housing artisan and light industrial rental spaces, and outdoor storage areas for local contractors. Three single-family residences are also located within the northeast portion of the site. The northwestern portion and western edge of the site are currently undeveloped but provide some on-site detention of stormwater flows. Janes Creek and its associated riparian area is located along the northwestern boundary of the project site and provides passive recreational opportunities for residents of nearby residential development. These areas of the project site are grade-separated (approximately 15-20 feet lower in elevation) from the rest of the project site that includes the Craftsman's Mall and residential properties. The majority of the project site is unpaved, with the Craftsman's Mall and residential properties to the north characterized by predominantly gravel/dirt internal circulation roadways. Figures 2-4 and 2-5 are representative photos of existing conditions on the project site at the time the NOP was issued.

Regional access to the site is available from US 101 via the Sunset Avenue interchange. Local ingress/egress would be provided from St. Louis Road. Automobile, pedestrian, and bicyclist travel between the project site and campus is currently available via L.K. Wood Boulevard and the US 101 overcrossing, approximately 0.1 mile north of the project site. In addition, the City's planned bicycle/pedestrian path along US 101 will borders the project site to the east and provide additional bicycle and pedestrian access to and from the site. Figure 2-6 identifies the existing transportation infrastructure located near the project site, including existing bus lines and tops and bike lanes through the area.



Source: Adapted by Ascent Environmental in 2022.

Figure 2-1 Regional Location

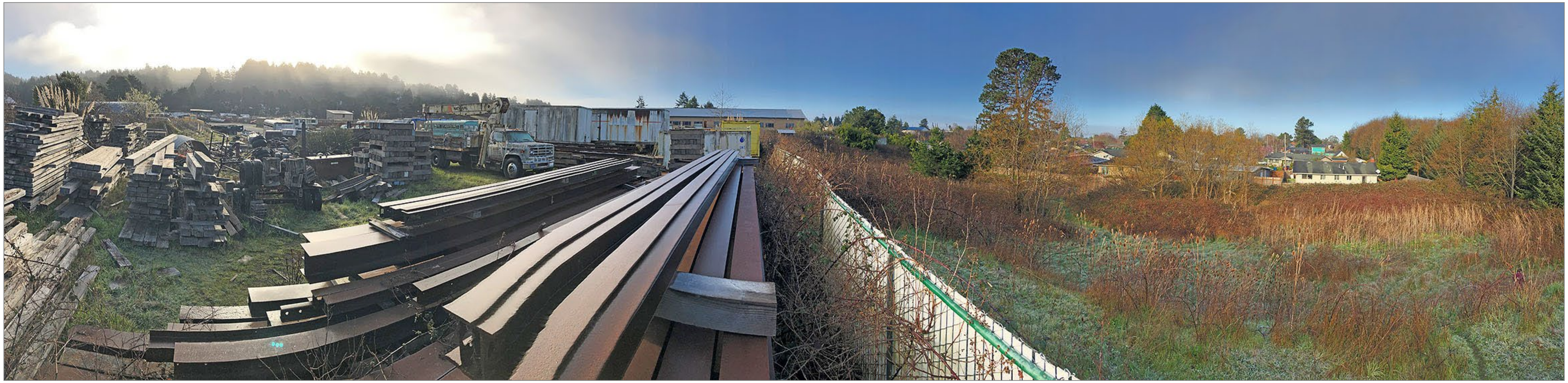


Source: Adapted by Ascent Environmental in 2022.

Figure 2-2 Topographic Map of the Project Site and in Relation to Cal Poly Humboldt Main Campus

Source: Adapted by Ascent Environmental in 2022.

Figure 2-3 Project Site Location and Site Photo Key

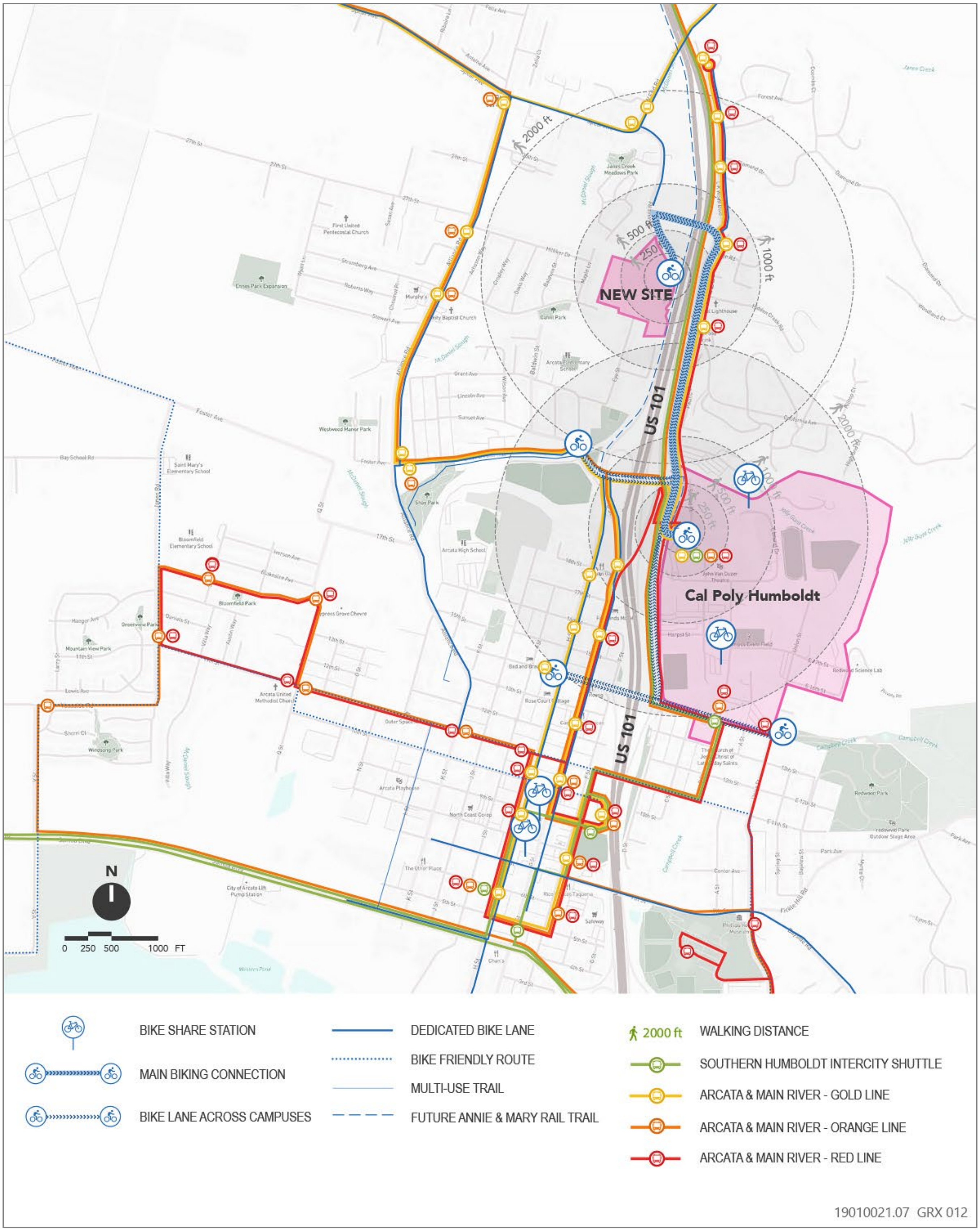


Source: Ascent Environmental

Figure 2-4 Panoramic View from Northwest Corner of Project Site Looking South

Source: Ascent Environmental

Figure 2-5 Panoramic View of Project Site Looking West



Source: Cal Poly Humboldt

Figure 2-6 Transportation Network Near the Project Site

2.3 PROJECT BACKGROUND

The project site was used as a lumber mill beginning in 1947 and into the 1970s, at which time operations ceased. The site retains two of the former mill structures and provided leasable workspace and storage opportunities for local community members and businesses. In 2017, prior to acquisition of the property by Cal Poly Humboldt, a private developer proposed development of the project site with a 700-bed student housing project. A Draft EIR was publicly circulated in 2017, followed by a Final EIR in May 2018. The EIR was not certified and the project was not approved. The developer ultimately withdrew the development application from the City in 2019. The Humboldt State University Foundation purchased the property in 2020.

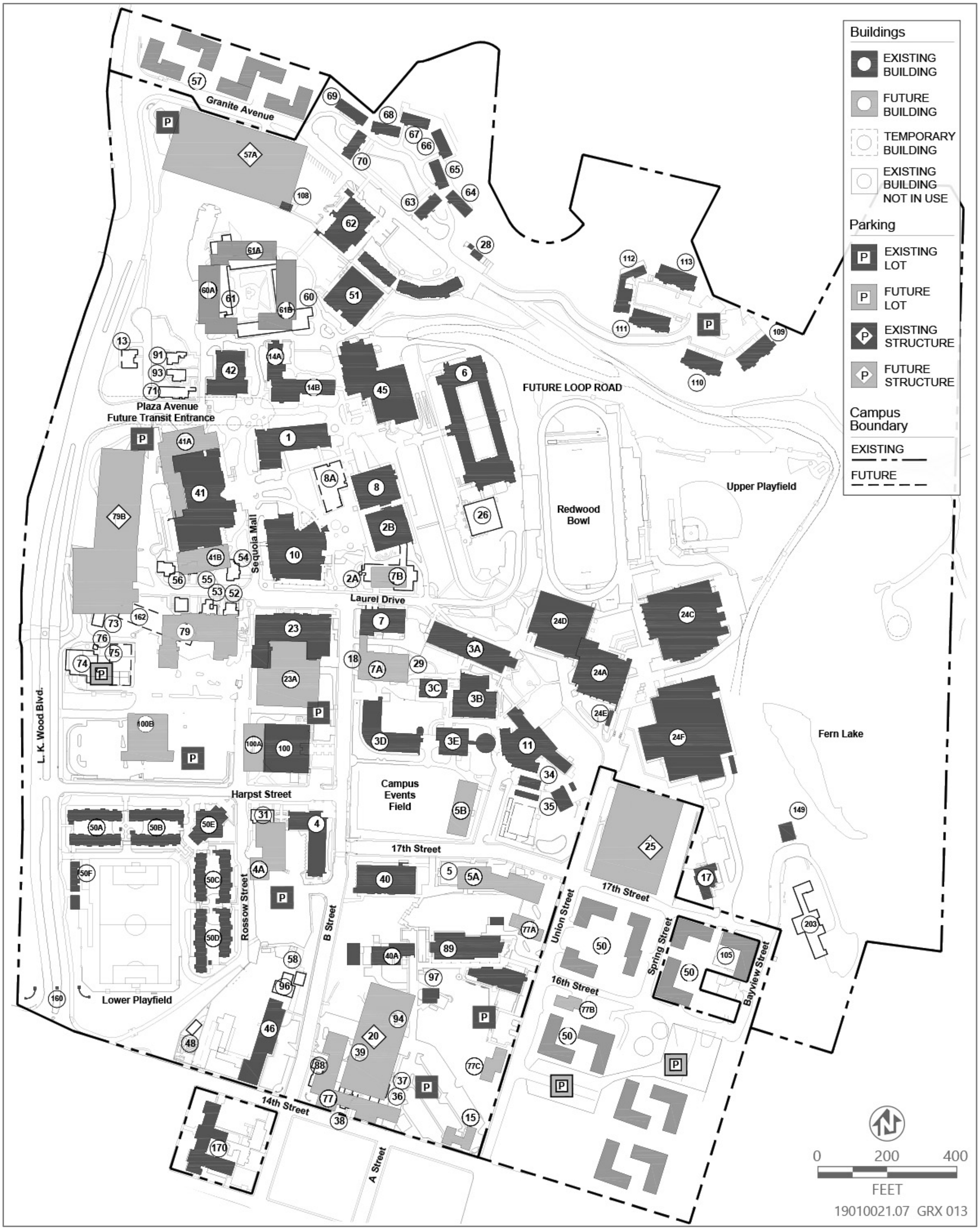
In terms of current student housing availability, Cal Poly Humboldt has a design capacity of approximately 2,100 beds (as of 2020) for students on campus. Existing housing for freshmen students includes the following facilities: the Hill Complex, Canyon Residences, and Cypress Residence Hall; and existing housing for sophomore and upper division students includes the College Creek Apartments, Creekview Complex, and Campus Apartments (Cal Poly Humboldt 2022). Cal Poly Humboldt is also providing temporary student housing for academic years 2022-2023 and 2023-2024 through a short-term lease at the Comfort Inn, approximately 3 miles from the main campus.

Currently, approximately 70 percent of Cal Poly Humboldt students reside in off-campus, non-university housing, and most of those students live within the City of Arcata or elsewhere within the county. More specifically, Cal Poly Humboldt (as of fall 2022) houses 2,044 students on-campus while approximately 3,900 students reside off campus in the City or other areas of the County (Cal Poly Humboldt 2022a; 2022b). Consequently, Cal Poly Humboldt has identified the need to provide additional student housing on university property at or near the main campus in the near term. Figure 2-7 provides the current Master Plan map for Cal Poly Humboldt.

As an entity of the State of California, the CSU, including Cal Poly Humboldt, is not subject to local government planning and land use plan, policies, or regulations. However, the project site is located within the governmental boundaries of the City of Arcata, which has designated the site as an infill opportunity zone for higher density residential development in the City's 2019 Housing Element (City of Arcata 2019) and in updates to the City's General Plan that are currently in preparation (City of Arcata 2022). Per the City's General Plan Land Use Updates map (City of Arcata 2022), the project site is contemplated to accommodate up to 410 units of high-density residential development, based on site acreage (City of Arcata 2022).

2.4 PROJECT ELEMENTS

The project site would be developed with a student housing complex with capacity for 964 student beds that would provide apartment-style residences for undergraduate and graduate students attending Cal Poly Humboldt, following acquisition of the site by Cal Poly Humboldt from the Humboldt State University Foundation. As part of the project, Cal Poly Humboldt's current Master Plan would be amended, as shown in Figure 2-8, to reflect inclusion of the project site as part of the Master Plan. A number of on-site amenities would be included as part of the project, including an exercise gym, common lounge spaces, study spaces, computer rooms, television rooms, a café/market, conference rooms, and bicycle parking. Exterior site features would include green space, recreational facilities (e.g., multifunction, pickleball, and/or volleyball court[s]), outdoor cooking amenities (e.g., barbecue area for on-site residents), and appropriate hardscapes (i.e., paths between various on-site features, including buildings and parking). The project would also include 340 single-occupancy vehicle parking spaces and additional bicycle parking (covered). Additional details for the proposed project elements are described below.



Source: Image produced by Cal Poly Humboldt, 2004.

Figure 2-7a Existing Master Plan – Cal Poly Humboldt

California State Polytechnic University, Humboldt

Master Plan Enrollment: 12,000 FTE

Master Plan approved by the Board of Trustees: September 1965

Master Plan Revision approved by the Board of Trustees: January 1967, January 1977, July 1977, November 1977, May 1978, March 1981, May 1990, November 2004

1. Siemens Hall
2A. Art A
2B. Art B
3A. Science A
3B. Science B
3C. Science C
3D. Science D
3E. Dennis K. Walker Greenhouse
4. Harry Griffith Hall
4A. *Classroom Building*
5. Forestry
5A. *Laboratory Building*
5B. *Science Laboratory Building*
6. Founders Hall
7. Jenkins Hall
7A. *Jenkins Hall – Visual Art Renovation and Addition*
7B. *Jenkins Hall – Visual Art Renovation and Addition*
8A. Music A
8B. Music B
10. Theatre Arts
11. Wildlife and Fisheries
12. Observatory (off-campus)
13. Feuerwerker House
14A. Nelson Hall West
14B. Nelson Hall East
15. Figueiredo Building
16. First Street Gallery (off-campus)
17. Marine Wildlife Care Center
18. Brookins House
20. *South Campus Parking Structure*
23. Gist Hall
23A. *Gist Hall – Theatre Arts Replacement and Addition*
24A. Forbes Gymnasium
24C. Student Recreation Center
24D. Recreation & Wellness Center
24E. Cogeneration Unit
24F. Kinesiology and Athletics
25. *East Campus Parking Structure*
26. Van Matre Hall
27. Telonicher Marine Laboratory (off-campus)
28. Housing Operations Building
29. Experimental Greenhouse
31. Swetman Child Development Lab
33. Natural History Museum (off-campus)
34. Wildlife Game Pens
35. Fish Hatchery
36. Mary Warren House
37. Baiocchi House
38. Walter Warren House
39. Toddler Center
40. Natural Resources
40A. Schatz Energy Research Center
41. Library
41A. *Library Addition*
41B. *Library Addition*
42. Student Health Center
45. University Center
46. Facilities Management
48. Hazardous Waste Handling Facility
50. *Student Housing*
50A-D. College Creek Apartments
50E. College Creek Community Center
50F. College Creek Field Locker Room
51. Cypress Residence Hall
52. Bret Harte House
53. Warren House
54. Telonicher House
55. Balabanis House
56. Hadley House
57. *Granite Student Housing*
57A. *North Campus Parking Structure*
58. Switchgear Building
60. Redwood Residence Hall
60A. *Sunset Residence Hall Replacement*
61. Sunset Residence Hall
61A. *Redwood Residence Hall Replacement*
61B. *Redwood Residence Hall Replacement*
62. Jolly Giant Commons
63. Pepperwood Residence Hall
64. Tan Oak Residence Hall
65. Maple Residence Hall
66. Madrone Residence Hall
67. Hemlock Residence Hall
68. Chinquapin Residence Hall
69. Alder Residence Hall
70. Cedar Residence Hall
71. Little Apartments
73. Wagner House
74. Ceramics Lab
75. Sculpture Lab
76. Water Tower
77. *Student Center South*
77A. *Student Activities*
77B. *Student Activities*
77C. *Student Activities*
79. *Educational Services Building*
79B. *West Campus Parking Structure*
82. *Parking Kiosk*
88. Building 88
89. Behavioral and Social Sciences
91. Hagopian House
93. Brero House
94. Jensen House
96. Shipping and Receiving
97. Buck House
100. Student and Business Services
100A. *Classroom Building*
100B. *Classroom Building*
105. Boat Facility
108. Housing Cogeneration Unit
109. Fern Hall
110. Willow Hall
111. Laurel Hall
112. Creekside Lounge
113. Juniper Hall
149. Wireless Communication Facility
160. Campus Entrance Gate
162. Campus Apartments
163. Boating Instructional Safety Center (off-campus)
170. Trinity Annex
175. *Corporation Yard*

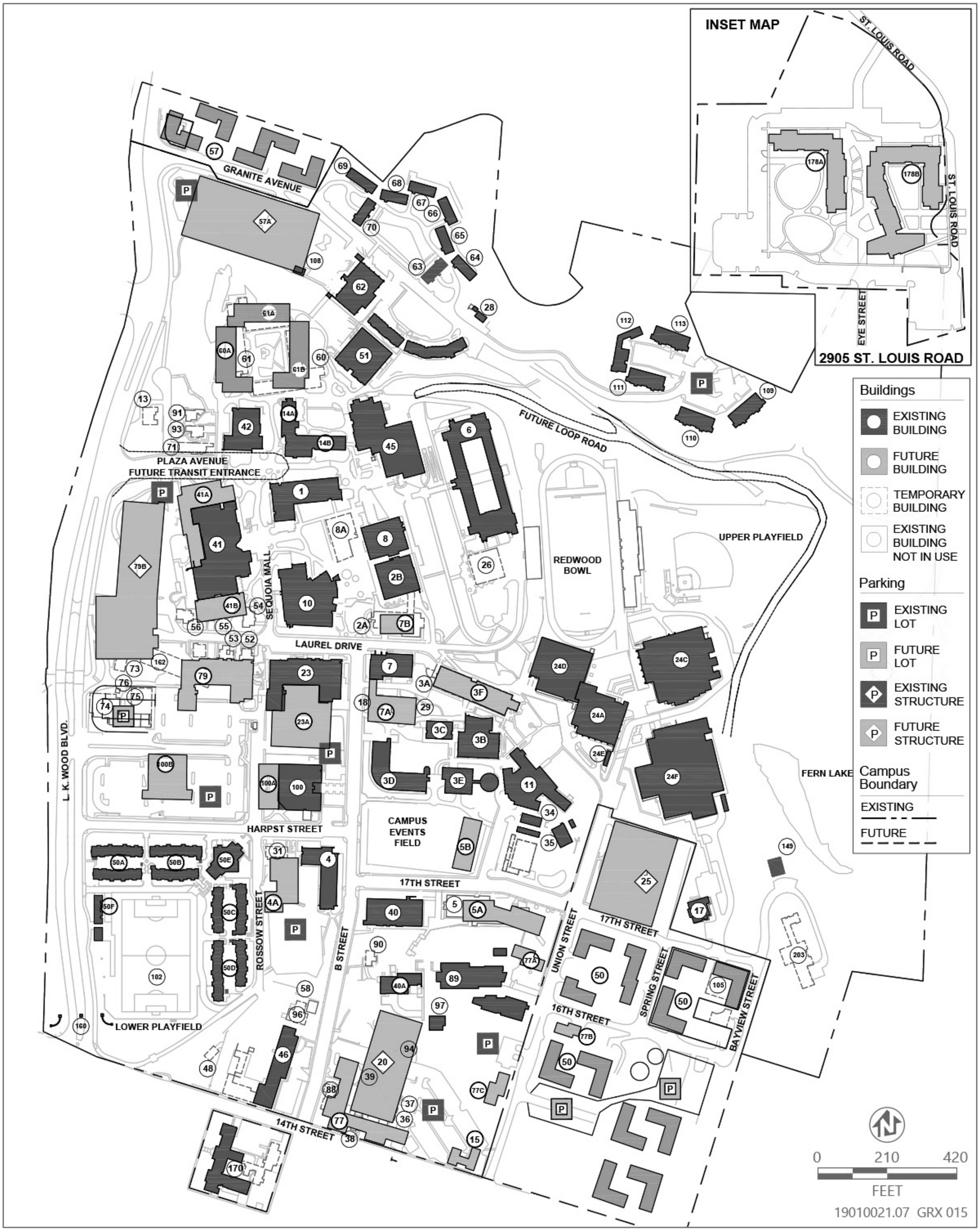
LEGEND:
Existing Facility / *Proposed Facility*

NOTE: Existing building numbers correspond with building numbers in the Space and Facilities Data Base (SFDB)

19010021.07 GRX 014

Source: Image produced by Humboldt State University, 2004.

Figure 2-7b Existing Master Plan Map Legend – Cal Poly Humboldt



Source: Image produced by Humboldt State University, 2004.

Figure 2-8a Proposed Master Plan – Cal Poly Humboldt with Project

California State Polytechnic University, Humboldt

Master Plan Enrollment: 12,000 FTE

Master Plan approved by the Board of Trustees: September 1965

Master Plan Revision approved by the Board of Trustees: January 1967, January 1977, July 1977, November 1977, May 1978, March 1981, May 1990, November 2004

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8A. Music A
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13. Feuerwerker House
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14B. Nelson Hall East
15. Figueiredo Building
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17. Marine Wildlife Care Center
18. Brookins House
20. *South Campus Parking Structure*
23. Gist Hall
23A. *Gist Hall – Theatre Arts Replacement and Addition*
24A. Forbes Gymnasium
24C. Student Recreation Center
24D. Recreation & Wellness Center
24E. Cogeneration Unit
24F. Kinesiology and Athletics
25. *East Campus Parking Structure*
26. Van Matre Hall
27. Telonicher Marine Laboratory (off-campus)
28. Housing Operations Building
29. Experimental Greenhouse
31. Swetman Child Development Lab
33. Natural History Museum (off-campus)
34. Wildlife Game Pens
35. Fish Hatchery
36. Mary Warren House
37. Baiocchi House
38. Walter Warren House
39. Toddler Center
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40A. Schatz Energy Research Center
41. Library
41A. *Library Addition*
41B. *Library Addition*
42. Student Health Center
45. University Center
46. Facilities Management
48. Hazardous Waste Handling Facility
50. *Student Housing*
50A-D. College Creek Apartments
50E. College Creek Community Center
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53. Warren House
54. Telonicher House
55. Balabanis House
56. Hadley House
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57A. *North Campus Parking Structure*
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61. Sunset Residence Hall
61A. *Redwood Residence Hall Replacement*
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67. Hemlock Residence Hall
68. Chinquapin Residence Hall
69. Alder Residence Hall
70. Cedar Residence Hall
71. Little Apartments
73. Wagner House
74. Ceramics Lab
75. Sculpture Lab
76. Water Tower
77. *Student Center South*
77A. *Student Activities*
77B. *Student Activities*
77C. *Student Activities*
79. *Educational Services Building*
79B. *West Campus Parking Structure*
82. *Parking Kiosk*
88. Building 88
89. Behavioral and Social Sciences
91. Hagopian House
93. Brero House
94. Jensen House
96. Shipping and Receiving
97. Buck House
100. Student and Business Services
100A. *Classroom Building*
100B. *Classroom Building*
105. Boat Facility
108. Housing Cogeneration Unit
109. Fern Hall
110. Willow Hall
111. Laurel Hall
112. Creekside Lounge
113. Juniper Hall
149. Wireless Communication Facility
160. Campus Entrance Gate
162. Campus Apartments
163. Boating Instructional Safety Center (off-campus)
170. Trinity Annex
175. *Corporation Yard*
178A. *2905 St. Louis Road Student Housing I*
178B. *2905 St. Louis Road Student Housing II*

LEGEND:
Existing Facility / *Proposed Facility*

NOTE: Existing building numbers correspond with building numbers in the Space and Facilities Data Base (SFDB)

List revised by Cal Poly Humboldt: October 19, 2022

19010021.07 GRX 016

Source: Image produced by Humboldt State University, 2004.

Figure 2-8b Proposed Master Plan Map Legend – Cal Poly Humboldt with Project

2.4.1 Building and Site Design

As shown in Figure 2-9, Cal Poly Humboldt proposes to construct a student housing complex with a capacity for 964 student beds in approximately 240 residential units within two buildings on the project site. The proposed buildings would provide a variety of student housing types, including two-, three-, and four-bedroom apartment units, with the majority being two-bedroom/one-bath units. As proposed, on-site buildings would generally be taller at the center of the site and step down along the perimeter of the project site, to reduce building mass and scale in proximity to the surrounding single-family residential neighborhoods. The western building, as shown in Figure 2-9, would be oriented in an L-shape with the east-west wing being five stories in height and the north-south wing being six stories in height. The eastern building would be generally seven stories in height; however, the easternmost section of the building would be limited to five stories. Overall, no on-site buildings would exceed approximately 75 feet in height. The intent of the taller building height is to maximize the available space for open space and recreational opportunities on the project site; see Section 2.4.2 of this chapter for further discussion of those.

The separation between the buildings and within the courtyard spaces of each building would allow for accessible open space and communal activities within the proposed development. Additionally, a north-south-aligned promenade would bisect the development and connect student residences in both buildings to indoor support facilities and outdoor primary bicycle/pedestrian connections to campus. Two sets of elevators would be provided within each building, located adjacent to the promenade.

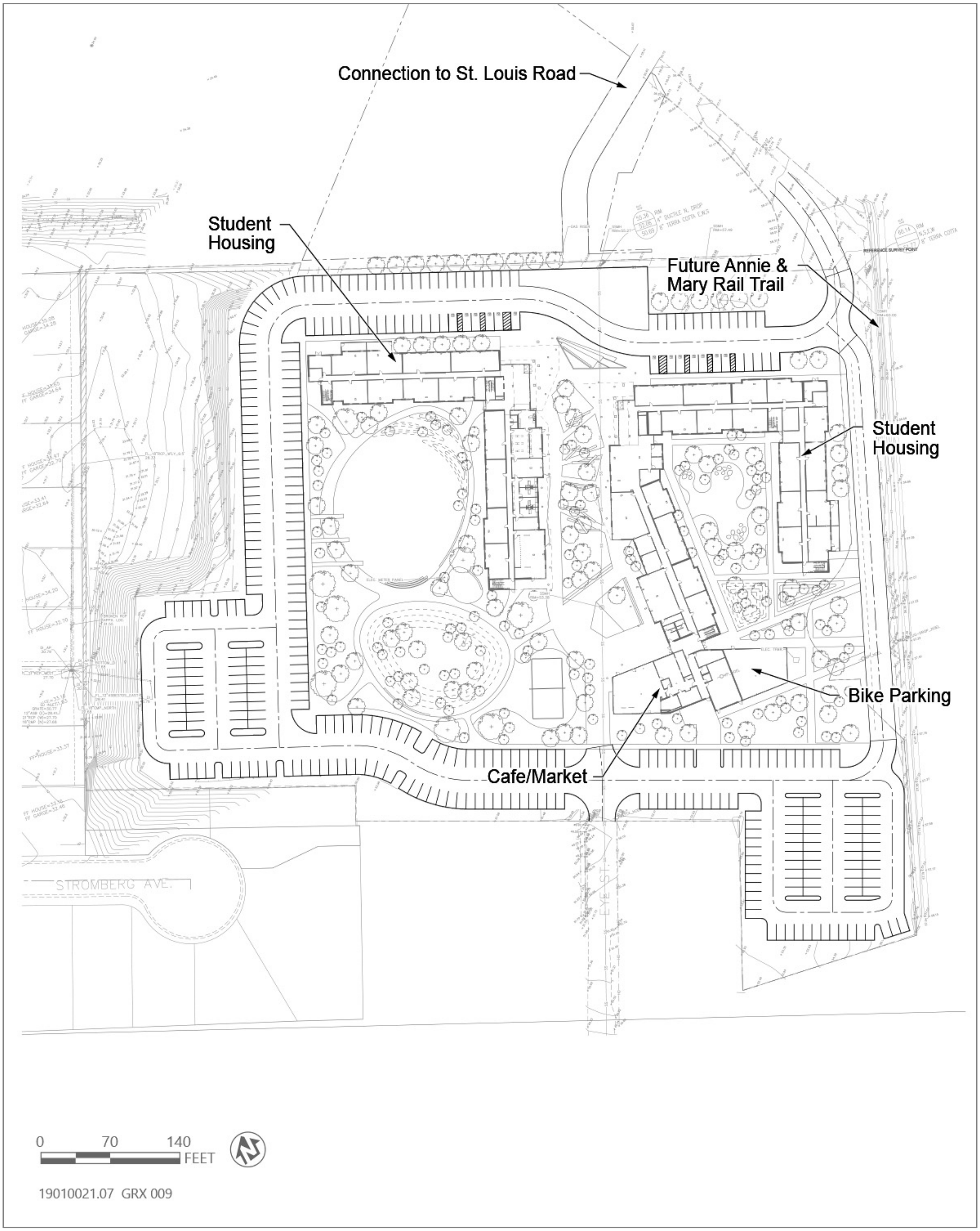
The total square footage for the two buildings is anticipated to be approximately 325,000 square feet (sf). Student residential units would average approximately 900 square feet apiece, and additional interior amenities and communal space would be provided within each building, along the promenade. This would include lobby space, study rooms, hallways, administrative offices (western building), student lounge and multipurpose rooms (eastern building), fitness space (eastern building), café/retail space (eastern building), indoor bicycle parking, residential laundry, and mechanical and custodial facilities.

Cal Poly Humboldt aims to exceed the energy efficiency and sustainability requirements of both the California Green Building Standards Code (CalGreen) and California Energy Code. The development, as a whole, would achieve Leadership in Energy and Environmental Design (LEED) v4 Silver certification. Proposed project sustainability features include high-efficiency irrigation for landscaping, water-efficient plumbing, energy-efficient and CalGreen-compliant lighting and appliances, and durable exterior building materials such as concrete/masonry walls. Energy Star office equipment, energy-efficient computer monitors, and LED (light-emitting diode) lighting and lighting controls would be used throughout the buildings to achieve the energy goals. In addition, the project would encourage on-site solar energy production through the provision of space for photovoltaic solar panels (i.e., PV-ready) on rooftops, consistent with the CSU Sustainability Policy, and plantings and structures that provide shade for parking, pedestrian paths, and/or gathering areas. The project would also provide electric vehicle-ready (EV-ready) parking spaces equivalent to 10% of the total on-site parking provided.

Figures 2-10 and 2-11 present renderings of the proposed on-site buildings from the northeastern and southwestern ends of the project site. Figure 2-12 presents an aerial view of the project site with a rendering of the project.

2.4.2 Recreation, Parks, and Open Space

The two student housing buildings would surround open-air courtyards and be located on either side of a central, paved, north-south promenade. Within each courtyard, proposed green spaces would contain park space and greenways for on-site residents (refer to Figure 2-9). In addition, 1.2 acres of existing natural open space that contain grasslands and riparian wetlands lining Janes Creek in the western portion of the site would be maintained, between the proposed surface parking and off-site residential neighborhood to the west. However, this space would not be accessible to on-site residents as it would be grade-separated.



Source: Adapted by Ascent Environmental in 2022.

Figure 2-9 Conceptual Site Plan

Source: Ascent Environmental

Figure 2-10a Rendering of Project Looking Southwest

Source: Ascent Environmental

Figure 2-10b Rendering of Project Looking Southeast

Source: Ascent Environmental

Figure 2-11a Rendering of Project Looking Southeast

Source: Ascent Environmental

Figure 2-11b Rendering of Project Looking Northeast

Source: Ascent Environmental

Figure 2-12 Aerial Rendering of Proposed Project Looking Southeast

Additional recreational facilities (e.g., multifunction, pickleball, and/or volleyball court[s]) and a fitness room in the eastern building would be provided as part of the project. The northern portion of the project site would be cleared of existing uses and serve as open space as part of the project, bisected by the new access road to St. Louis Road (as described in Section 2.4.3, below). Additionally, as part of the project, existing landscaping and trees along the periphery of the site, which are not shown in Figure 2-9, would be maintained/enhanced to provide additional screening of the proposed development from off-site vantages, including from US 101 and the existing residential neighborhoods to the south and west.

2.4.3 On-Site Circulation

The proposed circulation network for the project site is intended to limit changes to the existing circulation patterns in the area and minimize the potential for project-related vehicular traffic to affect local residential streets, including Eye Street, Maple Lane, and Stromberg Avenue. On-site circulation also includes a series of interconnected pedestrian and bicycle paths throughout the development to promote multimodal transportation choices and direct student residents north to the L.K. Wood Boulevard-US 101 overcrossing or east to the future extension of the Annie & Mary Rail Trail project, which will be constructed by the City within city limits and border the project site to the east. The Annie & Mary Rail Trail is a collaborative multiagency effort between ~~the~~ Humboldt County, the City of Blue Lake, Humboldt County Association of Governments (HCAOG), Blue Lake Rancheria, Redwood Community Action Agency, and Friends of the Annie & Mary Rail Trail that is intended to provide a regional trail connection between the City of Arcata and the City of Blue Lake. As the trail's alignment borders the project site, it will provide primary bike and pedestrian access to the site and is anticipated to be completed in 2024 (Khatri, pers. comm. 2022). In addition, the project would include establishment of a bus/shuttle stop within the project site.

On-site driveways and internal circulation would be one lane in each direction around the site, with two ingress/egress points for passenger vehicles via St. Louis Road, as depicted in Figure 2-9. Emergency access would be provided from the northern terminus of Eye Street where it meets the project's southern boundary. This access point would be controlled using removable bollards or gate, and signage would be provided to prevent pedestrian/bicyclist access.

The circulation framework for the project would integrate various transportation demand management strategies that reduce vehicle miles traveled from single-occupant automobile trips, such as:

- provide safe, covered bicycle parking areas near building entrances for visitors and inside buildings for residents and employees;
- design and incorporate traffic-calming features within the development; and
- encourage ~~flexible work scheduling and~~ on-site employment for proposed support services ~~to minimize peak-hour traffic~~.

With respect to alternative transportation facilities, and in addition to the aforementioned Annie & Mary Rail Trail that would be located along the eastern boundary of the site, student residents would have access to campus via St. Louis Road and the US 101 overcrossing, which would provide secondary pedestrian/bicycle access to the Cal Poly Humboldt main campus. As previously stated, a central concourse/promenade would be provided within the proposed student housing development, connecting residences to support facilities and primary bicycle/pedestrian connections to campus. Within the southern end of the proposed development, indoor bicycle parking would be provided, in addition to on-site, exterior bicycle storage facilities.

2.4.4 Parking

Parking areas would be located along the perimeter of the project site and would provide approximately 340 single-occupancy vehicle spaces. The majority of on-site surface parking would be located in the western and southern portions of the site, so as to provide greater separation between the proposed on-site buildings and nearby single-family residential uses. This design would also encourage biking, walking, and transit use on the site and to the downtown area of the City and to Cal Poly Humboldt. 10 percent of on-site parking spaces would be made EV-Ready (i.e., provision of conduit to easily receive installation of an EV charger).

Parking areas within the project site would also be designed in a manner to reduce urban heat island effects in comparison to barren surface parking lots. Parking areas may include a combination of one or more of the following features: integrated energy generation systems (such as photovoltaic carports), large-canopy shade trees, and permeable and high-albedo (highly reflective) paving materials.

2.4.5 Utilities

The project site is located within the City utility service area for water, wastewater, and stormwater. Domestic and fire protection water and sewer services would be constructed on-site, up to connection points with existing City infrastructure. More specifically, the City maintains an existing sewer line that bisects the project site and that would provide a direct connection for the project to the City's sanitary sewer system. Relocation of a portion of this line may be required as part of the project to provide adequate separation between the line and proposed on-site buildings. The line would be moved either slightly to the west from its current alignment or along the eastern edge of the project site. The City also maintains an existing water main along the eastern boundary of the project site, which would provide a direct connection for the project. An 8-inch water line would be provided as part of the project for fire protection purposes with connections to on-site hydrants and buildings.

Energy provisions to the site would be limited to electricity provided by Pacific Gas and Electric Company (PG&E); there would be no natural gas service. Additionally, and as noted above, 10 percent of the on-site parking spaces would be EV-ready.

On-site stormwater facilities would be provided in compliance with National Pollutant Discharge Elimination System requirements. On-site facilities may include various low-impact development facilities, such as permeable pavement, catch basin filters, underground detention, drywell, and self-retaining areas. As part of the project, Cal Poly Humboldt would construct a new stormwater pipe within the project site along the western boundary of the site, parallel to an existing City stormwater pipe to be abandoned in place, to further reduce the existing risk of localized stormwater flows from ponding within the backyards of residential uses to the west. A direct connection to the City's existing storm drain and 18-inch concrete stormwater pipe at the site's western boundary would also be provided as part of the project.

2.5 CONSTRUCTION

Construction Timeline. Construction would take approximately 18-24 months and is estimated to begin in 2023 and be complete by 2024/2025, with occupancy and operation planned for Fall 2025. Construction may be phased to allow for occupation of one of the student housing buildings prior to overall site construction. Construction would generally occur Monday through Friday between the hours of 8:00 a.m. and 7:00 p.m., with the potential for weekend construction on Saturday between 9:00 a.m. and 7:00 p.m. No construction would occur on Sundays or holidays. As currently proposed, the hours of construction would be generally consistent with those set forth in the City of Arcata General Plan (Policy N-5d).

Construction Activities. Construction activities would include site grading and excavation, utility trenching, building foundation pouring, and building construction. The following construction equipment is anticipated to be used during construction of the project:

- concrete/industrial saw
- rubber-tired or track dozer
- tractors/loaders/backhoe
- excavators
- bobcat
- drill rig
- off-highway trucks
- grader
- scraper
- crane
- tower crane
- man-lift
- boom lift
- construction elevator
- scissor lift
- forklift
- concrete trucks
- concrete pump trucks
- roller/compactor
- generator set
- welding machine
- compressor
- haul trucks
- painting equipment

Diesel construction equipment would be powered by Tier 4 engines as required by the California Air Resources Board and U.S. Environmental Protection Agency.

Before construction activities begin on any project component, temporary fencing would be installed around the active construction area and other security measures such as lighting would be installed to prevent unauthorized access and promote site safety. Construction staging would occur on-site and would avoid the riparian wetland and grasslands on the western end of the site. Additionally, because the project would disturb more than 1 acre of land, the project would be required to obtain coverage under the State Water Resources Control Board Construction General Permit, which requires development of a stormwater pollution prevention plan (SWPPP). During project construction activities, SWPPP best management practices (e.g., erosion control, site stabilization, etc.) would be implemented at the site to prevent construction-related silt or debris from affecting areas outside the site boundary.

Construction Waste Management. The project would generate construction debris during on-site clearing and demolition activities. In accordance with Section 5.408 of CALGreen, the project would implement a construction waste management plan for recycling and/or salvaging for reuse of at least 65 percent of nonhazardous construction/demolition debris. Additionally, the project would be required to meet Leadership in Energy and Environmental Design (LEED) v4 requirements for waste reduction during construction. Solid waste generated during construction of the project would be hauled off-site to the Humboldt Waste Management Authority's solid waste transfer station in the City of Eureka and then routed either to the Dry Creek Landfill in Medford, Oregon or the Anderson Landfill in Anderson, California.

Construction Traffic Control. As part of the project, Cal Poly Humboldt would prepare a construction traffic control plan that illustrates the location of the proposed work area; identifies the location of areas where the public right-of-way would be closed or obstructed, and the placement of traffic control devices necessary to perform the work; shows the proposed phases of traffic control; and identifies the periods when the traffic control would be in effect and, although not expected, the periods when work would prohibit access to private property from a public right-of-way. The traffic control plan would also provide information on access for emergency vehicles to prevent interference with emergency response.

Protection and Recycling of On-Site Vegetation. As previously stated, Cal Poly Humboldt intends to maintain on-site vegetation (especially trees along the site periphery and the open space area within the western portion of the project site) to the extent feasible. However, some tree removal may be necessary to allow for site preparation and construction. Consistent with Cal Poly Humboldt's practice at the main campus, any tree that is removed would be replaced at a minimum 1:1 ratio by planting trees elsewhere on the project site. In addition, Cal Poly Humboldt would consider use of wood from trees removed from the project site for furnishings or interior accents, and would work with area partners to recycle material.

2.6 PROJECT GOAL AND OBJECTIVES

The underlying purpose of the project is to provide additional student housing proximate to campus and reduce the student housing burden in the local community. As noted above, the objectives of the project are to:

1. provide additional housing near existing and planned mobility infrastructure (i.e., pedestrian and bicycle facilities and transit) to reduce vehicle trips, vehicle miles travelled, and parking demand;
2. provide student housing opportunities on Cal Poly Humboldt property to promote student enrollment and address current housing needs. In addition, provide housing opportunities and complementary services that may be offered to nontraditional students such as graduate students and veterans;
3. support and advance Cal Poly Humboldt's educational mission by guiding the physical development of housing proximate to campus to accommodate gradual student enrollment growth up to a future enrollment of 12,000 full-time-equivalent students per the 2004 Master Plan while preserving and enhancing the quality of campus life;
4. optimize an underutilized infill location within the City of Arcata and proximate to Cal Poly Humboldt;
5. provide housing density adjacent to Cal Poly Humboldt and the downtown area of the City of Arcata to reduce vehicle trips, vehicle miles travelled, and parking demand within campus and the downtown area;
6. minimize building footprints to preserve as much of the site as possible for the creation of open space and landscaped setbacks from surrounding roadways and residential uses;
7. contribute to the overall character and livability of the surrounding neighborhood and Cal Poly Humboldt by facilitating the reuse of property in a manner that enhances the visibility and aesthetic appeal of the city from US 101 and surrounding local roadways and that enhances circulation within the city and to Cal Poly Humboldt;
8. minimize impacts to on-site vegetation and potentially sensitive biological resources;
9. provide energy-efficient building design, low-water use indoor and outdoor design, and high-quality construction by incorporating national, state, and/or local sustainable design practices; and
10. advance campus-wide environmental sustainability and make progress toward goals of carbon neutrality and climate resilience.

2.7 ANTICIPATED PERMITS AND APPROVALS

The CSU Board of Trustees is the lead agency for this EIR and has sole authority to consider and approve the project, certify the EIR, and adopt the Mitigation Monitoring and Reporting Program, Findings of Fact, and Statement of Overriding Considerations. Table 2-1 lists agencies that may be required to issue permits or approve certain aspects of the project. This EIR is expected to be used to satisfy CEQA requirements of the listed responsible and/or trustee agencies.

Table 2-1 Potential Responsible Agencies, Permits, and Approvals for the Project

Agency	Permit/Approval
Lead Agency	
California State University, Board of Trustees	▶ Approval of acquisition of project site from Humboldt State University Foundation ▶ EIR Certification ▶ Approval of major Master Plan revision to add project site and project to campus master plan map ▶ Approval of schematic design
California State University, Office of Fire Safety	▶ Facility fire safety review and approval
Other Agencies	
California Division of State Architect	▶ Review for accessibility compliance
California Department of Fish and Wildlife	▶ Lake and Streambed Alteration Agreement (LSAA) from CDFW pursuant to California Fish and Game Code Section 1602
U.S. Army Corps of Engineers	▶ Clean Water Act (CWA) Section 404 Permit for impacts to waters of the United States
North Coast Regional Water Quality Control Board	▶ National Pollutant Discharge Elimination System construction stormwater permit (Notice of Intent to proceed under General Construction Permit) ▶ CWA Section 401 Water Quality Certificate for impacts to waters of the United States
California Department of Transportation	▶ Permits for movement of oversized or excessive loads on State highways
City of Arcata	▶ Sidewalk and roadway encroachment permits ▶ Utility connection permits (water, sewer, and stormwater) ▶ Utility easements (sewer line relocation within the project site)

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3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This ~~Draft~~ Final EIR evaluates and discloses the environmental impacts associated with the Student Housing Project, in accordance with CEQA Section 21000 et seq. and the State CEQA Guidelines (CCR, Title 14, Chapter 3, Section 15000 et seq.). It has been determined that buildout of the project would not significantly affect several environmental resource topics. Under the CEQA statute and the State CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental effects when such effects are not considered potentially significant (PRC Section 21002.1[e]; State CEQA Guidelines Sections 15128, 15143). Information used to determine which impacts would be potentially significant was derived from review of the proposed project, review of applicable planning documents and CEQA documentation, fieldwork, feedback from public and agency consultation, and comments received on the Notice of Preparation (NOP) (see Appendix A of this ~~Draft~~ Final EIR). Summary discussions of the project effects found not to be significant are presented in this chapter, under "Effects Found Not to Be Significant."

Sections 3.1 through 3.12 of this ~~Draft~~ Final EIR present a discussion of regulatory background, existing conditions, environmental impacts associated with construction and operation of the project, mitigation measures to reduce the level of impact, and residual level of significance (i.e., after application of mitigation, including impacts that would remain significant and unavoidable after application of all feasible mitigation measures). Issues evaluated in these sections consist of environmental topics identified for review in the NOP prepared for the project (see Appendix A of this ~~Draft~~ Final EIR). Chapter 4, "Cumulative Impacts," presents an analysis of the project's impacts considered together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines. Chapter 5, "Alternatives," presents a reasonable range of alternatives and evaluates the environmental effects of those alternatives relative to the proposed project, as required by Section 15126.6 of the State CEQA Guidelines. Chapter 6, "Other CEQA Sections," includes an analysis of the project's growth-inducing impacts, as required by PRC Section 21100(b)(5) and Section 15126 of the CEQA Guidelines.

Sections 3.1 through 3.12 of this ~~Draft~~ Final EIR each include the following components:

Regulatory Setting: This subsection presents information on the laws, regulations, plans, and policies that relate to the issue area being discussed. Regulations originating from the federal, State, and local levels are each discussed as appropriate.

Environmental Setting: This subsection presents the existing environmental conditions on the project site and in the surrounding area as appropriate, in accordance with State CEQA Guidelines Section 15125. The discussions of the environmental setting focus on information relevant to the issue under evaluation. The extent of the environmental setting area evaluated (the project study area) differs among resources, depending on the locations where impacts would be expected. For example, air quality impacts are assessed for the air basin (macroscale), as well as the site vicinity (microscale), whereas aesthetic impacts are assessed for the project site vicinity only.

Environmental Impacts and Mitigation Measures: This subsection presents thresholds of significance and discusses potentially significant effects of the project on the existing environment, including the environment beyond the project boundaries, in accordance with State CEQA Guidelines Section 15126.2. The methodology for impact analysis is described in each section, including technical studies upon which the analyses rely. The thresholds of significance are defined, and thresholds for which the project would have no impact are disclosed and dismissed from further evaluation. Project impacts and mitigation measures are numbered sequentially in each subsection (e.g., Impact 3.2-1, Impact 3.2-2, Impact 3.2-3, etc.). A summary impact statement precedes a more detailed discussion of the environmental impact. The discussion includes the analysis, rationale, and substantial evidence upon which conclusions are drawn. The determination of level of significance of the impact is defined in bold text. A "less-than-significant" impact is one that would not result in a substantial adverse change in the physical environment. A "potentially significant" impact or "significant" impact is one that would result in a substantial adverse change in the physical environment; both are treated the same under CEQA in terms of procedural requirements and the need to identify feasible mitigation. Mitigation measures are identified, as feasible, to avoid, minimize, rectify, reduce, or compensate for significant or potentially significant impacts, in accordance with the State CEQA Guidelines Section

15126.4. Unless otherwise noted, the mitigation measures presented are recommended in the EIR for consideration by Cal Poly Humboldt to adopt as conditions of approval.

Where an existing law, regulation, or permit specifies mandatory and prescriptive actions about how to fulfill the regulatory requirement as part of the project definition, leaving little discretion in its implementation, and would avoid an impact or maintain it at a less-than-significant level, the environmental protection afforded by the regulation is considered before determining impact significance. Where existing laws or regulations specify a mandatory permit process for future projects, performance standards without prescriptive actions to accomplish them, or other requirements that allow substantial discretion in how they are accomplished, or have a substantial compensatory component, the level of significance is determined before applying the influence of the regulatory requirements. In this circumstance, the impact would be potentially significant or significant, and the regulatory requirements would be included as a mitigation measure.

This subsection also describes whether mitigation measures would reduce project impacts to a less-than-significant level. Significant and unavoidable impacts are identified as appropriate in accordance with State CEQA Guidelines Section 15126.2(b). Significant and unavoidable impacts are also summarized in Chapter 6, "Other CEQA Sections."

References: The full references associated with the references cited throughout Sections 3.1 through 3.12 can be found in Chapter 8, "References," organized by section number.

CALIFORNIA STATE UNIVERSITY AUTONOMY

Cal Poly Humboldt is part of the CSU, which is a constitutionally created State entity and is therefore not subject to local government planning and land use plans, policies, or regulations. Although there is no formal mechanism for joint planning or the exchange of ideas, Cal Poly Humboldt may consider, for coordination purposes, aspects of local plans and policies for the communities surrounding the campus when it is appropriate. The proposed project (Student Housing Project) would be subject to State and federal agency plans and regulations described herein but would not be bound by local or regional plans and regulations, such as the City's General Plan or municipal code.

Cal Poly Humboldt seeks to maintain an ongoing exchange of ideas and information and to pursue mutually acceptable solutions for issues that confront both the campus and its surrounding community. To foster this process, Cal Poly Humboldt participates in, and communicates with, City, Humboldt County (County), and community organizations and sponsors various meetings and briefings to keep local organizations, associations, and elected representatives apprised of ongoing planning effort and consider community input.

EFFECTS FOUND NOT TO BE SIGNIFICANT

Agricultural and Forestry Resources

The project site is located in a developed area of the City, was previously developed as a lumber mill, and is now underutilized/vacant in several areas. Surrounding land uses include an industrial (lumber mill) facility, single-family residential neighborhoods, and public roadways. The project site is not included as part of the State of California's Farmland Mapping and Monitoring Program (DOC 2019), nor has it been used for agricultural purposes for at least 50 years. Although the project site was historically used as a lumber mill, no forestry resources or lands designated for forestry purposes are located within the project area. Development of the project site with new student housing and associated internal roadways, parking, and landscaping would occur within the boundaries of the project site, as identified in Figure 2-3 of Chapter 2, "Project Description." The project would have no impact on agricultural or forestry resources, and this topic is not discussed further in this EIR.

Geology and Soils

The project site is not located within an Alquist-Priolo Earthquake Fault Zone, and no mapped active or potentially active fault traces are known to traverse or project toward the site (Geocon 2022; City of Arcata 1998). Although the area is known to be a seismically active fault region, the project site is not located on any known faults or traces of active faults. The potential for surface fault rupture, therefore, is low. Although the City did identify an area within the southern portion of the project site as being potentially subject to liquefaction, more recent site-specific studies identified a low potential for liquefaction and other geologic hazards (Geocon 2022). Construction and operation of new buildings and infrastructure would meet current building standards, including the 2019 (or as updated) Building Energy Efficiency Standards and LEED v4 Silver certification and would not exacerbate earthquake potential in the project vicinity. Additionally, as a construction project that would disturb at least 1 acre of land, the project would require coverage under the Construction Stormwater General Permit State Water Resources Control Board (SWRCB) Water Quality Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002. Compliance with the NPDES General Permit requires applicants to submit a notice of intent to SWRCB and to prepare a stormwater pollution prevention plan (SWPPP). The SWPPP identifies best management practices (BMPs) that must be implemented to reduce construction effects on receiving water quality. The BMPs identified are directed at implementing both sediment and erosion control measures and other measures to control potential chemical contaminants. The permit also requires dischargers to consider the use of postconstruction permanent BMPs that remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements. As demonstrated above, no potentially significant impacts (either through regulatory compliance or otherwise) would occur with respect to geology and soils; therefore, these issues are not discussed further in this EIR.

Hazards and Hazardous Materials

The SWRCB GeoTracker website does not identify any active hazards related to underground storage tanks (USTs) and other types of contamination within the project site or surrounding area (SWRCB 2022). A Phase I Environmental Site Assessment (ESA) and a Phase II ESA were prepared for the site in 2015. While several recognized environmental conditions were identified in the Phase I ESA, including two properly disposed underground storage tanks, further testing indicated that there are no recognized environmental conditions or hazardous materials on the project site (Blue Rock Environmental 2015a and 2015b). ~~Historically, two USTs were located on-site and were disposed of appropriately. As a result, they are not considered current recognized environmental conditions at the project site (Blue Rock 2015).~~ Further, the California Department of Toxic Substances Control's (DTSC's) EnviroStor website also does not identify any hazards related to any cleanup sites within the project site (DTSC 2022). For these reasons, the project site is not included on a list of hazardous-materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List) (CalEPA 2022). Transportation of hazardous materials on area roadways is regulated by the California Highway Patrol and California Department of Transportation, whereas use of these materials is regulated by DTSC, as outlined in CCR Title 22. Cal Poly Humboldt would be required to use, store, and transport hazardous materials in compliance with local, State, and federal regulations during facility construction and operation. Any disposal of hazardous materials would occur in a manner consistent with applicable regulations and at an appropriate off-site disposal facility. Therefore, adverse impacts related to the handling of potentially hazardous materials as a result of the project are not anticipated.

Arcata Elementary School is located approximately 340 feet south of the project site; however, no direct access to or from the elementary school would occur during project construction/operation. Furthermore, operation of the proposed on-site uses (student residences and associated amenities), as noted above, would not involve the handling of hazardous or acutely hazardous materials, substances, or waste. Therefore, no potentially hazardous emissions or other hazards to the school would occur.

Implementation of the project would not involve modifying existing emergency routes or amending the City's Emergency Operations Plan. As noted in Section 3.11, "Transportation," primary site access would be maintained via St. Louis Road, and emergency access along Eye Street would also be maintained. Therefore, no impacts related to impairment or interference of an adopted emergency response or evacuation plan would occur.

Regarding wildland fire risk, and as noted in further detail below, the eastern edge of the project site is ~~not located~~ designated as ~~within~~ a ~~High or~~ Moderate Fire Hazard Severity Zone within the Local Responsibility Area (CalFire 2007). The area is not located within a high or very high fire hazard severity zone. The project would involve development on an infill site that is surrounded by urban/suburban development within the City. The project would not expose people or structures to increased risks related to wildland fires. Therefore, no impacts related to risk, loss, or injury involving wildfires would occur. As demonstrated above, no potentially significant impacts (either through regulatory compliance or otherwise) would occur with respect to hazards and hazardous materials; therefore, these issues are not discussed further in this EIR.

Hydrology and Water Quality

The existing project site is largely vacant with some buildings and structures, including the Craftsman's Mall collection of warehouses, located in the northeastern and southwestern portions of the site. The majority of the project site is unpaved with some paved areas located at and near St. Louis Road and around on-site buildings. Stormwater flows at the site currently pond or sheet flow to the northwest before discharging to Janes Creek. Project implementation would increase the area of impervious surfaces on the site and would include new drainage features and infrastructure. As stated above under "Geology and Soils," as a construction project that would disturb at least 1 acre of land, the project would require coverage under the Construction Stormwater General Permit SWRCB Water Quality Order No. 2009-0009-DWQ, NPDES General Permit No. CAS000002. Compliance with the NPDES General Permit requires applicants to submit a notice of intent to SWRCB and to prepare a SWPPP. The SWPPP identifies BMPs that must be implemented to reduce construction effects on receiving water quality. The BMPs identified are directed at implementing both sediment and erosion control measures and other measures to control potential chemical contaminants. The permit also requires dischargers to consider the use of postconstruction permanent BMPs that remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

To reduce the volume and rates of increased runoff following project implementation, Cal Poly Humboldt would adhere to applicable NPDES requirements governing the retention of stormwater flows on-site. As described in Section 3.12, "Utilities and Service Systems," Cal Poly Humboldt would provide a direct connection to existing City stormwater infrastructure in the area, but on-site flows would be limited so as to prevent an increase in stormwater flow rates discharged to an off-site location, consistent with NPDES requirements. New drainage features would include on-site impoundment, including landscaped retention areas capable of providing 24-hour impoundment/retention of stormwater. As shown in Figure 2-9, these features would be located within the oval-shaped courtyard areas in the western half of the project site. Other low-impact development methods, including design features associated with roads, parking lots, buildings, and landscaping, would be implemented to maintain pre-project runoff levels. The proposed on-site design would provide adequate stormwater storage capacity for a 100-year storm and control stormwater discharge rates in accordance with regional water quality control board requirements.

The Federal Emergency Management Agency designates the majority of the project site, including all proposed areas of development, as being located within Zone X, an area outside the 500-year floodplain (FEMA 2016). Within the northwestern portion of the site, Janes Creek and a portion of the undeveloped area located adjacent to the existing single-family residences are identified as being located within the 100-year flood zone. However, as noted previously, no project-related development would occur within these areas. As a result, implementation of the project would not place new structures, including housing, in a flood hazard area or impede or redirect flood flows. Therefore, the project would have no impact related to flood hazards.

The project site is not within an area subject to seiche or tsunami (Geocon 2022). As demonstrated above, no potentially significant impacts would occur with respect to hydrology and water quality as a result of regulatory compliance; therefore, these issues are not discussed further in this EIR.

Mineral Resources

Based on a site-specific geotechnical investigation that was conducted in 2015, the project site consists primarily of imported fill with a mixture of silts and clays, as well as undocumented fill. No mineral resources were discovered or are known to occur at the project site (Geocon 2022). As a result, project implementation would not result in the loss of any known mineral resources, and no impact would occur. This issue is not discussed further in this EIR.

Wildfire

The project site and surrounding land uses are not defined/designated as a High Fire Hazard Severity Zone and are not located within a State Responsibility Area (CAL FIRE 2022). Due to the site's location within an urban/suburban setting that is served by the Arcata Fire Department (see Section 3.10, "Public Services and Recreation"), the risk of wildfire is low, and this issue not discussed further in this EIR.

INTRODUCTION TO THE ANALYSIS

As required by the State CEQA Guidelines (CCR Section 15126.2), this ~~Draft~~ Final EIR identifies and focuses on the significant direct and indirect environmental effects of the project. Short-term effects are generally those associated with construction, and long-term effects are generally those associated with operation of the project. This chapter addresses the environmental setting, environmental impacts, and mitigation measures associated with the project in relation to the following resource topics:

- Section 3.1, "Aesthetics";
- Section 3.2, "Air Quality";
- Section 3.3, "Archaeological, Historical, and Tribal Cultural Resources";
- Section 3.4, "Biological Resources";
- Section 3.5, "Energy";
- Section 3.6, "Greenhouse Gas Emissions";
- Section 3.7, "Land Use and Planning";
- Section 3.8, "Noise";
- Section 3.9, "Population and Housing";
- Section 3.10, "Public Services and Recreation";
- Section 3.11, "Transportation"; and
- Section 3.12, "Utilities and Service Systems."

STANDARD TERMINOLOGY

This ~~Draft~~ Final EIR uses the following standard terminology:

"No impact" means no change from existing conditions (no mitigation is needed).

"Less-than-significant impact" means no substantial adverse change in the physical environment (no mitigation is needed).

"Potentially significant impact" means an impact that might cause a substantial adverse change in the environment (mitigation is recommended because potentially significant impacts are treated as significant).

"Significant impact" means an impact that would cause a substantial adverse change in the physical environment (mitigation is recommended).

"Significant and unavoidable impact" means an impact that would cause a substantial adverse change in the physical environment and that cannot be avoided, even with the implementation of all feasible mitigation.

"CSU" refers to the California State University system as a whole.

"Trustees" refers to the CSU Board of Trustees, the CEQA lead agency for this ~~Draft~~ Final EIR.

"Cal Poly Humboldt" refers to California State Polytechnic University, Humboldt.

"Student Housing Project" or **"project"** refers to the proposed Cal Poly Humboldt Student Housing Project. The proposed project and anticipated environmental effects of development that would occur under the project are evaluated in this EIR.

3.1 AESTHETICS

This section provides a description of existing visual conditions, meaning the physical features that make up the visible landscape, near the project site for the Student Housing Project and an assessment of changes to those conditions that would occur from project implementation. The effects of the project on the visual environment are generally defined in terms of the project's physical characteristics and potential visibility, the extent to which the project's presence would change the perceived visual character and quality of the environment, and the expected level of sensitivity that the viewing public may have where the project would alter existing views. The "Methodology" discussion in Section 3.1.3, below, provides further detail on the approach used in this evaluation.

During the public scoping period for the NOP, commenters expressed concerns about the compatibility of the design with the surrounding area, landscaping, and spillover lighting onto adjacent properties. These comments are addressed, as appropriate, in this section.

3.1.1 Regulatory Setting

FEDERAL

No plans, policies, regulations, or laws related to aesthetics, light, or glare are applicable to the project.

STATE

California Scenic Highway Program

California's Scenic Highway Program was created by the California Legislature in 1963 and is managed by the California Department of Transportation (Caltrans). The goal of this program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. A highway may be designated "scenic" depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view. The program includes a list of highways eligible to become, or designated as, official scenic highways and includes a process for the designation of official State or county scenic highways. There are no designated State scenic highways in the project vicinity. However, US Highway 101 (US 101), which is adjacent to the project site, and US Highway 299, which is approximately 0.8 mile northeast of the project site, are listed as eligible state scenic highways (Caltrans 2019).

CALIFORNIA STATE UNIVERSITY

Humboldt State University 2004 Master Plan

The *Humboldt State University 2004 Master Plan* is a strategy for modifying the Cal Poly Humboldt campus to accommodate growth and change over the 30- to 40-year planning horizon. Chapter 5, "Design Guidelines," of the *Humboldt State University 2004 Master Plan* includes campus design guidelines, which ensure that projects are designed and built to contribute to Cal Poly Humboldt's vision of the campus. The design guidelines govern height limits; setbacks; building area; and connection with campus open space, pedestrian pathways, and vehicle access roads for new buildings (Humboldt State University 2004).

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section in Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The Design Element of the *Arcata General Plan* outlines community-wide design features and criteria and addresses the protection of scenic and visual qualities of the City and the coastal zone (City of Arcata 2008). The following policies from the *Arcata General Plan* are relevant to visual resources:

- **Policy D-1a: Maintain small scale of building.** Buildings shall be designed to maintain the small-scale character of the community.
  1. This may be accomplished by breaking larger developments into several smaller buildings rather than constructing a single large, monolithic building.
  2. This shall be accomplished by avoiding large, unbroken expanses of wall and roof planes.
  3. This shall be accomplished by providing articulation in building mass, surfaces, rooflines, wall planes, and facades, and including architectural ornamentation.
- **Policy D-1c: Promote quality and diversity of design compatible with neighborhood context.** Site and building design shall be harmonious with the neighborhood context, including existing structures. Within new subdivisions, diversity in building appearance rather than repetitive designs is encouraged.
- **Policy D-1d: Preserve natural landforms and landscape features.** Site designs shall have the minimum disturbance necessary to natural conditions such as existing contours and vegetation, and shall preserve, to the maximum extent practicable, any unusual natural features.
- **Policy D-1f: Create buffers between incompatible land uses.** At boundaries between different land-use designations, and where different and incompatible land-uses are adjacent, buffer areas shall be incorporated into site design for new development. Buffers may consist of additional setbacks, landscaping, and visual and noise barriers such as fences or walls.
- **Policy D-3c: Design policy for projects affecting scenic highways.** The following standards shall apply to any development which affects scenic highways:
  1. Billboards or other off-premises signs are prohibited.
  2. Landscape planting along State Route 101 shall not interrupt scenic views to the bay or eastward across agricultural lands.
  3. New development or redevelopment in the industrial area of South "G" Street shall provide dense landscape screens along all perimeter lot lines visible from State Route 101.
  4. The City shall work jointly with the County of Humboldt, Caltrans, and the Coastal Commission to enhance scenic views along scenic highways, particularly State Route 101 and 255 corridors.
- **Policy D-3g: Wooded hillsides.** Views of wooded hillsides forming the City's eastern edge from vantage points along public streets west of the State Route 101 should not be blocked by development.
- **Policy D-6c: Design of institutional development.** Since institutional uses—such as churches, schools, government facilities, and others—are frequently located within residential areas, their design shall be reviewed for compatibility with the adjacent residential neighborhood. In addition, the City requests that HSU, school districts, and other institutional entities adhere to the following criteria, which shall apply to design of any facilities within Arcata:
  1. Long, uninterrupted expanses of wall and roof planes should be avoided and architectural features which add interest and variation, such as porches, cupolas, towers, arbors or pergolas, etc., should be incorporated.
  2. Appropriate buffers and screening should be provided between institutional uses and adjacent residential uses, including increased setbacks, fencing, and landscaping.

3. The massing of buildings and the visual organization of facades, including the proportion of window and door openings to total wall surface, exterior materials and colors, and architectural detailing and ornamentation, should be designed to harmonize with any adjacent residential uses.
4. Appropriate setbacks and landscaped buffers should be provided to minimize noise and visual impacts.

Arcata Land Use Code

Section 9.30, "Standards for All Development and Land Uses," of the Arcata Land Use Code expands on the City's zoning district development standards by addressing additional details of site planning, project design, and the operation of land uses. The intent of these standards is to ensure that proposed development is compatible with existing and future development on neighboring properties, and produces an environment of stable and desirable character, consistent with the *Arcata General Plan* and any applicable specific plan. Section 9.30.030 governs fences, walls, and screening, including height limits, fencing and screening requirements, and prohibited materials. Generally, fencing is limited to 6 feet in height within the City, including the project site, and the use of barbed wire, razor wire, or other sharp materials (e.g., nails, broken glass, etc.) is not permitted. Fencing may consist of plant materials and a solid wall of masonry, wood, or similar durable material.

Section 9.30.040 governs height limits for structures and establishes a height limit of 45 feet for industrially zoned properties like the project site for projects within the City's purview. Section 9.30.070 includes standards for outdoor lighting, including maximum height, energy-efficiency, shielding, and illumination level requirements. Generally, light standards are limited to 14 feet or less in height and are required to use energy-efficient fixtures that are shielded or otherwise recessed to prevent spillover of lighting onto adjacent properties. Illumination levels are not permitted to exceed one foot-candle on any property within a residential zoning district except within the subject property itself. Section 9.30.090 governs setback requirements for structures and requires a minimum 20-foot setback of structures on industrially-zoned properties, like the project site, from residential property lines.

3.1.2 Environmental Setting

METHODOLOGY AND TERMINOLOGY

The methodology for describing the environmental setting related to aesthetics was adapted from the Federal Highway Administration's (FHWA's) *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015). Although FHWA's guidelines were developed for assessing visual impacts associated with transportation projects, these guidelines are easily transferred to other types of projects that could alter existing landscapes.

Identifying the project area's visual resources, character, and quality involves the following process:

- objectively identifying visual features and resources of the landscape,
- assessing the character and quality of the resources relative to overall regional visual character, and
- determining importance to people (or sensitivity) of views of visual resources in the landscape.

Visual character is described through the elements of form, line, color, and texture of the landscape features. The appearance of a landscape can be described in terms of the dominance of each of these components.

Visual quality is assessed through determining the degree of vividness, unity, and intactness of the view:

- **Vividness:** the visual power or memorability of landscape components as they combine in striking or distinctive visual patterns.
- **Unity:** the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.
- **Intactness:** the visual integrity of the natural and human-built landscape and its freedom from encroaching, incongruous elements; this factor can be present in well-kept urban and rural landscapes, as well as in natural settings.

Viewer sensitivity is also considered in assessing the impacts of visual change and is a function of several factors. The sensitivity of the viewer or viewer concern is based on the visibility of resources in the landscape, proximity of the viewers to the visual resource, elevation of the viewers relative to the visual resource, frequency and duration of views, numbers of viewers, and types and expectations of individuals and viewer groups.

The visual quality of an area can provide a good indication of how responsive an area's most sensitive viewers would likely be to changes in the visual environment. For example, viewers with high viewer sensitivity in areas that are categorized as having high visual quality would be expected to react more strongly to changes in the visual environment than they would in areas that have medium or low visual quality. Viewer sensitivity can help determine areas where a project might be expected to have its greatest impacts on visual resources.

REGIONAL SETTING

The aesthetic character of the Humboldt Bay area is predominantly defined by its natural features and surroundings, including forested mountains to the north, south, and east; forested coastal dunes; the Samoa Peninsula; and the Pacific Ocean coastline to the west. Situated at the north end of Humboldt Bay, the City of Arcata sits on a coastal terrace and is bordered by the Mad River corridor to the north, Arcata Bay to the south, the Pacific Ocean to the west, and Fickle Hill Ridge to the east. The City's surrounding natural scenery includes coastal, riparian, mountain, forest, flat bottomland, and bayfront landscapes. These features form distinctive natural edges and vistas and are some of the City's most important visual resources.

The City includes a combination of natural or wilderness, rural, and urban/suburban aesthetic settings. Prominent natural visual features within the City's planning area include Arcata Bay, the Arcata Community Forest, and the Lanphere Dunes Preserve. The City also has urban/suburban visual resources that include human-constructed features (e.g., architecture and street layout) and open areas. The City's urban/suburban visual resources are characterized both by diversity and harmony in terms of shape, size, color, and style. Distinct urban/suburban viewsheds include the City's central plaza commercial area, Northtown commercial area, the Cal Poly Humboldt campus along the eastern wooded hillside, and a number of city parks that provide open space. Schoolyards and playgrounds, cemeteries, residential yards, setback areas, and undeveloped lots also provide open space viewsheds within urban/suburban areas. The City's viewsheds also include industrial and commercial areas, such as the businesses along Samoa Boulevard west of US 101 and businesses along US 101 and US 299, Giuntoli Lane, and West End Road in the northern part of town.

VISUAL CHARACTER OF THE PROJECT SITE AND SURROUNDINGS

The project site is a component within a larger landscape that also encompasses single-family residential and industrial land uses, the US 101 corridor, and silhouetted stands of trees. The project site is located on an elevated terrace, approximately 15-20 feet above the level of existing residential development to the west and possesses industrial and residential characteristics associated with the Craftsman's Mall, which includes two wood-framed warehouses remaining from the former mill that operated on the site (Arcata Manufacturing Company), three single-family residences, and several smaller structures used for storage. The project site is also used for the storage of vehicles, storage containers, mobile homes, and construction and scrap materials. The majority of the project site is not paved but is surfaced with compacted gravel, although some paved areas are provided adjacent to buildings and near St. Louis Road. The western portion of the project site is approximately 15-20 feet lower in elevation than the majority of the project site and consists of open space containing grasslands and riparian vegetation. Janes Creek and the riparian corridor lining it mark the northwestern boundary of the project site.

The project vicinity has a low-density urban/suburban and forested character, given the presence of scattered low-rise development and dense stands of trees surrounding a four-lane highway corridor. Land uses surrounding the project site include single-family residential development to the north, west, and south; industrial uses to the north; and US 101 to the east. As noted above, the Janes Creek Meadows riparian/open space area borders the project site to the northwest and includes a section of Janes Creek and one of its tributaries. Arcata Elementary School occurs to the southwest of the site. The Northwestern Pacific Railroad tracks are located to the east of the site, parallel to St. Louis Road.

Public Views: Representative Viewpoints

Four vantagepoints in proximity to the project site were chosen to represent views from which the project site is most visible to the public and most appropriate for the analysis of impacts. There are no designated public viewpoints or trails with views of the project site in proximity to the project site. The Janes Creek Meadows Park provides open space and a gravel trail along the north side of Janes Creek adjacent to the project site; however, views of the project site from this trail are precluded by existing vegetation. The planned Annie & Mary Rail Trail will be located adjacent to the eastern boundary of the project site along US 101, which is also an eligible scenic highway. As the planned trail has yet to be constructed and the current rail alignment is overgrown with vegetation, views from Viewpoints 3 and 4 (as described below) are considered representative of the future trail. The visual character and quality of the views from the four viewpoints are described in the following sections. Figure 3.1-1 shows the locations from which the photographs were taken and the viewpoints referenced in this analysis.

Viewpoint 1 (Hilfiker Drive, Looking Southeast)

Viewpoint 1 is from Hilfiker Drive, between Baldwin Street and Maple Lane, looking southeast toward the project site (Figure 3.1-1). The existing view from Viewpoint 1 is shown in Figure 3.1-2a. The visual character from Viewpoint 1 is that of a residential neighborhood against a wooded hillside in the background. The foreground from this viewpoint is dominated by single-story residences with lawns and ornamental trees and shrubs; Hilfiker Drive and Maple Lane, sidewalks, and utility poles and overhead lines. The dominant hues are muted, including roadway asphalt; the neutral colors of several of the residential buildings; and vegetation.

Views of the Craftsman's Mall in the midground are largely obstructed by intervening residences, vegetation, and topography. However, the primary Craftsman's Mall warehouse building, which sits at an elevation approximately 30 feet higher than the elevation at Viewpoint 1, is visible to the southeast. There are distant views of trees along the US 101 corridor and of the wooded hillside to the east of US 101, which sit at a higher elevation than the elevation at Viewpoint 1.

Vividness (i.e., the degree to which views might be considered distinctive or memorable) from this viewpoint is moderate because, while the trees in the background create a pleasant and memorable backdrop, the view is partially obstructed by intervening residential and industrial development. Intactness (i.e., the visual integrity of the landscape and absence of encroachment by incongruous elements) is moderately low because of the intervening development. Unity (i.e., the visual coherence of the landscape) is moderately high because the residential and industrial development are relatively small-scale, low density, and do not occupy a large part of the field of view from this vantage point. Overall, the visual quality at Viewpoint 1 is moderately affected.

Viewpoint 2 (St. Louis Road, Looking Southwest)

Viewpoint 2 is located on St. Louis Road, west of the US 101 overpass, looking south toward the project site (Figure 3.1-1). The existing view from Viewpoint 2 is shown in Figure 3.1-2a. The visual character from Viewpoint 2 is that of small-scale commercial/industrial lumber mill operations against a forested background that still dominates views. The foreground and midground from this viewpoint include offices, lumber processing and storage areas, on the Mad River Lumber Company property and utility poles and lines along St. Louis Road. The Craftsman's Mall is also in the midground, which includes buildings and outdoor spaces for storage and one-story single-family residences. Views of the Craftsman's Mall are partially obstructed by large trees. The future Annie & Mary Rail Trail will follow the St. Louis Road alignment along the eastern boundary of the project site and may be visible in the background from Viewpoint 2. There are distant views of trees along the US 101 corridor and a wooded hillside east of US 101.

Source: Image from Google Earth in 2019; adapted by Ascent Environmental in 2022.

Figure 3.1-1 Representative Viewpoints

Source: Image by Google in 2012; adapted by Ascent Environmental in 2022.

Viewpoint 1 (Hilfiker Drive, Looking Southeast)

Source: Image by Google in 2012; adapted by Ascent Environmental in 2022.

Viewpoint 2 (St. Louis Road, Looking Southwest)

Figure 3.1-2a Representative Viewpoints

The dominant hues are muted, including the asphalt roadway; the neutral brown, gray, and beige colors of the buildings and structures; and vegetation. Views of the existing project site are partially obstructed by intervening buildings and structures and vegetation.

Vividness (i.e., the degree to which views might be considered distinctive or memorable) is moderately low because the trees in the background create a pleasant and memorable pattern, but the view is dominated by intervening residential and industrial development. Intactness (i.e., the visual integrity of the landscape and absence of encroachment by incongruous elements) is moderately low because views of the wooded hillside in the distance are limited due to the human-built elements associated with on-site commercial and industrial operations within the otherwise natural view. Unity (i.e., the visual coherence of the landscape) is also moderately low because the visual elements of the intervening development, such as stored lumber, cars, residential buildings, and other structures, are not uniform in style and design and do not contribute to compositional harmony within the viewpoint. Overall, the visual quality at Viewpoint 2 is moderately low.

Viewpoint 3 (Southbound US 101, Looking Southwest)

Viewpoint 3 is located on southbound US 101, just south of the St. Louis Road overpass, looking southwest toward the project site (Figure 3.1-1). The existing view from Viewpoint 3 is shown in Figure 3.1-2b. The view is of a transportation corridor within a forested setting; the visual character is semi-rural, with scattered low-density residential and industrial development on either side of the highway in a rural setting. From this viewpoint, the foreground, midground, and background include the asphalt pavement associated with US 101 and vegetation within and adjacent to Caltrans right-of-way, including ruderal grasses and ornamental shrubs and mature trees. The viewpoint primarily consists of the highway pavement and markings, median strip fencing, utility lines and poles, fence posts, and tree lines The dominant hues are muted, including the asphalt roadway and vegetation. Views of the project site are largely obstructed by intervening topography and vegetation. Further, development of the Annie & Mary Rail Trail in 2024 will be visible from Viewpoint 3. Views from the Annie & Mary Rail Trail will also be analogous to Viewpoint 3 for pedestrians and cyclists proceeding in a southerly direction along the trail.

Vividness (i.e., the degree to which views might be considered distinctive or memorable) and intactness (i.e., the visual integrity of the landscape and absence of encroachment by incongruous elements) are moderate because the trees along the highway create a pleasant and memorable pattern, but the view is dominated by US 101. Unity (i.e., the visual coherence of the landscape) is moderately high because, although the roadway is an encroaching element, its lines are in harmony with the natural lines of the landscape. Overall, the visual quality at Viewpoint 3 is moderately high.

Viewpoint 4 (Northbound US 101, Looking Northwest)

Viewpoint 4 is on northbound US 101, just north of the Sunset Avenue on-ramp, looking northwest toward the project site (Figure 3.1-1). The existing view from Viewpoint 3 is shown in Figure 3.1-2b. The visual character from Viewpoint 4 is that of a transportation corridor within a forested setting. From this viewpoint, the foreground, midground, and background include the asphalt pavement associated with US 101 and vegetation within and adjacent to Caltrans right-of-way, including ruderal grasses, shrubs, and mature trees. Views of structures are obscured by vegetation. The view consists primarily of highway pavement and markings, median strip fencing, sign and fence posts, and tree lines. The dominant hues are muted, including the asphalt roadway and vegetation. Views of the project site are largely obstructed by intervening topography and vegetation. Further, development of the Annie & Mary Rail Trail in 2024 will be visible from Viewpoint 4. Views from the Annie & Mary Rail Trail will also be analogous to Viewpoint 4 for pedestrians and cyclists proceeding in a northerly direction along the trail.

Vividness (i.e., the degree to which views might be considered distinctive or memorable) and intactness (i.e., the visual integrity of the landscape and absence of encroachment by incongruous elements) are moderate because the trees along the highway create a pleasant and memorable pattern, but the view is dominated by US 101. Unity (i.e., the visual coherence of the landscape) is moderately high because, although the roadway is an encroaching element, the highway alignment follows the natural topography. Overall, the visual quality at Viewpoint 4 is moderately high.

Source: Image by Google in 2020; adapted by Ascent Environmental in 2022.

Viewpoint 3 (Southbound US 101, Looking Southwest)

Source: Image by Google in 2021; adapted by Ascent Environmental in 2022.

Viewpoint 4 (Northbound US 101, Looking Northwest)

Figure 3.1-2b Representative Viewpoints

SCENIC RESOURCES

Scenic Byways and Highways

According to the California Scenic Highway Mapping System, there are no officially designated State scenic highways in the project vicinity; however, there are two eligible state scenic highways in the vicinity of the project site. US 101, from Route 1 near the community of Leggett to Route 199 near Crescent City, is an eligible State scenic highway located adjacent to the project site (Caltrans 2019). The project site is within the viewshed of this eligible State scenic highway.

US Highway 299, from US 101 near the City of Arcata to US Highway 96 near the community of Willow Creek, is an eligible State scenic highway located 0.8 mile northeast of the project site (Caltrans 2019). This portion of Highway 299 is also called the Trinity Scenic Byway and was designated as a National Forest Scenic Byway by the US Forest Service in 1991. Due to the distance and intervening development and topography, the project site is not within the viewshed of this eligible State scenic highway.

Locally Designated Scenic Resources

As noted above, Cal Poly Humboldt, as a statutorily and legislatively created, constitutionally authorized State entity, is not subject to local plans, regulations, or designations. However, the following information regarding locally designated scenic resources is provided because it indicates the general aesthetic conditions of the area surrounding the project site.

The Design Element of the *Arcata General Plan* identifies scenic routes within the City. The US 101 corridor from the southern City boundary to the Mad River is designated as a coastal scenic highway in the *Arcata General Plan* (Policy D-3a). Additionally, L.K. Wood Boulevard from the St. Louis Road overcrossing to 14th Street is designated as a noncoastal scenic highway in the *Arcata General Plan* (Policy D-3b). The project site is within the viewshed of these locally designated scenic routes. Additionally, the Design Element of the *Arcata General Plan* encourages the preservation of hedgerows along US 101 in proximity to the project site. The project site offers views of hedgerows surrounding the US 101 corridor and the wooded hillside east of US 101.

The *Arcata General Plan* identifies the following scenic resources and landscape features for protection because they are important aesthetic components of the built environment and visual and associative links to nature (City of Arcata 2008):

- open waters, shoreline, and tidal marshes of Arcata Bay;
- views of Arcata Bay and the Pacific Ocean from vantage points along public streets in hillside areas of the city;
- views of wooded hillsides forming the City's eastern edge from vantage points along public streets west of US 101;
- views of farmlands and open countryside in the Arcata Bottom, which is an expanse of flat pastures starting approximately 1 mile west of the project site;
- windrows, hedgerows, and groves of trees at various locations in the City, including along the US 101 corridor; and
- streamside riparian areas.

LIGHT AND GLARE CONDITIONS

The project site is currently developed with the Craftsman's Mall and three single-family residential properties. The project site contains outdoor security lighting fixtures in several locations, which are visible from off-site locations (primarily from the residential neighborhood to the west) at night. The northwestern portion of the project site is undeveloped and does not contain light sources. Light sources in the vicinity of the project site include lights from vehicles on US 101 and from adjacent residential and industrial uses (e.g., lights from residences to the north, west, and south, or from Mad River Lumber to the north); however, these light sources are not strong enough to illuminate the project site. The project site does not contain any structures that generate noticeable sources of glare. The amount of glare experienced in the surrounding vicinity is typical for a residential and industrial setting.

VIEWER GROUPS AND SENSITIVITY

Viewer groups include (1) motorists, such as those who are commuting, touring, or transporting goods on roadways, and (2) neighbors, such as those occupying residential, commercial, and industrial land uses. Viewer sensitivity is affected by proximity (i.e., the distance from the viewer to the scene), extent (i.e., number of viewers observing the scene), and duration (i.e., how long viewers spend looking at the scene). The viewer groups and their sensitivity to visual changes in the environment are summarized as follows:

- Motorists: Motorists are those traveling on US 101. Because motorists would be passing the project site at relatively fast speeds, the duration and frequency of exposure to the project site for this viewer group would be low. However, this segment of US 101 is an eligible State scenic highway and a locally designated scenic highway. Therefore, motorists may be more perceptive to changes in the visual environment along this segment of highway. Therefore, the overall visual sensitivity of motorists would be moderate.
- Residents: The nearest residential neighbors are located to the south and west of the project site. The overall visual sensitivity of these residential viewers is high because of the close proximity, high number of viewers, and extended duration of time spent looking at views of the project site.
- Recreationists: Parks and recreational areas that have views of the project site include Cahill Park, Larson Park, and Janes Creek Meadows Park. The overall visual sensitivity for this viewer group is high because one of the reasons why recreationists visit these locations is to enjoy the scenery and visual quality.
- Workers and Customers: The nearest commercial business, Mad River Lumber Company, is located north of the project site. The overall visual sensitivity of workers and customers is low because workers and customers are focused on other activities and are in the locations for purposes other than enjoying the scenery or visual quality.

3.1.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The methodology for evaluating impacts related to aesthetics was adapted from FHWA's *Guidelines for the Visual Impact Assessment of Highway Projects* (2015). Visual impacts are evaluated based on the changes to the environment (measured by the compatibility of the impact) or to viewers (measured by sensitivity to the impacts). Together, the compatibility of the impact and the sensitivity of the impact yield the degree of the impact to visual quality:

- Compatibility of the Impact: Defined as the ability of the environment to absorb the project as a result of the project and the environment having compatible visual characters. The project can be considered compatible or incompatible.
- Sensitivity to the Impact: Defined by the ability of viewers to see and care about a project's impacts. The sensitivity to impact is based on viewer sensitivity to changes in the visual character of visual resources. Viewers are either sensitive or insensitive to impacts.
- Degree of the Impact: Defined as either a beneficial, adverse, or neutral change to visual quality. A project may benefit visual quality by either enhancing visual resources or creating better views of those resources and improving the experience of visual quality by viewers. Similarly, it may adversely affect visual quality by degrading visual resources or obstructing or altering desired views.

Lighting effects are typically associated with the use of artificial light during the evening and nighttime hours. There are two primary sources of light: light emanating from building interiors passing through windows and light from exterior sources (i.e., street lighting, building illumination, security lighting, parking lot lighting, and landscape lighting). The introduction of lighting can be a nuisance to adjacent residential areas, can limit the view of the clear night sky and, if uncontrolled, can cause disturbances. Residential land uses are considered light sensitive because occupants have expectations of privacy during nighttime hours and may be subject to disturbance by bright light sources. Spillover lighting is defined as the presence of unwanted light on properties adjacent to the property causing illumination. With respect to lighting, the degree of illumination may vary widely depending on the amount of light generated, height of the light source, presence of barriers or obstructions, type of light source, and weather conditions.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light on highly reflective surfaces, such as window glass, stainless steel, aluminum, and photovoltaic panels. Daytime glare generation is common in urban/suburban areas and is typically associated with buildings with exterior facades largely or entirely composed of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights. Glare generation is related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Mid- to high-rise buildings with large surface areas of reflective or mirrorlike materials are a common source of daytime glare, especially around sunrise and sunset. Glare-sensitive land uses include residences (primarily outdoor areas), hotels, transportation corridors, and aircraft landing corridors.

THRESHOLDS OF SIGNIFICANCE

An impact on aesthetics would be considered significant if implementation of the project would:

- have a substantial adverse effect on a scenic vista;
- damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;
- in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point) and in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

ISSUES NOT DISCUSSED FURTHER

All issues applicable to aesthetics listed in the significance thresholds above are addressed in this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Result in a Substantial Adverse Effect on a Scenic Vista

The project would involve development of the site with a seven-story student housing complex, consisting of two separate buildings. Construction and operation of the project would intensify development on the project site and partially obstruct distant views of hills and forestlands, notably from south and west of the project site. Therefore, the project would result in a substantial adverse effect on scenic vistas. This impact would be **significant.**

Due to the surrounding topography and intervening development and vegetation, the project site is not visible from most areas of scenic importance to the City, such as from the public vantagepoints of Arcata Bay, the Pacific Ocean, the Arcata Bottom, and riparian areas. However, the project site is generally visible from the south and west, including from two locally designated scenic roadways, US 101 and L.K. Wood Boulevard. In the vicinity of the project site, these roadways offer views of wooded hillsides to the east. The potential for the project to result in a substantial adverse effect on a scenic vista during construction and operation is discussed in the following sections.

Construction

Construction activities would occur on the project site for a period of approximately 18-24 months. During this time, construction activities could be visible to travelers on US 101 and L.K. Wood Boulevard. Before construction activities begin on any project component, temporary fencing would be installed around the construction area. During the construction period, various types of construction equipment (e.g., backhoes, forklifts, graders, and pavers) would be present on-site. The initial phases of project construction would include site grading and excavation, utility trenching, and building foundation pouring. These initial construction phases would not be perceptible to travelers because these activities would occur at ground level and would be obscured by fencing and existing vegetation. Additionally, these activities would not result in a noticeable change to the existing setting because the project site is currently being used for light industrial operations and contractor storage.

However, construction activities would become more perceptible as the construction period advances. During the building construction phase, construction activities would occur above ground level and impede some long-distance views. Taller construction equipment (e.g., tower cranes, boom and scissor lifts, and construction elevators) would be needed to construct the upper stories of the buildings. Site fencing and existing vegetation would not be tall enough to screen views of construction equipment and activities or prevent their impedance of long-distance views. Therefore, project construction would alter the natural forested condition of long-distance views in the area, including views along US 101 and L.K. Wood Boulevard. This would constitute a substantial adverse effect on scenic vistas from US 101 (Viewpoints 3 and 4) and from L.K. Wood Boulevard, located parallel to the eastern border of US 101. This would be a significant impact.

Operation

The project would introduce a new student housing complex (i.e., seven-story apartment-style buildings) to the project site. The proposed buildings would generally increase in height as it trends west to east, up to approximately 75 feet in height along the project site's eastern boundary. Existing landscaping and trees along the periphery of the project site would be maintained/enhanced to provide screening of the proposed development from off-site viewpoints, including US 101 and L.K. Wood Boulevard. However, the landscaping and trees would not be able to provide full screening of the project given the proposed height of the proposed buildings. The project would be a prominent feature within the local landscape due to its massing and height and would represent a substantial adverse change from the current natural condition of long-distance views of and through the area. Therefore, the project would result in a substantial adverse effect on a scenic vista. This would be a significant impact.

Summary

The project would introduce a seven-story student housing complex to the project site, which would alter long-distance views in the project area during both construction and operation of the project. The project would also represent a change from a more natural, forested condition to a more urbanized (i.e., densely developed) quality of the project site. Therefore, the project would result in a substantial adverse effect on scenic vistas located along US 101 and L.K. Wood Boulevard. This would be a **significant impact.**

Mitigation Measures

As described above, existing landscaping and trees along the periphery of the project site would be maintained/enhanced to provide screening of the proposed development. However, the proposed buildings would still be a prominent feature within the local viewsheds, including along US 101 and L.K. Wood Boulevard, due to its massing and height. The scale of the proposed on-site buildings is needed to achieve the project goal and objective of meeting on-campus housing needs, and as a result, no feasible mitigation is available to fully screen the buildings, maintain existing views, or preserve the natural feeling of the existing landscape and long-distance views in the area.

Significance after Mitigation

As described above, no feasible mitigation is available to reduce project impacts on scenic vistas. Therefore, this impact would be **significant and unavoidable.**

Impact 3.1-2: Damage Scenic Resources within a State Scenic Highway

The project site is adjacent to a segment of US 101, which is listed as an eligible State scenic highway and is notable for scenic views of forested landscapes. The project would not damage scenic resources, such as trees, rock outcroppings, or historic buildings, within a State scenic highway and would not affect the eligibility of US 101 for official designation as a State scenic highway. Although views of the project site would be fleeting, the project would introduce urban/suburban, human-made elements that would alter the current condition of the project site, which is considered part of the scenic highway corridor. This impact would be **significant.**

As described in Section 3.1.2, "Environmental Setting," the project site is visible from US 101, which is an eligible State scenic highway. A highway may be designated as scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. Although US 101 is not officially designated as scenic, it is considered a State scenic highway for the purposes of this analysis.

Construction

Construction activities at the project site would be primarily limited to the privately owned parcels that encompass the project site. The project would not require improvements within Caltrans right-of-way, including removal of any mature trees from the existing hedgerow. Therefore, project construction would not damage scenic resources within a State scenic highway and would not affect the eligibility of US 101 for official designation as a State scenic highway. However, as described under Impact 3.1-1, construction activities would change the natural condition of the forest landscape as viewed from US 101. As a result, this would be a significant impact.

Operation

Following construction, views of the project would be partially visible from US 101 through landscaping and intervening trees. Existing landscaping and trees along the periphery of the site would be maintained or enhanced as part of the project (as well as additional landscaping that may be provided as part of the Annie & Mary Rail Trail) and would provide additional screening of the proposed development from off-site viewpoints, including US 101. The project would not introduce elements within Caltrans right-of-way, including through removal of trees, rock outcroppings, or historic buildings. Therefore, the project would not damage scenic resources within a State scenic highway and would not affect the eligibility of US 101 for official designation as a State scenic highway. However, as described under Impact 3.1-1, the project would introduce human-made elements that would urbanize and alter the natural condition of the existing landscape and would introduce a greater degree of contrast with surrounding low-rise, low-density development and forested background. Additionally, the proposed developed site would occupy a larger proportion of the field of view from US 101 than existing development. These elements would intensify development on the site and change it from vacant/lightly developed to more densely developed (e.g., buildings, hardscape, and landscaping). This would be a significant impact.

Summary

The project would not damage scenic resources, such as trees, rock outcroppings, or historic buildings, within a State scenic highway and would not affect the eligibility of US 101 for official designation as a State scenic highway. However, the project would intensify development on the project site and replace the existing temporary buildings, which would alter the project site. Although views of the project site are fleeting from US 101, the project would be visible and would alter the nature of existing views of the otherwise rural setting. This would be a **significant impact.**

Mitigation Measures

As described above, existing landscaping and trees along the periphery of the project site would be maintained/enhanced to provide screening of the proposed development. However, the proposed on-site buildings would still be a prominent feature within the viewshed of US 101 due to its massing and height. The scale of the buildings is needed to achieve the project goal and objective of meeting student housing needs proximate to campus. No feasible mitigation is available to fully screen the project, maintain existing views, or preserve the forested condition of the existing landscape.

Significance after Mitigation

As described above, no feasible mitigation is available to reduce project impacts on State scenic highways. Therefore, this impact would be **significant and unavoidable.**

Impact 3.1-3: Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and Its Surroundings

Project implementation would introduce new human-made elements that would be prominent within viewsheds of the project site due to the massing and height of the proposed buildings. The project would alter the existing low-density urban/suburban and forested character of the landscape to one that is more densely developed. Additionally, the proposed on-site buildings would impede views of the wooded hillside from publicly available viewpoints and open space, especially to the south and west of the project site. Therefore, the impact would be **significant**.

Construction

As described under Impact 3.1-1 above, construction activities would occur on the project site for a period of approximately 18 months. Before construction activities begin on any project component, temporary fencing would be installed around the construction area. During the construction period, various types of construction equipment (e.g., backhoes, forklifts, graders, and pavers) would be present on-site. The initial phases of project construction would include site grading and excavation, utility trenching, and building foundation pouring. These initial construction phases would not be noticeable from the representative viewpoints because these activities would occur at ground level and would be obscured by fencing and existing vegetation. Additionally, these activities would not result in a noticeable change to the existing setting because the project site is currently being used for light industrial operations and contractor storage.

However, construction activities would become more perceptible from the representative viewpoints shown in Figure 3.1-1 as the construction period advances. During the building construction phase, construction activities would occur above ground level. Taller construction equipment (e.g., tower cranes, boom and scissor lifts, and construction elevators) would be needed to construct the upper stories of the proposed buildings. The temporary fencing and existing vegetation would not be tall enough to screen views of construction equipment and activities from nearby viewpoints. Therefore, project construction, although short-term, would change the visual character and quality of views from each of the representative viewpoints compared to the existing conditions. This would be a significant impact.

Operation

The following discussion focuses on potential long-term changes in visual character from the four viewpoints identified above.

Viewpoint 1 (Hilfiker Drive, Looking Southeast)

Upon completion of construction, the project site would include a multistory student housing complex that would generally increase in height and massing as the building trends from west to east. The sixth and seventh floors would be located near the eastern edge of the project site, away from the existing residential neighborhoods located to the west and south of the project site. The proposed design, which would place the highest part of the buildings toward the northeast corner of the project site, is intended to reduce the perceived scale of the project, as viewed from existing development to the west (e.g., from Viewpoint 1). Figure 3.1-3 provides a rendering of the project from Viewpoint 1 (west of the project site). As shown in the image below, the project would introduce two new buildings that would be greater in mass and scale than nearby development. As a result, views of the buildings would be prominent from this viewpoint.

Source: Figure by SCB in 2022; adapted by Ascent Environmental in 2022.

Figure 3.1-3 Visual Simulation of Project As Seen from Viewpoint 1 (Hilfiker Drive, Looking Southeast)

As noted in Chapter 2, "Project Description," existing landscaping and trees along the periphery of the project site would be maintained/enhanced to provide screening of the proposed development from off-site viewpoints, including the existing residential neighborhoods to the south and west. As part of the project, Cal Poly Humboldt would maintain on-site vegetation (especially trees along the site periphery) to the extent feasible. However, some tree removal may be necessary to allow for site preparation and construction. Consistent with Cal Poly Humboldt's practice at the main campus, any tree that is removed would be replaced at a minimum 1:1 ratio by planting trees elsewhere on the project site. However, the landscaping and trees would not be able to provide full screening of the project given the height of the proposed on-site buildings.

As shown in Figure 3.1-3, the project would block views of the wooded hillside in the background. The project would create a more densely developed character within Viewpoint 1, which would contrast with the existing low-density development and forested character of the existing landscape. Vividness and intactness from Viewpoint 1 would be reduced from moderate and moderately low to low because the buildings would obstruct scenic views of the wooded hillside in the background. Unity would be reduced from moderately high to moderately low because the new buildings would be substantially taller and would have a different massing and architectural style than the existing one-story residential homes in the foreground. Therefore, the new buildings would alter the general character of this viewpoint. Overall, the visual quality at Viewpoint 1 would be reduced from moderate to low. Furthermore, residential viewers are the primary viewer group from this viewpoint. This viewer group has a high viewer sensitivity to changes in visual character and quality because of the close proximity, high number of viewers, and extended duration of time spent looking at views of the project site. Because of the high viewer sensitivity and high degree of change in visual character and quality of the project site from Viewpoint 1, the impact from this viewpoint would be significant.

Viewpoint 2 (St. Louis Road, Looking Southwest)

As discussed under Viewpoint 1 above, the project would introduce two new buildings that would be up to seven floors in height (approximately 75 feet). The highest part of the buildings would be located in the northeast corner of the project site, which would be partially screened by existing vegetation but still perceptible from this viewpoint.

Although landscaping would be maintained/enhanced around the periphery of the project site, the buildings would be prominent from this viewpoint due to its massing and height.

From Viewpoint 2, the new buildings would not block views of the wooded hillside to the extent it would from Viewpoint 1. The new buildings would contribute to a more densely developed character from Viewpoint 2, which would contrast with the existing low-density residential and industrial character of the landscape. The project would introduce more elements to an area that is already developed with residential and industrial land uses. Therefore, vividness and intactness would be reduced from moderately low to low. Unity would also be reduced from moderately low to low because the new buildings would be substantially taller and would have a different massing and architectural style than the existing residential and industrial land uses. However, the buildings and landscaping would have a more pleasing design and greater compositional harmony than the existing warehouse buildings and storage areas at the Craftsman's Mall. The proposed Annie & Mary Rail Trail follows the St. Louis Road alignment along the eastern periphery of the project site and would provide limited views from Viewpoint 2. Overall, the visual quality at Viewpoint 2 would be reduced from moderately low to low. Viewer groups from this viewpoint are primarily limited to motorists, workers, and retail clientele, who have a low to moderate viewer sensitivity to changes in the visual environment. Because of the low to moderate viewer sensitivity and small degree of change in visual character and quality of the project site from Viewpoint 2, the impact would be less than significant.

Viewpoint 3 (Southbound US 101, Looking Southwest)

As discussed under Viewpoint 1 above, the project would introduce two new buildings that would be up to seven floors in height (approximately 75 feet). The highest part of the buildings would be located in the northeast corner of the project site, which would be partially screened by existing vegetation and topography but would still be perceptible from this viewpoint. Although landscaping would be maintained/enhanced around the periphery of the project site, the buildings would be prominent from this viewpoint due to its massing and height. Further, the proposed development of the Annie & Mary Rail Trail, located adjacent to the eastern boundary of the project site, would be visible from Viewpoint 3.

From Viewpoint 3, the new buildings would not block views of existing features (e.g., hillsides) to the west. No human-made structures are currently visible from the transportation corridor; therefore, the new buildings would be a prominent change compared to the existing conditions in this viewpoint. The new buildings would contrast with the existing rural forested character of the landscape and introduce more urban/suburban elements. Vividness would be reduced to moderately low because the new buildings would contrast with the rural forested character of the existing view. Intactness would be reduced to moderately low because the new buildings would dominate views from this vantage. Unity would be reduced to moderately low because the new buildings would be an new element that is substantially taller than other vertical features in the landscape. Overall, the visual quality at Viewpoint 3 would be reduced from moderately high to moderately low. Viewer groups from this viewpoint are primarily limited to motorists, who have a moderate viewer sensitivity to changes in the visual environment. Because of the moderate viewer sensitivity and moderate degree of change in visual character and quality of the project site from Viewpoint 3, the impact would be significant.

Viewpoint 4 (Northbound US 101, Looking Northwest)

As discussed under Viewpoint 1 above, the project would introduce two new buildings that would be up to seven floors in height (approximately 75 feet). The highest part of the buildings would be located in the northeast corner of the project site, which would be partially screened by existing vegetation and less perceptible from this viewpoint. Although landscaping would be maintained/enhanced around the periphery of the project site, the proposed buildings would be prominent from this viewpoint due to its massing and height. Further, the proposed development of the Annie & Mary Rail Trail, located adjacent to the eastern boundary of the project site, would be visible from Viewpoint 4, similarly to Viewpoint 3.

From Viewpoint 4, the new buildings would not block views of the wooded hillside to the west. Human-made buildings and structures are barely visible from the transportation corridor due to intervening vegetation; therefore, the new buildings would be a new prominent element in this viewpoint. The new buildings would contrast with the existing rural forested character of the landscape. Vividness would be reduced to moderately low because the new buildings would detract from the rural forested character of the existing views. Intactness would be reduced to moderately low because the new buildings would dominate the view. Unity would be reduced to moderately low because the new buildings would be substantially taller than other vertical features in the landscape. Overall, the visual quality at Viewpoint 4 would be reduced from moderately high to moderately low. Viewer groups from this viewpoint are primarily limited to motorists, who have a moderate viewer sensitivity to changes in the visual environment. Because of the moderate viewer sensitivity and moderate degree of change in visual character and quality of the project site from Viewpoint 4, the impact would be significant.

Summary

The project would introduce two new buildings that would be prominent within viewsheds of the project site due to its proposed massing and height. The project would change the low-density urban/suburban and forested character of the landscape to one that is more densely developed. Additionally, the new buildings would alter the visual quality of the landscape because it would block views of the wooded hillside, would be substantially taller, and would have a different massing and architectural style than existing buildings within the landscape. Furthermore, the predominant viewer groups, such as motorists and residential neighbors, would have a moderate to high sensitivity to visual changes in the landscape, and thereby resulting in a significant adverse effect to views from Viewpoints 1 through 4. Therefore, the impact would be **significant**.

Mitigation Measures

As described in the sections above, the project would include design features to minimize visual impacts. The building and site design, including the massing, articulation, materials, and colors, would be consistent with the design guidelines in Cal Poly Humboldt’s 2004 Master Plan. Additionally, the proposed design would place the highest part of the buildings toward the northeast corner of the project site, which is intended to reduce the perceived scale of the project, as viewed from residences to the west and south. Furthermore, existing landscaping and trees along the periphery of the project site would be maintained/enhanced to provide screening of the proposed development from off-site viewpoints, including the existing residential neighborhoods to the south and west. Despite these design features, the buildings would still be prominent from each of the representative viewpoints due to its massing and height. The scale of the buildings is needed to achieve the project goal and objective of meeting on-campus housing needs. No feasible mitigation is available to fully screen the buildings, maintain existing views, or preserve the natural feeling of the existing landscape.

Significance after Mitigation

As described above, no feasible mitigation is available to reduce project impacts on the visual character and quality of public views of the site and its surroundings. Therefore, this impact would be **significant and unavoidable.**

Impact 3.1-4: Create a New Source of Substantial Light or Glare Which Would Adversely Affect Day or Nighttime Views in the Area

The project would not include new materials or surfaces that would create substantial new sources of glare. However, the project would introduce substantial new sources of nighttime lighting, including interior building lighting and exterior lighting needed for the safety and visibility of the project site. Project lighting would have spillover effects to adjacent residential land uses along the western and southern boundaries of the project site that are sensitive to nighttime lighting. This would be a **significant impact.**

Lighting

Construction

Construction activities would occur during the daytime between the hours of 8:00 a.m. and 7:00 p.m. on Monday through Friday, with the potential for weekend construction on Saturday between 9:00 a.m. and 7:00 p.m. Security lighting may be used on-site at nighttime to deter unauthorized access and promote site safety. Construction lighting would have potential for spillover effects to adjacent properties that could be sensitive to nighttime lighting, such as single-family residences to the west and south of the project site. Due to the size of the construction site, construction-related light sources would represent a substantial, albeit temporary, new source of lighting at the project site. This would be a **significant impact**.

Operation

The project would include new lighting within, on, and surrounding the proposed seven-story buildings. Due to the height of the buildings, interior lighting would be noticeable at night through building windows. Building lighting would comply with the most current California Building Energy Efficiency Standards (Title 24 of the CCR) at the time of construction, which require the use of light-emitting diode (LED) fixtures with lighting controls. Moreover, lighting fixtures will be shielded and deliberately located, and thereby reducing potential spillover light onto adjacent properties.

The project would also introduce new exterior lighting that would be visible at night from off-site vantages surrounding the project site, consisting of exterior building illumination, safety lighting along pedestrian and bicycle paths, and lighting throughout on-site parking areas. The project would include only the minimum amount of outdoor wayfinding and security lighting necessary to maintain safety and comfort. Additionally, existing landscaping and trees around the periphery of the project site would be maintained and enhanced through the provision of additional landscaping along the western and southern edges of development to provide screening and minimize spillover effects to adjacent properties.

Although the project would be designed to minimize spillover lighting to the extent feasible, exterior lighting (including direct illumination from parking vehicles) at the project site would still be visible from adjacent residential development. The proposed lighting would represent a substantial increase in existing lighting due to the height and massing of the proposed buildings, the amount of exterior lighting proposed, and the proximity to residential land uses (primarily to the west and south of the project site) that are sensitive to nighttime lighting. As a result, this would be a **significant impact**.

<u>Glare</u>

Construction

During construction, glare would be introduced to the project site as a result of increased vehicular presence at the site (e.g., from windshields of vehicles and construction equipment). These sources of glare would be limited to the ground level. Additionally, temporary fencing would be installed around the construction area, which would reduce the amount of glare that is reflected onto adjacent properties. Glare from project construction would be minor and would not adversely affect daytime views of the area. This impact would be **less than significant**.

Operation

Upon completion of construction, the project would include two seven-story buildings within the central portion of the project site that would conform to the design guidelines in Cal Poly Humboldt’s 2004 Master Plan. The proposed buildings would include the use of textured, nonreflective surfaces, nonreflective (mirrored) glass, and downward shielded lighting to minimize glare and prevent spillover effects onto adjacent properties and roadways. Vehicles within the project site would be minimally visible from off-site locations due to existing topography and vegetation. Furthermore, on-site vehicles would reflect minimal amounts of sunlight, introducing marginal sources of spillover glare towards adjacent viewers/receptors. Therefore, glare sources from project operation would be minor and would not adversely affect daytime views of the area. This impact would be **less than significant**.

<u>Summary</u>

The project would not include new materials or surfaces that would create substantial new sources of glare; however, project construction and operation would introduce substantial new sources of nighttime lighting in proximity to sensitive (e.g., residential) uses. As a result, this would be a **significant impact**.

Mitigation Measures

Mitigation Measure 3.1-4: Reduce Light Pollution from Exterior Lighting

During project design and construction, Cal Poly Humboldt shall ensure that the following requirements are implemented as part of construction and prior to operation:

- Outdoor light fixtures, including temporary fixtures used during construction, that are not attached or interior to a building shall be limited to a maximum height of 14 feet.
- Outdoor lighting shall utilize energy-efficient fixtures and lamps and motion sensors and/or daylight sensors.
- Outdoor lighting fixtures, including temporary fixtures used during construction, shall be shielded or recessed to reduce light spillover to adjoining properties.
- Each light fixture shall be directed downward and away from adjoining private properties and Janes Creek, so that no on-site light fixture directly illuminates an area off the site.
- No lighting on private property shall produce an illumination level greater than 1 foot-candle on any property within a residential zoning district except on the site of the light source.
- No permanently installed lighting shall blink, flash, or be of unusually high intensity or brightness.
- An exterior barrier/fence shall be installed along the project site's southern boundary and along the western edge of the proposed parking lot that shall prevent headlights from on-site vehicles from directly illuminating off-site residences.

Significance after Mitigation

As a statutorily and legislatively created State entity, Cal Poly Humboldt is not subject to local regulations, such as the Arcata Land Use Code. However, Cal Poly Humboldt is committed to reducing the effects of light and glare on adjoining properties in a manner that is largely consistent with Section 9.30.070, "Outdoor Lighting," of the Arcata Land Use Code. Implementation of Mitigation Measure 3.1-4 would reduce impacts from exterior lighting that can be shielded and directed downward, such as lighting used during construction and some types of lighting associated with the project once built. Additionally and as previously stated, additional landscaping would be provided along the edges of development on all sides of the project that would further screen the proposed development from view by adjacent uses. Therefore, with implementation of this measure, off-site light spillage would be prevented such that the project would not represent a substantial source of light and glare. With incorporation of mitigation, impacts would be **less than significant**.

3.2 AIR QUALITY

This section includes a discussion of existing air quality conditions, a summary of applicable regulations, and an analysis of potential construction and operational air quality impacts caused by proposed development of the Student Housing Project. Mitigation is developed as necessary to reduce significant air quality impacts to the extent feasible. Detailed calculations, modeling inputs, and results can be found in Appendix B.

Comments were received in response to the NOP related to the potential air emissions associated with new vehicle trips to and from the project site with project implementation. Comments included a request for an evaluation of potential health risks on future residents on the project site in light of the site's proximity to US 101.

3.2.1 Regulatory Setting

Air quality in the project area is regulated through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the air basins are discussed below.

FEDERAL

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA's air quality mandates draw primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress in 1990. EPA's air quality efforts address criteria air pollutants, ozone precursors, and hazardous air pollutants (HAPs). EPA regulations concerning criteria air pollutants and HAPs are presented in greater detail below.

Criteria Air Pollutants

The CAA required EPA to establish national ambient air quality standards (NAAQS) for six common air pollutants found all over the United States referred to as criteria air pollutants and precursors. EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with aerodynamic diameter of 10 micrometers or less (PM_{10}), fine particulate matter with aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. The NAAQS are shown in Table 3.2-1. The primary standards protect public health and the secondary standards protect public welfare. The CAA also required each state to prepare a state implementation plan (SIP) for attaining and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. California's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, EPA may prepare a federal implementation plan that imposes additional control measures. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Table 3.2-1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California (CAAQS)[1,2]	National (NAAQS)[3] Primary[2,4]	National (NAAQS)[3] Secondary[2,5]
Ozone	1-hour	0.09 ppm (180 $\mu g/m^3$)	–[5]	Same as primary standard
	8-hour	0.070 ppm (137 $\mu g/m^3$)	0.070 ppm (147 $\mu g/m^3$)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Same as primary standard
	8-hour	9 ppm[6] (10 mg/m^3)	9 ppm (10 mg/m^3)	
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 $\mu g/m^3$)	53 ppb (100 $\mu g/m^3$)	Same as primary standard
	1-hour	0.18 ppm (339 $\mu g/m^3$)	100 ppb (188 $\mu g/m^3$)	—
Sulfur dioxide (SO_2)	24-hour	0.04 ppm (105 $\mu g/m^3$)	—	—
	3-hour	—	—	0.5 ppm (1300 $\mu g/m^3$)
	1-hour	0.25 ppm (655 $\mu g/m^3$)	75 ppb (196 $\mu g/m^3$)	—
Respirable particulate matter (PM_{10})	Annual arithmetic mean	20 $\mu g/m^3$	—	Same as primary standard
	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$	
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 $\mu g/m^3$	12.0 $\mu g/m^3$	15.0 $\mu g/m^3$
	24-hour	—	35 $\mu g/m^3$	Same as primary standard
Lead [6]	Calendar quarter	—	1.5 $\mu g/m^3$	Same as primary standard
	30-Day average	1.5 $\mu g/m^3$	—	—
	Rolling 3-Month Average	–	0.15 $\mu g/m^3$	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 $\mu g/m^3$)	No national standards	
Sulfates	24-hour	25 $\mu g/m^3$		
Vinyl chloride [6]	24-hour	0.01 ppm (26 $\mu g/m^3$)		
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Notes: $\mu g/m^3$ = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million.

1 California standards for ozone, carbon monoxide, SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of 17 CCR.

2 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

3 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the U.S. Environmental Protection Agency for further clarification and current federal policies.

4 National primary standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

5 National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

6 The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: CARB 2016.

<u>Hazardous Air Pollutants and Toxic Air Contaminants</u>

Toxic air contaminants (TACs), or in federal parlance hazardous air pollutants (HAPs), are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects, such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects, such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.2-1). Cancer risk from TACs is expressed as excess cancer cases per 1 million exposed individuals, typically over a lifetime of exposure.

EPA regulates HAPs through its National Emission Standards for Hazardous Air Pollutants. The standards for a particular source category require the maximum degree of emission reduction that EPA determines to be achievable, which is known as the Maximum Achievable Control Technology standards. These standards are authorized by Section 112 of the 1970 CAA, and the regulations are published in 40 CFR Parts 61 and 63.

STATE

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish California ambient air quality standards (CAAQS) (Table 3.2-1). Relevant California regulations, by air pollutant type, are discussed in greater detail below.

Criteria Air Pollutants

CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In some cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to attain and maintain the CAAQS by the earliest date practical. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources. The CCAA also provides air districts with the authority to regulate indirect sources.

Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807, which established the Air Toxics Program, sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted EPA's list of HAPs as TACs. Most recently, particulate matter (PM) exhaust from diesel engines (diesel PM) was added to CARB's list of TACs.

After a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate best available control technology (BACT) for toxics to minimize emissions.

In addition, CARB has published its *Air Quality and Land Use Handbook* that provides guidance on land use compatibility with TAC sources (CARB 2005). The *Air Quality and Land Use Handbook* offers recommendations for siting sensitive receptors near TAC sources such as high-volume roadways, distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

AB 617 of 2017 aims to help protect air quality and public health in communities around industries subject to the state's cap-and-trade program for greenhouse gas emissions. AB 617 imposes a new state-mandated local program to address nonvehicular sources (e.g., refineries, manufacturing facilities) of criteria air pollutants and TACs. The bill requires CARB to identify high-pollution areas and directs air districts to focus air quality improvement efforts through adoption of community emission reduction programs within these identified areas. Currently, air districts review individual sources and impose emissions limits on emitters based on BACT, pollutant type, and proximity to nearby existing land uses. This bill addresses the cumulative and additive nature of air pollutant health effects by requiring community-wide air quality assessment and emission reduction planning.

CARB has adopted diesel exhaust control measures and more stringent emissions standards for various transportation-related mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of CARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be 85 percent less in 2020 in comparison to year 2000 (CARB 2000). Adopted regulations are also expected to continue to reduce formaldehyde emissions emitted by cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

CALIFORNIA STATE UNIVERSITY

California State University Sustainability Policy

In the Spring of 2022, The California State University (CSU) Board of Trustees adopted an update to the CSU system-wide Sustainability Policy, which was first adopted in 2014 with subsequent updates in 2019 and 2020. The current update became effective March 23, 2022. The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The CSU Sustainability Policy established the following goals related to air quality:

- Promote use of alternative fuels and transportation programs.
- Procure 60 percent of energy supply from renewable sources by 2030.
- Increase on-site energy generation from 32 to 80 megawatts by 2030.

Cal Poly Campus Administrative Policy

Cal Poly environmental administrative policy is outlined in the Talloires Declaration, a 10-point plan for prioritizing and incorporating sustainability and environmental literacy in all aspects of its campuses' operations. Cal Poly signed the Declaration in April 2004. The goals outlined in the document are as follows:

- Increase Awareness of Environmentally Sustainable Development
- Create an Institutional Culture of Sustainability
- Educate for Environmentally Responsible Citizenship
- Foster Environmental Literacy for All

- Practice Institutional Ecology
- Involve All Stakeholders
- Collaborate for Interdisciplinary Approaches
- Enhance Capacity of Primary and Secondary Schools
- Broaden Service and Outreach Nationally and Internationally
- Maintain the Movement

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section of Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

North Coast Unified Air Quality Management District

The project site is within the North Coast Air Basin (NCAB), which is managed by three different air districts: the North Coast Unified Air Quality Management District (NCUAQMD), the Mendocino County Air Quality Management District, and the Northern Sonoma County Air Quality Management District. The NCUAQMD is the primary agency responsible for planning to meet NAAQS and CAAQS for the Del Norte, Humboldt, and Trinity Counties portion of the NCAB.

The Humboldt County portion of the NCAB is designated as a nonattainment area for the state PM_{10} standard but is designated as attainment or unclassified for all other state and federal standards. In 1995, the NCUAQMD published the *PM_{10} Attainment Plan* draft report, which presents available information about the nature and causes of exceedances of the PM_{10} CAAQS standards and identifies cost effective control measures that can be implemented to reduce ambient PM_{10} levels in order to achieve CAAQS (NCUAQMD 2022).

NCUAQMD has adopted rules and regulations that address the requirements of federal and state air quality laws to achieve, maintain, and protect health-based CAAQS and NAAQS and prevent deterioration of levels of air quality which may jeopardize human health and safety (NCUAQMD 2015a). NCUAQMD staff participate in the review environmental documents to determine potential adverse air quality impacts from projects and identify measures to mitigate those impacts. When applicable, the District follows environmental review procedures and guidelines as outlined in the NCUAQMD's Procedures for Environmental Impact Review document (NCUAQMD 2022).

While NCUAQMD has not formally adopted CEQA significance criteria to determine the significance of impacts that would result from projects, NCUAQMD recommends the use of the significance Best Available Control Technology (BACT) significance thresholds for stationary sources, as defined and listed in the NCUAQMD Regulation I Rule 110 (New Source Review And Prevention of Significant Deterioration) (NCUAQMD 2022, NCUAQMD 2015b).

Toxic Air Contaminants

NCUAQMD Regulation III enforces CARB's control measures for TACs requiring all sources that possess the potential to emit TACs to obtain permits from NCUAQMD. Permits may be granted to these sources if they are constructed and operated in accordance with applicable regulations, including air toxics control measures.

City of Arcata

The City of Arcata General Plan serves as a guide to all city development projects, both private and public. The following policies of the City of Arcata General Plan are relevant to air quality within the project site:

- **Policy AQ-1: Point and Area Sources of Air Pollutants.** Improve air quality by reducing emissions from stationary point sources of air pollution (e.g., wood burning fireplaces and gas powered lawn mowers) which cumulatively emit large quantities of emissions.
- **Policy AQ-2: Mobile Sources of Air Pollutants.** Improve air quality by reducing emissions from transportation sources, particularly motor vehicles, and other mobile sources. Reduce vehicle miles of travel and encourage shifts to alternative modes of travel.

3.2.2 Environmental Setting

CLIMATE, METEOROLOGY, AND TOPOGRAPHY

In general, the climate of northern coastal California is characterized by cool summers and mild winters with frequent fog and significant amounts of rain. In coastal areas, the ocean helps to moderate temperatures year-round. Further inland, the summers are hotter and drier and the winters colder and snowier. At higher elevations in inland areas, it is cooler in the summers and snowier in the winter. The average annual rainfall in Humboldt County ranges from 38 inches in Eureka to 141 inches in Honeydew. Approximately 90 percent of the annual precipitation falls between October and April. Higher rainfall in winter often influences high river levels. Winter snowfall is common at higher elevations. The dry season is between May and September.

Average temperatures on the coast in Eureka range from the low 60s in the summer to the low 40s during the winter. Inland average temperatures, such as in Willow Creek or Hoopa, range from the 90s to the 30s. On the coast, summer fog is common when inland temperatures rise.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to drive the movement and dispersal of air pollutants. Winds control the rate and dispersion of local pollutant emissions. In the California North Coast Air Basin, dominant winds exhibit a seasonal pattern, especially in coastal areas. In the summer months, strong north to northwesterly winds are common and during the winter, storms from the South Pacific increase the percentage of days with winds from southerly quadrants. Wind direction often assumes a daily pattern in the river canyons that empty into the Pacific. In the morning hours, cool air from higher elevations flows down the valleys while later in the day as the lower elevation air heats up, this pattern is reversed and the airflow heads up the canyon. These airflows are often quite strong. Offshore and onshore flows are also common along the coast and are associated with pressure systems in the area. Onshore flows frequently bring foggy cool weather to the coast, while offshore flows often blow fog away from the coast and bring sunny warm days.

Humboldt County commonly experiences two types of inversions, vertical and horizontal, that affect the vertical depth of the atmosphere through which pollutants can be mixed. Vertical air movement is important in spreading pollutants through a thicker layer of air. Horizontal movement is important in spreading pollutants over a wider area. Upward dispersion of pollutants is hindered wherever the atmosphere is stable; that is, where warm air overlies cooler air below.

Because of the region's topography and coastal air movements, inversion conditions are common in the NCAB. Inversions are created when warm air traps cool air near the ground surface and prevents vertical dispersion of air. Valleys, geographic basins, and coastal areas surrounded by higher elevations are the most common locations for inversions to occur. During the summer, inversions are less prominent, and vertical dispersion of the air is good. However, during the cooler months between late fall and early spring, inversions last longer and are more geographically extensive; vertical dispersion is poor, and pollution may be trapped near the ground for several concurrent days.

Radiation inversion occurs when the air layer near the surface of the ground cools and may extend upward several hundred feet. Radiation inversion in Humboldt County is found in the night and early mornings almost daily, but is more prominent from late fall to early spring when there is less sunlight and it is cooler. Radiation inversion tends to last longer into the morning during the winter months than in the summer.

Subsidence inversion is caused by downward moving air aloft, which is common in the area of high pressure along and off the coast. The air warms at a rate of 5.5 degrees Fahrenheit (°F) per 1,000 feet as it descends. Thus, it arrives at a lower height warmer than the air just below and limits the vertical mixing of air. Subsidence inversion often affects a large area and is more common during the summer months. This inversion, which usually occurs from late spring through the early fall, can be very strong and shallow given the cooling of the lower layers from the cool ocean water.

In the NCAB, air quality is predominantly influenced by the climatic regimes of the Pacific. In summer, warm ground surfaces draw cool air in from the coast, creating frequent thick fogs along the coast and making northwesterly winds common. In winter, precipitation is high, wintertime surface wind directions are highly variable, and weather is more affected by oceanic storm patterns (NCUAQMD 1995: II-1 to II-3).

CRITERIA AIR POLLUTANTS

Criteria air pollutants are those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive people from illness or discomfort.

A brief description of key criteria air pollutants in the NCAB and their health effects are provided below. Criteria air pollutants include ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. However, ozone and PM_{10} are the criteria air pollutants of primary concern in this analysis because of their nonattainment status with respect to the NAAQS and CAAQS. The attainment status of criteria air pollutants with respect to the NAAQS and CAAQS in Humboldt County are shown in Table 3.2-2. Monitoring data representative of ambient air concentrations in the project area are provided in Table 3.2-3.

Ozone

Ground-level ozone is not emitted directly into the air but is created by chemical reactions between reactive organic gas (ROG) and oxides of nitrogen (NO_X). This happens when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources chemically react in the presence of sunlight. Ozone at ground level is a harmful air pollutant because of its effects on people and the environment, and it is the main ingredient in smog (EPA 2016).

Acute health effects of ozone exposure include increased respiratory and pulmonary resistance, cough, pain, shortness of breath, and lung inflammation. Chronic health effects include permeability of respiratory epithelia and possibility of permanent lung impairment (EPA 2016). Emissions of the ozone precursors ROG and NO_X have decreased over the past two decades because of more stringent motor vehicle standards and cleaner burning fuels (CARB 2013).

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2012).

Acute health effects of exposure to NO_X includes coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis, or pulmonary edema, breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, and death. Chronic health effects include chronic bronchitis and decreased lung function (EPA 2016).

Particulate Matter

PM_{10} is emitted directly into the air, and can include fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (CARB 2013). $PM_{2.5}$ includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM_{10} emissions in the NCAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM_{10} and $PM_{2.5}$ are projected to remain relatively constant through 2035. Emissions of $PM_{2.5}$ in the NCAB are dominated by the same sources as emissions of PM_{10} (CARB 2013).

Acute health effects of PM_{10} exposure include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, and premature death. Chronic health effects include alterations to the immune system and carcinogenesis (EPA 2016).

Table 3.2-2 Attainment Status Designations for Humboldt County

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Ozone	No Federal Standard	Attainment (1-hour) Classification
	Attainment	Attainment (8-hour)
Respirable particulate matter (PM_{10})	Unclassified/Attainment (24-hour)	Nonattainment (24-hour)
		Attainment (Annual)
Fine particulate matter ($PM_{2.5}$)	Unclassified/Attainment (24-hour)	(No state standard for 24-Hour)
	Unclassified/Attainment (Annual)	Attainment (Annual)
Carbon monoxide (CO)	Unclassified (1-hour)	Attainment (1-hour)
	Unclassified (8-hour)	Attainment (8-hour)
Nitrogen dioxide (NO_2)	Unclassified (1-hour)	Attainment (1-hour)
	Unclassified (Annual)	Attainment (Annual)
Sulfur dioxide (SO_2)	Unclassified (1-Hour)	Attainment (1-hour)
		Attainment (24-hour)
Lead (Particulate)	No Attainment Information	Attainment (30-day average)
Hydrogen Sulfide	No Federal Standard	Attainment (1-hour)
Sulfates		Attainment (24-hour)
Visibly Reducing Particles		Attainment (8-hour)
Vinyl Chloride		No Attainment Information

Source: EPA 2022, NCUAQMD 2022.

MONITORING STATION DATA AND ATTAINMENT DESIGNATIONS

Criteria pollutant concentrations in Humboldt County and the NCAB are measured by several monitoring stations in the area. The station nearest to the project site is the Eureka-Jacobs station, located approximately 7 miles southwest of the site. Pollutant concentrations monitored at this station are considered representative of ambient air quality in the project area. Table 3.2-3 below provides a summary of monitoring data from the Eureka-Jacobs station

Table 3.2-3 Summary of Annual Air Quality Data – Eureka Jacobs Station (2019-2021)1

Ozone [2]	2019	2020	2021
Maximum concentration (1-hour/8-hour, ppm)	0.051/0.049	0.046/0.048	0.050/0.044
Number of days state standard exceeded (1-hour/8-hour)	0/0	0/0	0/0
Number of days national standard exceeded (1-hour/8-hour)	0/0	0/0	0/0
Respirable Particulate Matter (PM_{10})	**2019**	**2020**	**2021**
Maximum Concentration (μg/m³) (California)	49.3	171.5	61.9
Number of days state standard exceeded (measured [2]	*	*	*
Number of days national standard exceeded (measured [2])	0	1	0
Fine Particulate Matter ($PM_{2.5}$)	**2019**	**2020**	**2021**
Maximum Concentration (μg/m³) (California)	18.7	38.8	16.2
Annual Average (μg/m³) (California)	*	*	6.9
Number of days national standard exceeded (measured [2])	0	2	0

Notes: μg/m³ = micrograms per cubic meter; NA = data not available; ppm = parts per million; * = Insufficient data to determine the value

1 The ambient air quality standards and attainment status for these pollutants are presented in Table 3.2-2.

2 Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard.

Source: CARB 2022.

TOXIC AIR CONTAMINANTS

According to the *California Almanac of Emissions and Air Quality* (CARB 2013), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Diesel PM poses the greatest health risk among these 10 TACs mentioned. Based on receptor modeling techniques, CARB estimated the average statewide cancer risk associated with diesel PM concentrations to be 360 excess cancer cases per million people in the year 2020 (CARB 2000:15). Overall, statewide emissions of diesel PM are forecasted to decline by 71 percent between 2000 and 2035 (CARB 2013:3-8).

ODORS

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one.

This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. Typical odor sources of concern include wastewater treatment plants, sanitary landfills, composting facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting operations, rendering plants, and food packaging plants (Sacramento Metropolitan Air Quality Management District 2016).

ASBESTOS

Naturally occurring asbestos (NOA) was identified as a TAC in 1986 by CARB. NOA is located in many parts of California, and is commonly associated with ultramafic rocks, according to a special publication by the California Geological Survey (Churchill and Hill 2000). Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong durable fibers. Ultramafic rocks form in high-temperature environments well below the surface of the earth. By the time they are exposed at the surface by geologic uplift and erosion, ultramafic rocks may be partially to completely altered into a type of metamorphic rock called serpentinite. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in the bodies of these rocks, along their boundaries, or in the soil.

Asbestos could be released into the air from serpentinite or ultramafic rock if the rock is broken or crushed. At the point of release, asbestos fibers could become airborne, causing air quality and human health hazards. Natural weathering and erosion processes act on asbestos bearing rock and soil, increasing the likelihood for asbestos fibers to become airborne if disturbed (California Geological Survey 2002:22).

According to the report, A General Location Guide to Ultramafic Rocks in California—Areas More Likely to Contain Naturally Occurring Asbestos, there are areas of Humboldt County in which asbestos is likely to occur (Churchill and Hill 2000). Asbestos-containing material may be present in existing structures at the project site. The demolition or renovation of existing structures would be subject to regulatory requirements for the control of asbestos-containing material.

SENSITIVE RECEPTORS

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and/or the potential for increased and prolonged exposure of individuals to pollutants.

Nearby sensitive receptors to the project site include residences as close as 25 feet from the western and southern boundaries of the project site, Cahill Park approximately 230 feet southwest of the project site, and Arcata Preschool approximately 390 feet southwest of the project site. These sensitive receptors are discussed in greater depth under Impact 3.2-3 below.

3.2.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Regional and local criteria air pollutant emissions and associated impacts, as well as impacts from TACs, CO concentrations, and odors were assessed in accordance with NCUAQMD guidance, per its webpage, and standard practices and methodologies.

Construction and operational emissions of criteria air pollutants and precursors were calculated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (CAPCOA 2020) computer program, as recommended by NCUAQMD. Modeling was based on project-specific information (e.g., housing units, building square footage) where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type.

Construction

Construction activities would occur over an approximately 18- to 24-month period, starting in 2023 and finishing in 2024/2025. Construction activities would include site grading and excavation, utility trenching, building foundation pouring, and building construction. Specific phasing schedule and duration was not available. CalEEMod defaults were used to estimate equipment based on the project's acreage, square footage by land use type, and expected overall schedule. It was assumed that all diesel construction equipment would be powered by Tier 4 engines.

Detailed construction assumptions and inputs can be found in Appendix B.

Operation

Operation-related emissions of criteria air pollutants were estimated for area sources (e.g., landscaping-related fuel combustion sources, consumer products, building maintenance) and mobile sources.

As noted in Section 2, "Project Description," it was assumed that natural gas services would not be provided, and all energy-related needs would be provided by Pacific Gas and Electric Company (PG&E) electrical procurement. As such, energy-related emissions associated with on-site combustion of natural gas (which is typically associated with space and water heating) is assumed to be zero.

Operation-related mobile-source emissions were modeled based on the estimated daily vehicle trips and vehicle miles traveled (VMT) associated with new student housing uses. The number of trips and VMT used in the air quality modeling were obtained from the transportation analysis conducted for the project (see Section 3.11, "Transportation"). Mobile-source emissions were calculated using CalEEMod default emission rates along with project-specific trip and VMT.

Operational output sheets can be found in Appendix B.

THRESHOLDS OF SIGNIFICANCE

Per Appendix G of the CEQA Guidelines and standard practice, an impact on air quality would be significant if implementation of the project would:

- conflict with or obstruct implementation of an applicable air quality plan;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
  - Construction or operational emissions that exceed either the daily or annual thresholds shown in Table 3.2-4.
- expose sensitive receptors to substantial increases in TAC emissions from the following sources:
  - construction- or operations-generated TAC emissions that exceed 10 in 1 million for carcinogenic risk (i.e., the risk of contracting cancer) at existing sensitive receptors; or
- result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As noted above, NCUAQMD has not established CEQA significance criteria to determine the significance of impacts that would result from projects. However, NCUAQMD Rule 110 identifies thresholds for new or modified stationary sources, which represent levels above which emissions from these sources could conflict with regional attainment efforts. By permitting large stationary sources, the NSR program ensures that new emissions will not slow regional progress toward attaining or maintaining the CAAQS and NAAQS. While NCUAQMD's NSR thresholds are related to stationary source emissions, the NSR thresholds represent emissions levels required to attain the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence demonstrating that there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, the NCUAQMD considers projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor and to not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. The NCUAQMD's significance thresholds from Rule 110 are presented in Table 3.2-4. These thresholds are the same for construction and operations.

Table 3.2-4 Air Quality Thresholds

Pollutant	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Daily (pounds per day)	50	50	500	80	80	50
Annual (tons per year)	40	40	100	40	15	10

Note: NCUAQMD also has BACT thresholds for fluorides, hydrogen sulfide, lead, and other sulfur-related compounds. Those pollutants are not associated with project construction or operations, so they are not analyzed further.

Source: NCUAQMD 2015b.

ISSUES NOT DISCUSSED FURTHER

Health Risks Associated with US 101

As noted above, an NOP comment was received requesting that the EIR evaluate potential health risks associated with the provision of housing at the project site, adjacent to US 101. CARB has established recommendations for when health risks associated with highway/roadway volumes should be considered. More specifically, CARB recommends avoiding siting new sensitive land uses within 500 feet of an urban roadway/freeway with 100,000 vehicles/day (CARB 2005). Based on Caltrans data, the segment of US 101 does not experience 100,000 vehicles/day (Caltrans 2017). Further, in 2015, a California Supreme Court decision resulted in changes to CEQA with regard to the effects of existing environmental conditions on a project's future users or residents. The effects of the environment on a project are generally outside the scope of CEQA unless the project would exacerbate these conditions, as concluded by the California Supreme Court (see California Building Industry Association v. Bay Area Air Quality Management District [2015] 62 Cal.4th 369, 377 ["we conclude that agencies generally subject to CEQA are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users."]). Changes to the CEQA Guidelines to reflect this decision are in process by the State, but have not been adopted. As noted in the Bay Area Air Quality Management District's revised CEQA thresholds of significance, local agencies are not precluded from considering the impact of locating new development in areas subject to existing environmental hazards; however, CEQA cannot be used by a lead agency to require a developer or other agency to obtain an EIR or implement mitigation measures solely because the occupants or users of a new project would be subjected to the level of emissions specified. This issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Conflict with or Obstruct Implementation of an Applicable Air Quality Plan

Implementation of the project would be consistent with Cal Poly Humboldt's Master Plan in that it would not exceed student enrollment projections for the campus and would provide additional student housing proximate to campus, and the City of Arcata General Plan, in that it would optimize an underutilized infill location. Because the Master Plan growth projections were used to inform the broader growth projections for the region, which were then used to develop regional air quality plans like the 1995 PM_{10} Attainment Plan, the project would be consistent with the applicable air quality plans and planning efforts. The project would not conflict with or obstruct air quality planning efforts, and this impact would be **less than significant**.

As noted above, the Humboldt County portion of NCAB is in nonattainment for PM_{10} with respect to the CAAQS but attainment for all other pollutants. As a result, the 1995 PM_{10} Attainment Plan is the only applicable air quality plan for the area. The PM_{10} Attainment Plan includes an emissions budget and outlines recommended control measures to reduce emissions and attain the PM_{10} standard. The governing land use document relevant to the project area is the adopted 2004 Master Plan for Cal Poly Humboldt. Additionally, while Cal Poly Humboldt is not subject to local government planning and land use plans, policies, or regulations, the City of Arcata's General Plan Land Use Element provides policies to address land use and planning within the city and to guide sustainable development that meets their land use and planning needs. Projects that propose development consistent with the growth anticipated in the Cal Poly Humboldt's Master Plan and the City's General Plan are considered consistent with regional air quality plans. A project may be inconsistent with air quality plans if it would result in population or employment growth that exceeds estimates used to develop the emissions inventories for the regional air quality plans.

The project would support Cal Poly Humboldt's mission of accommodating student enrollment growth (up to 12,000 FTE students as stated in the Master Plan), providing housing opportunities for students within Cal Poly Humboldt property to address on-campus housing needs, and optimize an underutilized infill location within the City. Additionally, as discussed in Section 3.7, "Land Use and Planning," the City promotes the use of infill on underutilized properties. The project is an infill project that would optimize an underutilized infill location. Therefore, the project would be consistent with the growth forecasts for the area and would be consistent Cal Poly Humboldt's mission of providing housing near educational facilities. As a result, the project is considered consistent with applicable air quality plans and would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.2-2: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for Which the Project Region is Non-Attainment under an Applicable Federal or State Ambient Air Quality Standard

Construction and operation of the project would result in emissions of VOC, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$. Construction activities would result in maximum daily emissions of VOC that would exceed NCUAQMD's thresholds of significance prior to mitigation. Operational activities would result in maximum daily emissions well below NCUAQMD's thresholds of significance. This impact would be **significant.**

The proposed project would contribute to regional air pollutant emissions during short-term construction and long-term operations. An analysis of the construction- and operations-related effects of the proposed project is presented below. Refer to Appendix B for detailed modeling input parameters and results

Construction

Construction of the proposed project has the potential to create air quality impacts through the use of vehicles and equipment such as heavy-duty construction equipment, construction workers' vehicle trips, material deliveries, and trips by heavy-duty haul trucks. In addition, earthwork activities would result in fugitive dust emissions, and paving operations would release VOCs from off-gassing. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources

The analysis herein assumes construction would occur between March 2023 and September 2024. It was assumed that the various phases of construction (e.g., site grading, building construction, asphalt paving, architectural coatings) would stagger and occur sequentially and would thus not occur concurrently on a given day.

As shown in Table 3.2-5, maximum daily project-related criteria pollutant emissions would exceed thresholds for VOC. This VOC exceedance is driven primarily by the application of architectural coatings. NCUAQMD has not adopted a rule to limit VOC content in residential and non-residential architectural coatings. Thus, modeling in CalEEMod is based on the default VOC content of 250 grams per liter (g/L). As shown, daily VOC emissions exceed the threshold and mitigation is required.

Table 3.2-5 Estimated Construction Emissions – Unmitigated Pounds Per Day

Construction Phase	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2023	3	35	29	<1	21	11
2024	462	18	26	<1	3	1
Maximum Day	**462**	**35**	**29**	**<1**	**21**	**11**
Threshold	*50*	*50*	*500*	*80*	*80*	*50*
Exceed Threshold?	**Yes**	No	No	No	No	No

Source: Modeled by Ascent Environmental in 2022.

Operations

Once operational, the proposed project would result in air pollutant emission sources associated with new vehicle trips and area-wide activities. As noted in Section 3.2-3, the project would not include any sources that would consume natural gas. Therefore, there would be no on-site combustion of natural gas for space and water heating and energy-related criteria pollutant emissions are assumed to be zero.

Emissions resulting from proposed project buildout are summarized in Table 3.2-6. As shown, the increase in project-related criteria pollutant emissions would not exceed daily operations-period thresholds for any pollutant.

Table 3.2-6 Estimated Operational Emissions – Unmitigated Pounds Per Day

Operational Source	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area Sources	10	<1	20	<1	<1	<1
Mobile Sources	13	20	109	<1	16	5
Maximum Day	**23**	**21**	**129**	**<1**	**16**	**5**
Threshold	*50*	*50*	*500*	*80*	*80*	*50*
Exceed Threshold?	No	No	No	No	No	No

Source: Modeled by Ascent Environmental in 2022.

Therefore, operational activities resulting from the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment, and the impact during operations would be **less than significant**.

Mitigation Measures

Mitigation Measure 3.2-2: Use Low VOC Coatings During Construction

To reduce VOC emissions during construction activities involving application of coatings, Cal Poly Humboldt shall require that construction contractor to use low-VOC coatings that have a VOC content of 10 g/L or less during all phases of construction.

Significance after Mitigation

Implementation of Mitigation Measure 3.2-1, which would require low-VOC coatings, would reduce VOC emissions. The reduction in VOC emissions from coatings is proportional to the change in VOC content. For instance, requiring coatings with a VOC content of 10 g/L instead of the default 250 g/L would result in an approximately 96 percent reduction in VOC emissions from the application of coatings. As shown in Table 3.2-7, implementation of Mitigation Measure AQ -1 would reduce construction-period VOC emissions to a level below the threshold. Therefore, the impact during construction would be **less than significant**. Under the option, impacts would be similar to but incrementally less than those under the project. The aforementioned mitigation measure would still be required.

Table 3.2-7 Estimated Construction Emissions – Mitigated Pounds Per Day

Construction Phase	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
2023	3	35	29	<1	21	11
2024	19	18	26	<1	3	1
Maximum Day	**19**	**35**	**29**	**<1**	**21**	**11**
Threshold	*50*	*50*	*500*	*80*	*80*	*50*
Exceed Threshold?	No	No	No	No	No	No

Source: Modeled by Ascent Environmental in 2022.

Impact 3.2-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations

Construction-related emissions of TACs associated with proposed project would be spread over the project area, not affecting any one receptor for extended periods of time, and therefore, would not result in exposure of existing receptors to substantial TAC concentrations. The project would not result in exposure of sensitive receptors to excessive TAC emissions from operational emissions. This impact would be **less than significant**.

The focus of this TAC analysis is diesel PM. Although other TACs exist (e.g., benzene, 1,3-butadiene, hexavalent chromium, formaldehyde, methylene chloride), they are primarily associated with industrial operations and the project would not include any industrial sources. TACs from diesel PM are of particular importance because the potential cancer risk from inhalation of diesel PM outweighs the risk for all other health impacts (i.e., noncancer chronic risk, short-term acute risk) and health impacts from other TACs (OEHHA 2003).

Construction

Construction-related activities would result in temporary, intermittent emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, clearing, grading); paving; on-road truck travel; and other miscellaneous activities. On-road diesel-powered haul trucks traveling to and from the construction areas to deliver materials and equipment are less of a concern because they would not stay on the site for long periods of time.

With regards to exposure of diesel PM, the dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher level of health risk for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period.

Based on the emissions modeling conducted and presented in Table 3.2-5 above, maximum daily emissions of PM_{10} would be 21 pounds per day, of which approximately 1.4 pounds per day would be in the form of diesel PM (the remainder is primarily fugitive dust). This maximum daily emission level represents multiple, simultaneous construction projects. It is more likely, however, that construction activities would be located at various locations throughout the project area during the 18- to 24-month construction duration, and due to the dispersive properties of diesel PM, concentrations from individual construction sites would be lower (e.g., decrease of 70 percent at 500 feet from the source). In addition, the use of off-road heavy-duty diesel equipment would be limited to the construction phase of five years and split between two phases. Construction activity intensity and duration would vary throughout the project area. As such, no single existing or future receptor would be exposed to substantial construction-related emissions of diesel PM for extended periods of time.

Residential receptors are generally of primary concern when discussing TAC exposure, as they would generally be exposed to project generated TACs for extended periods of time. The nearest residences are located as close as 25 feet from the western and southern boundaries of the project site. Given the low level of a diesel PM on-site and the short duration of activities, TAC exposure from construction activities would not be considered substantial at these receptors. Thus, given the temporary (18-24 months) and intermittent nature of construction activities within the project area (i.e., construction does not occur in any one part of the project site), the dose of diesel PM of any one receptor would be limited. This impact would be less than significant.

<u>Operations</u>

The project's new facilities would not result in any new stationary sources of TACs. The project would involve student housing along with several on-site amenities, including an exercise gym, common lounge spaces, study spaces, computer rooms, television rooms, a café/market, conference rooms, and bicycle parking. None of these uses would result in new TAC sources. The project would result in the operation of additional land uses within the project area, which would have a corresponding increase in vehicle trips and associated TAC emissions, but these trips would be dispersed throughout parking areas and public roadways. Emissions would be generated by new vehicle trips within the region with only a small portion of these trips occurring within the project area near sensitive receptors. As a result, the actual concentration near sensitive land uses associated with implementation of the project would be minimal, and implementation of the project would not result in exposure of new or existing sensitive receptors to TACs from regular and frequent vehicle trips

Considering the highly dispersive properties of diesel PM, the relatively low mass of diesel PM emissions that would be generated at any single place during the operation of new land uses, operations-related TACs are not anticipated to result in the exposure of sensitive receptors to substantial pollutant concentrations. As a result, this impact would be less than significant.

<u>Summary</u>

Considering the relatively low levels of diesel PM emissions that would be generated by construction, the relatively short duration of diesel PM-emitting construction activity at any one location of the project area, the distance to the nearest off-site sensitive receptors, and the highly dispersive properties of diesel PM, construction-related TAC emissions would not expose sensitive receptors to substantial pollutant concentrations or an incremental increase in cancer risk. Project operations would result in increased vehicle activity; however, the emissions would be distributed throughout the region and would not result in substantial concentrations for nearby sensitive receptors. Thus, construction and operation-related TAC emissions would not result in substantial pollutant concentrations or an incremental increase in cancer risk at nearby sensitive receptors. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.2-4: Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People

The project would introduce construction-related odor sources into the area (e.g., temporary diesel exhaust emissions during construction). However, these odor sources would be temporary, intermittent, and dissipate rapidly from the source. Once construction is complete, the project would not introduce land uses that would emit odors long term. As a result, potential exposure of sensitive receptors to objectionable odors would be **less than significant**.

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the affected receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generate citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose a substantial number of people to objectionable odors would be deemed to have a significant impact.

Typical odor sources of concern include wastewater treatment plants, sanitary landfills, composting facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting operations, rendering plants, and food packaging plants (Sacramento Metropolitan Air Quality Management District 2016). None of these odorous land uses are proximate to the project site.

Odors emitted in the exhaust of on-site engines during construction and operation, particularly diesel-fueled engines, may be considered offensive to some individuals. The generation of these odorous emissions would vary on a day-to-day basis depending on the type of on-site activities taking place. However, the types of diesel emitting equipment would not be unlike other diesel-powered equipment used in other development projects in the area.

Such emissions would be intermittent in nature and would dissipate rapidly with increasing distance from the source. For these reasons, the use of exhaust-emitting equipment for the construction and operation of cultivation operations would not result in the exposure of a substantial number of people to objectionable odors. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

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3.3 ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

This section analyzes and evaluates the potential impacts of the project on known and unknown cultural resources. Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include pre-historic resources, historic-period resources, and "tribal cultural resources" (the latter as defined by Assembly Bill (AB) 52, Statutes of 2014, in PRC Section 21074).

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-period physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical (or built-environment) resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges, roads, districts), or landscapes. A cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. Tribal cultural resources are sites, features, places, cultural landscapes, sacred places and objects, with cultural value to a tribe.

No comments regarding archaeological, historical, or tribal cultural resources were received in response to the NOP.

3.3.1 Regulatory Setting

FEDERAL

National Register of Historic Places

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic properties. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

The formal criteria (36 CFR 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following characteristics:

   Criterion A Is associated with events that have made a significant contribution to the broad patterns of history (events).

   Criterion B Is associated with the lives of persons significant in the past (persons).

   Criterion C Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).

   Criterion D Has yielded, or may be likely to yield, information important in prehistory or history (information potential).

For a property to retain and convey historic integrity it must possess most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Location is the place where the historic property was constructed or the place where a historic event occurred. Integrity of location refers to whether the property has been moved since its construction. Design is the combination of elements that create the form, plan, space, structure, and style of a property. Setting is the physical environment of a historic property that illustrates the character of the place. Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. This is an intangible quality evoked by physical features that reflect a sense of a past time and place. Association is the direct link between the important historic event or person and a historic property. Continuation of historic use and occupation help maintain integrity of association.

Listing in the NRHP does not entail specific protection or assistance for a property but it does guarantee consideration in planning for federal or federally assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA.

STATE

California Register of Historical Resources

All properties in California that are listed in or formally determined eligible for listing in the NRHP are also listed in the California Register of Historical Resources (CRHR). The CRHR is a listing of State of California resources that are significant in the context of California's history. It is a Statewide program with a scope and with criteria for inclusion similar to those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historical resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations Title 15, Chapter 11.5, Section 4850 to be included in the CRHR. The CRHR criteria are tied to CEQA because any resource that meets the criteria below is considered a significant historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

Criterion 1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

Criterion 2. Is associated with the lives of persons important to local, California, or national history.

Criterion 3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values.

Criterion 4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a historical resource must meet one of the above criteria and retain integrity to be listed in the CRHR. The CRHR uses the same seven aspects of integrity used by the NRHP.

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on "historical resources," "unique archaeological resources," and "tribal cultural resources." Pursuant to PRC Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether projects would have effects on unique archaeological resources. PRC Section 21084.2 establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment.

Historical Resources

"Historical resource" is a term with a defined statutory meaning (PRC Section 21084.1; State CEQA Guidelines Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR (PRC Section 5024.1).

2) A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1).

4) The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1[k]), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1[g]) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Unique Archaeological Resources

CEQA also requires lead agencies to consider whether projects will affect unique archaeological resources. PRC Section 21083.2(g) states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Tribal Cultural Resources

CEQA also requires lead agencies to consider whether projects will affect tribal cultural resources. PRC Section 21074 states:

a) "Tribal cultural resources" are either of the following:

  1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

    B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

  2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Public Resources Code Section 21083.2

Treatment options under PRC Section 21083.2(b) to mitigate impacts to archaeological resources include activities that preserve such resources in place in an undisturbed state. PRC Section 21083.2 states:

(a) As part of the determination made pursuant to Section 21080.1, the lead agency shall determine whether the project may have a significant effect on archaeological resources. If the lead agency determines that the project may have a significant effect on unique archaeological resources, the environmental impact report shall address the issue of those resources. An environmental impact report, if otherwise necessary, shall not address the issue of nonunique archaeological resources. A negative declaration shall be issued with respect to a project if, but for the issue of nonunique archaeological resources, the negative declaration would be otherwise issued.

(b) If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

(1) Planning construction to avoid archaeological sites.

(2) Deeding archaeological sites into permanent conservation easements.

(3) Capping or covering archaeological sites with a layer of soil before building on the sites.

(4) Planning parks, greenspace, or other open space to incorporate archaeological sites.

(c) To the extent that unique archaeological resources are not preserved in place or not left in an undisturbed state, mitigation measures shall be required as provided in this subdivision.

(d) Excavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project.

(e) In no event shall the amount paid by a project applicant for mitigation measures required pursuant to subdivision (c) exceed the following amounts:

(1) An amount equal to one-half of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a commercial or industrial project.

(2) An amount equal to three-fourths of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a housing project consisting of a single unit.

(3) If a housing project consists of more than a single unit, an amount equal to three-fourths of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of the project for the first unit plus the sum of the following:

(A) Two hundred dollars ($200) per unit for any of the next 99 units.
(B) One hundred fifty dollars ($150) per unit for any of the next 400 units.
(C) One hundred dollars ($100) per unit in excess of 500 units.

(f) Unless special or unusual circumstances warrant an exception, the field excavation phase of an approved mitigation plan shall be completed within 90 days after final approval necessary to implement the physical development of the project or, if a phased project, in connection with the phased portion to which the specific mitigation measures are applicable. However, the project applicant may extend that period if he or she so elects. Nothing in this section shall nullify protections for Indian cemeteries under any other provision of law.

Public Resources Code Section 21080.3

AB 52, signed by the California Governor in September of 2014, established a new class of resources under CEQA: "tribal cultural resources," defined in PRC Section 21074. Pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation before the release of an EIR, negative declaration, or mitigated negative declaration. PRC Section 21080.3.2 states:

> Within 14 days of determining that a project application is complete, or to undertake a project, the lead agency must provide formal notification, in writing, to the tribes that have requested notification of proposed projects in the lead agency's jurisdiction. If it wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. The lead agency must begin the consultation process with the tribes that have requested consultation within 30 days of receiving the request for consultation. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (PRC Section 5097.9) applies to both State and private lands. The act requires, upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are those of a Native American, the coroner must notify the Native American Heritage Commission (NAHC), which notifies and has the authority to designate the most likely descendant of the deceased. The act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Health and Safety Code, Sections 7050.5

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If they are determined to be those of a Native American, the coroner must contact NAHC.

Public Resources Code, Section 5097

PRC Section 5097 specifies the procedures to be followed if human remains are unexpectedly discovered on nonfederal land. The disposition of Native American burials falls within the jurisdiction of NAHC. Section 5097.5 of the code states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

LOCAL

Cal Poly Humboldt is an entity of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section in Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The Historical Preservation Element of the Arcata General Plan contains the following policies that are relevant to the project:

- **Policy H-1b: Local Historic Landmarks Designations.** Structures or sites having special character or special historic, architectural, or aesthetic interest or value shall be designated as local Historic Landmarks. Such structures or sites shall be protected from demolition and inappropriate alterations. Locally designated Historic Landmarks are shown in Figure HP-a and are listed in Table HP-1, at the end of the Element. An updated inventory of structures and sites eligible for designation as a Local Historic Landmark shall be maintained by the City. One or more of the following criteria shall be required for a structure or site to be eligible for listing:

  1. The building or site is particularly representative of a distinct architectural period, type, style, or way of life.
  2. The building is of a type or style which was once common but is now rare.
  3. The building is at least 50 years old.
  4. The building or site is connected with a person or event important to local history.
  5. The architect or builder is famous or well-recognized.
  6. The building's style, construction method, or materials are unusual or significant.
  7. The overall effect of the design or building details are beautiful or unusual.
  8. The building contains original materials or workmanship of high or unusual value.

- **Policy H-7a: Cultural Resources Project Review.** As part of the environmental and project review process, the City of Arcata shall enter into a Memorandum of Agreement (MOA) with the Northwest Information Center of the Historical Resources Information System of the State of California. Under the MOA, all proposed discretionary projects under the California Environmental Quality Act shall be subject to cultural resources sensitivity review by the Northwest Information Center. In order to provide a context for city projects, for the evaluation of cultural significance and for the interpretation of the results of cultural resources project reviews, the City of Arcata shall contract for a general prehistoric, ethnographic, and historic overview of the city and its environs.
- **Policy H-7b: Archaeological Surface Reconnaissance.** If the cultural resources project review determines that the project is located in an area with a high probability of archaeological resources, an archaeological survey by a professional archaeologist or other qualified expert shall be performed.
- **Policy H-7c: Mitigation of Potential Impacts on Archeological Resources.** If the results of the surface reconnaissance show that the project area contains a resource of cultural significance, and if it is demonstrated that a project will cause damage to such a resource, the City may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of other treatment include, but are not limited to, the following: 1. Modifying the project to avoid portions of the site with archaeological resources. 2. Providing or conveying easements or other deed restrictions. 3. Capping or covering archaeological resources with a soil layer before construction. 4. Planning open space to incorporate archaeological sites.
- **Policy H-7d: Monitoring of Construction.** In appropriate circumstances, when archaeological resources are likely to be present at a construction site, monitoring of excavation and other soil disturbing activities by archeological and/or Native American observers shall be required.
- **Policy H-7f: Discovery of Archeological Resources.** Upon discovery of archeological or paleontological materials, all grading or other land-disturbing construction activities at the site shall be suspended until the nature of the cultural resources has been ascertained and the appropriate disposition method determined.

3.3.2 Environmental Setting

The following setting is based on the *Cultural Resources Survey and Assessment Report for the Cal Poly Humboldt Student Housing Project* (Ascent 2022).

REGIONAL PRECONTACT HISTORY

Evidence indicates that Native American occupation in the Humboldt Bay region began approximately 8,000 years ago. Although few comprehensive archaeological investigations have been completed in the region, three distinct cultural patterns, each with their own suite of artifacts and lifeways, have been identified. These patterns are the Borax Lake, Mendocino, and Tuluwat patterns.

Borax Lake Pattern

During the Borax Lake Pattern (8,000 to 5,000 calibrated years before present [cal BP]), the climate was warmer and drier than today, and the oak woodland in northwestern California was more extensive. The material culture associated with the Borax Lake Pattern includes Borax Lake Widestem projectile points, handstones, millingslabs, small serrated bifaces, and cobble spall. Archaeological sites associated with the Borax Lake Pattern have been documented on the ridgelines east of Humboldt Bay, such as Pine Ridge, and at a coastal terrace overlooking Little River, north of the project area.

Recent research has indicated that lifeways during the Borax Lake Pattern period may have been more sedentary than previously believed. Larger occupation areas appear to have been in lowland riverine environments where large game such as elk and deer would have been easily obtainable. This habitat also would have allowed exploitation of migratory salmon runs. Seasonal occupations in upland areas to gather resources such as acorns would have complimented the lowland diet. Tool assemblages found in each of these habitats appear to support this hypothesis; specialized and expedient tools are more often found in the upland archaeological sites while a more broad and homogenous tool assemblage is present in lowland sites indicating a longer period of occupation there.

Mendocino Pattern

During the Mendocino Pattern (5,000 BP to 2,500 BP), upland areas of Humboldt Bay seem to have been abandoned. This is likely due to a change in environment from a warm and dry climate to a cooler and wetter climate which allowed coniferous forests to move down into the elevations where oak woodlands were present previously. Archaeological sites associated with Mendocino Pattern assemblages have been located in the coastal hills adjacent to Humboldt Bay and at bay margin sites in Arcata.

Sites associated with this pattern generally include concave-base, side-notched, and corner-notched dart points; handstones and millingslabs; flake tools; and occasionally mortars and pestles. It appears that people were living intensively on the rivers of northern California during this period with only short-term forays into upland areas to bring resources back to the larger village site near the river.

Tuluwat Pattern

The Tuluwat Pattern (2,500 BP to 500 BP) is named for the Wiyot Village of Tuluwat on Gunther Island in Humboldt Bay. Lifeways during the Tuluwat Pattern saw occupation centers move to the coast and more intensive use of both riverine and upland environments as well as coastal ones. This intensive use of multiple habitats is likely due to increased populations and constricted resource bases due to a return to warm and dry conditions. Another theory is that Algic (also known as Ritwan) groups during the earlier part of this pattern (circa 2,300 BP) and Athabaskan groups approximately 1,000 years later, migrated into the area, pushing the original inhabitants (the Yuki) southward.

Tuluwat Pattern artifact assemblages reflect a substantially more sedentary residential base with a broad array of artifacts such as toggle harpoons, net spacers, net weights, bowl and hopper mortars, shaped pestles, large bifaces, Tuluwat-Barbed arrow points, adze heads, calendar stones, *Olivella* beads, and abalone pendants. The Tuluwat Pattern essentially represents the cultures inhabiting the Humboldt Bay area, including Arcata, at the time of European contact.

ETHNOGRAPHY

The Wiyot

The project area lies within the traditional territory of the Wiki division of the Wiyot Indian tribe. This group occupied lands adjacent to Humboldt Bay and refer to themselves as the *Soo-lah-te-luk*. The name "Wiyot" itself is derived from the Yurok term "*weyet*" or "*weyot*." The Wiyot language, and the language of the Yurok to the north, are similar to Algonquin, and although the Wiyot and Yurok languages are distinctly different, they are distantly related. Linguists have linked the two into a provisional group called Ritwan, which is the California branch of Algic. Linguistic research implies that both the Wiyot and Yurok migrated into Northwestern California during a similar timeframe but went to different locations.

Wiyot territory has been described as being bounded on the northwest by the valley of Little River near Trinidad and on the northeast by Berry Summit and Chalk Mountain. On the south, Wiyot territory extended to the Bear River mountains near Scotia. To the west, it was bounded by the Pacific Ocean. To the east, it included lands along Mad River for two or three miles above Blue Lake, and up Eel River for a mile or two above the mouth of the Van Duzen River. This territory is almost entirely in the redwood belt of northwestern California.

Wiyot settlements were typically located next to areas of "still water" along the fringes of Humboldt Bay and on the terraces above the lower Mad and Eel rivers. Wiyot houses were square and semi-subterranean with plank walls, a gabled roof, and sliding doors. Sweat houses were also semi-subterranean and at least 16 feet square. Wiyot peoples also made redwood dugout canoes. Clothing was mostly made from deer and rabbit skins. Women and girls wore twined basketry caps. Basket-making materials included spruce and willow roots, bear grass, maidenhair and woodwardia ferns, hazelnut, and a dye made from alder bark juice. Twined baskets were used for carrying and cooking foods.

Animals were hunted or caught in various ways. Elk were pursued by a hunter and his dogs in a running chase that could last two days; deer were caught in rope snares. Bears were trapped in deadfalls, or, if hibernating in a hollow log, suffocated by smoke after the openings had been partially blocked. Waterfowl were hunted from blinds. Salmon might be taken in gill nets or in either of two types of fish weirs. Smelt were caught in surf nets. Acorns and huckleberries were two plant resources of prime importance.

The Mad River region and the adjoining sloughs were heavily populated and extensively used by the Wiyot peoples. The two closest known villages located near the project site were *klokwo-sesko-ten* (place of sturgeon) and *Tokelerboku'* (place of salmon). No occupations were known to be located within the project site or the surrounding area, as it is located within the "Arcata Prairie" where plants were gathered seasonally such as "parsley." This "prairie" was likely utilized for other plants and animal resources as well.

After Contact

The first recorded "discovery" of Humboldt Bay by Europeans was in 1806 by Captain Jonathan Winship. Sustained contact began in 1849 when Josiah Gregg journeyed overland to Humboldt Bay and were met by Wiyot headman *Ki-we-lat-tah*. This was the start of Euromerican settlement in the region; however, it was the Gold Rush that resulted in the death of many Wiyot people and destruction of their culture. The ensuing "Indian troubles" culminated in a series of massacres, most notably the infamous slaughter at *Tuluwat* on Gunther Island in Humboldt Bay on February 26, 1860. Here, the Wiyot people had gathered at their traditional site on the island for the annual World Renewal Ceremony, which lasted seven to ten days. At night, the men would replenish supplies, leaving the elders, women and children sleeping and resting. Under cover of darkness, local men armed with hatchets and knives rowed to the island and brutally murdered nearly all the sleeping Wiyot. Estimates of the dead range from 80 to 250.

Although the men involved were locally known, no charges were ever filed. Remaining Wiyot temporarily took refuge at Fort Humboldt, where nearly one half of the survivors died of exposure and starvation. Later these survivors were forcibly relocated to reservations at Klamath, then after a devastating flood in 1862, moved to Hoopa, Smith River, and Round Valley reservations. Some of the surviving Wiyot also attempted to return to their homeland, only to find their homes destroyed and lands taken by Euromerican settlers. As the 19th and 20th centuries advanced, Wiyot cultural practices and language were discouraged by official policies of "acculturation." Wiyot people learned to work and live within the Euromerican community, effectively "walking in two worlds." Wiyot people often went to American schools, married European immigrants, and helped to build the timber, fishing and agricultural industries.

Contemporary Wiyot

In 1961, the California Rancheria Act terminated the legal status of the tribe, and the Wiyot effectively became non-Indian Indians. In 1975, the Tribe filed suit against the Federal Government for unlawful termination, and in 1981 federal recognition and trust status was reinstated as a result of Table Bluff Indians versus Lujan. In 1991, during another lawsuit regarding drinking water contamination and other sanitation issues on the "Old Reservation" near Eureka, the court mandated new land be purchased and the Tribe moved to the present 88-acre Table Bluff Reservation. The original twenty acres were put into fee simple ownership under individual families, but still are under the Tribe's jurisdiction as long as held in Indian hands. The two reservations are within one mile of each other. Other Wiyot reservations/rancherias include the Bear River Band of Rohnerville Rancheria near Loleta, Blue Lake Rancheria near the community of Blue Lake, and Cher-Ae Heights Indian Community of the Trinidad Rancheria near Trinidad.

Today, Wiyot people are actively recovering the old ways, including language, ceremony, and lifeways. At the same time, they acquire new trades and skills, graduate from college, become artists, doctors, lawyers, teachers, and professionals in a variety of fields. Many Wiyot tribes, such as the Wiyot Tribe at Table Bluff Rancheria, Blue Lake Rancheria, Bear River Band of the Rohnerville Rancheria, and Cher-Ae Heights Indian Community of the Trinidad Rancheria also maintain their own tribal court system as well as provide health, education, childcare, and advocacy services for tribal members. Wiyot people are dedicated to preserving native history and the cultural material of their ancestors. This includes the ancient village sites and shell middens that surround Humboldt Bay, terraces above the waterways, and along the ridge lines once used for seasonal camps, travel, and trade. Pieces of long forgotten native history are emerging as a result of both archaeological investigation and from family memories and records. Although much of Wiyot pre-contact history has been lost or destroyed, there is also much that is being recovered.

HISTORIC SETTING

Euromerican Discovery and Settlement

Humboldt Bay, formerly called Arcata Bay, was first discovered in 1806 by Captain Jonathan Winship, an American employed by the Russian-American Fur Company when he was hunting seals and otters in the region. He and his crew named the bay "Indian Bay" because of the numerous indigenous villages they found along its shore. The bay was not addressed again by Euromericans until Dr. Josiah Gregg rediscovered the bay as part of his expedition to map the Trinity River.

Prompted by the 1848 discovery of gold on the upper Trinity River and 1849 rediscovery of Humboldt Bay, Euromerican immigrants rapidly claimed and settled the flatter areas of coastal land around Humboldt Bay. These locations, ideal for farming and ocean access led to the formation of the cities of Trinidad, Eureka, and Union; Union was renamed Arcata in 1860. First settled in the spring of 1850, Arcata was a supply center for the interior mining districts. The townsite at the foot of Fickle Hill was selected by the Union Company and was soon subdivided into blocks and lots for homes and businesses. To supply the new town and provide easy transit from ocean-going vessels, a wharf was constructed into Humboldt Bay. A horse-drawn railway was constructed between the wharf and downtown, where merchandising establishments supplied the miners and a growing number of settlers.

As gold fever increased, tensions continued to rise between Euromerican miners, settlers, and local Tribes. To help resolve this, the US Army established Fort Humboldt near Eureka in 1853 "to protect settlers from Native American raids." Soon after, other military posts were established in the Humboldt Bay region, including Camp Curtis near Arcata in 1858. Located approximately one-quarter mile north of the project site, Camp Curtis had a good view of the lower Mad River plain and agriculturally rich Arcata bottomlands. Over the years, Camp Curtis was used by various companies of the California Militia, and from 1862 to 1865, it served as the headquarters of the 151 Battalion of Mountaineers of California Volunteers. Today, nothing is left of Camp Curtis, but its location is marked as California State Historic Landmark No. 215.

Agriculture, Lumber, and Railroads

Agriculture

The first areas in the vicinity of Arcata to be settled by Euromericans were bottomlands adjacent to Humboldt Bay. Called the Arcata Bottom, these flat floodplains were free of the dense redwood forests which characterize the adjacent uplands, and therefore required far less effort to clear for farming. The agriculture of the Arcata Bottom was initially a grain-focused economy. Grains, such as oats, barley, wheat, and hay were planted, along with dry peas and potatoes. Cultivation of grain crops and potatoes lasted into the 1880s, when the potato blight and poor market returns prompted farmers to look at a new and emerging agricultural industry, dairying.

The first dairy herds began to appear on the Bottom in the late 1880s, and within a few short years, the industry was booming enough for a creamery to be considered a profitable venture. The first creamery, the Arcata Creamery, was built in 1892, and several more followed in short succession, including the Diamond Crystal Creamery. As reclamation efforts of tide-influenced lands around the bay and along the sloughs got underway in the mid- 1890s, more land was made available for dairying, and the industry came to dominate the Arcata Bottom agriculture for the next 75 years.

The Lumber Industry

Vast, virgin forests of giant redwoods covered the ridges and valleys along California's north coast, including the inlands around Humboldt Bay. At first, some of these trees provided lumber for gold miner’s sluice boxes, tail races, and shacks. However, as the gold literally panned out and the miners turned to agriculture and similar industries, lumber was needed to construct the homes, businesses, and infrastructure needed for the new settlements of the region to grow. Lumber from the region was also used for shipbuilding on Humboldt Bay.

Arcata's first sawmill was the Union Mill, built in 1853. Other early mills included the Janes Creek Mill, located north of Arcata in 1869, the Dolly Varden mill built in 1872, and the Jolly Giant Mill at the northern edge of Arcata, built in 1875. In the 1870s, trees logged above Arcata were transported down Campbell Creek on skids still visible in the creek bed today. By the end of the Great Depression in 1939, only four lumber companies had been able to remain in business. Known as the “Big Four,” these companies were Dolbeer and Carson, Pacific Lumber, Hammond Lumber, and Holmes-Eureka. In Arcata, the California Barrel Company, which was founded in 1902, was also able to survive and became the major local employer after World War II.

The post-World War II housing boom multiplied the number of lumber mills in Arcata and the region. As early as February 1947, Arcata reported over 30 lumber operations; by 1956, there were over 50 lumber mills. In 1953, lumber milled from local timber sources resulted in a total of 28,371 railcar loads and thousands of truckloads from the Arcata area alone; the city’s slogan was “the lumber capital of the world” in 1965. In time, though, the “lumber capital” saw its domain shrink. Today, less than a handful of mills still operate in the Arcata area, most being located along West End Road north of the city limits.

The Arcata Manufacturing Company was established by Elmer Spaulding in 1947, where the Craftsman’s Mall sits today. The plant processed sugar pine, Douglas fir, and white fir, milled into “sellable” ready-to-use lumber products. Waste from processing was burned on-site in large metal cylindrical structure called a teepee burner. This burner was located on west edge of the mill property. Larger burners could be up to ninety feet high and ninety feet in diameter. In 1957, Spaulding sold the plant to the Van Vleet Products Company. By 1964, Van Vleet faced significant financial problems and the plant was put up for auction. In 1965 the majority of the plant was demolished. All that remains today is one warehouse located on the northeastern edge of the property.

Railroads

The first railroad in California was built in Arcata as a means to provide passage and goods for the Trinity River Gold Rush miners and the burgeoning settlements at and near Arcata. On December 15, 1854, the Union Plank Walk, Rail Track and Wharf Company was incorporated, and the railroad became operational in 1855. In 1858, the railroad built a warehouse in Arcata, now known as Jacoby's Building, which is recognized as California Historic Landmark No. 783. In 1881, the company became the Arcata & Mad River Railroad, providing service from the north end of Humboldt Bay to the north fork of Mad River. The railroad remained in service for over 130 years transporting goods, timber, lumber, and people throughout the region until 1985 when truck transport was considered more economical.

An early railroad adjacent to the project site was the Eureka and Klamath River Railroad in 1896. In 1907, this line was absorbed into the Northwestern Pacific Railroad Company (NWPRR); creation of the NWPRR allowed the Santa Fe Railway and Southern Pacific Railroad to consolidate their competing northwestern California lines. Eventually, the NWPRR was connected to the San Francisco Bay Area via a main line which ran north from Marin County. Tracks of the NWPRR are located adjacent to the project site along the east margin of St. Louis Road. A spur ran from the NWPRR tracks to the Arcata Manufacturing Plant to transport cut lumber to and from the mill and was likely associated with the three warehouses on the south side of the mill property. This spur is no longer present, having been paved over and graded flat. After many years of struggle, the Federal Railroad Administration closed the entire NWPRR line in 1998, although the North Coast Railroad Authority retains control of the right of way.

RECORDS SEARCHES, SURVEYS, AND CONSULTATION

On February 25, 2022, a records search for the project site and a one-half-mile radius was conducted at the Northwest Information Center (NWIC), at California State University, Sonoma (File No. 21-1182). The following information was reviewed:

- site records of previously recorded cultural resources,
- previous cultural studies,
- NRHP and CRHR listings,
- the California Historic Resources Inventory
- Built Environment Resource Directory for Placer County
- Historical Maps (USGS Topographic and GLO Plat maps)
- Caltrans Historic Bridge Inventory

The records search identified three previously recorded historic-age buildings within the project site and six within a one-half-mile radius. The NWIC record search indicated that no archaeological sites have been previously recorded within the project site or the one-half mile radius. The search also found that one previous investigation encompassed the entirety of the project site and another encompasses approximately 95 percent of the project site; two additional studies included less than 5 percent of the project site. An additional 15 investigations have occurred within one-half mile of the project site.

The three previously recorded historic-age buildings within the project site were surveyed and evaluated by William Rich and Associates in 2016 in conjunction with the prior project proposed on the project site. Rich's investigation covered 95 percent of the Craftsman's Mall property, which includes APNs 503-372-003, 503-372-004, 503-372-005, 503-372-006, 505-022-011, and 505-022-012. These buildings include two warehouses constructed between 1948 and 1958 originally associated with Arcata Manufacturing Company and a residential home built after 1941 along St. Louis Road. All three of the buildings were determined not to be eligible for listing in the NRHP or CRHR. The warehouses lacked historical significance (under Criteria A/1 and B/2) and had lost integrity. The residence lacked architectural merit (under Criterion C/3) and had also lost integrity. Therefore, these buildings are not considered resources under CEQA.

Archaeological Sites

An intensive level archaeological survey of the project site was conducted on February 17, 2022. Parallel transects measuring approximately 15 meters apart were used within the project site as much as structures, vegetation, and topography allowed. All open areas where the ground was visible were examined. Special attention was given to bare patches of ground, exposed soils, rodent burrows, and dirt piles. No historic-era archaeological or precontact archaeological sites were observed.

Historic Features

An intensive level architectural survey was conducted on July 9, 2022. Four built-environment structures were recorded. NRHP and CRHR criteria were used to evaluate the significance of the historic features. The NRHP criteria for eligibility are codified in 36 CFR Part 60 and explained in guidelines published by the Keeper of the NRHP. The NRHP and CRHR are discussed in more detail above in Section 3.3.1, “Regulatory Setting.” Eligibility for listing on the NRHP and the CRHR rests on twin factors of significance and integrity. A resource must have both significance and integrity to be considered eligible. Loss of integrity, if sufficiently great, will become more important than the historical significance a resource may possess and render it ineligible. Likewise, a resource can have complete integrity, but if it lacks significance, it must also be considered ineligible.

Arcata-1

This feature is a residence located at 2911 St. Louis Road. The two-story building features a flat roof and is clad in vertical wood siding. The building does not appear to be eligible for listing in the NRHP or the CRHR as it is not associated with events that have made a significant contribution to history (Criterion A/1), does not have any direct associations with any individuals significant to history (Criterion B/2), is without noteworthy architectural qualities (Criterion C/3), and is not likely to yield any additional important information about our history (Criterion D/4). Additionally, it would not qualify as an Arcata Historical Landmark.

Arcata-2

This feature is a residence located at 2915 St. Louis Road. The single-story building features a steep pitched cascading gabled roof. The building is clad in horizontal wood siding and was constructed in the early 1940s. The building does not appear to be eligible for listing in the NRHP or the CRHR as it is not associated with events that have made a significant contribution to history (Criterion A/1), does not have any direct associations with any individuals significant to history (Criterion B/2), is without noteworthy architectural qualities (Criterion C/3), and is not likely to yield any additional important information about our history (Criterion D/4). Additionally, it would not qualify as an Arcata Historical Landmark.

Arcata-3

This feature is a residence located at 2925 St. Louis Road. The two-story building has a jerkinhead gabled roof, with an attached, flat-roof, single-story garage. The building is clad in horizontal wood siding and was constructed in the early 1940s. The building does not appear to be eligible for listing in the NRHP or the CRHR as it is not associated with events that have made a significant contribution to history (Criterion A/1), does not have any direct associations with any individuals significant to history (Criterion B/2), is without noteworthy architectural qualities (Criterion C/3), and is not likely to yield any additional important information about our history (Criterion D/4). Additionally, it would not qualify as an Arcata Historical Landmark.

Arcata-4

This feature consists of a corrugated metal shed that is associated with the lumber yard across St. Louis Road. The structure does not appear to be eligible for listing in the NRHP or the CRHR as it is not associated with events that have made a significant contribution to history (Criterion A/1), does not have any direct associations with any individuals significant to history (Criterion B/2), is without noteworthy architectural qualities (Criterion C/3), and is not likely to yield any additional important information about our history (Criterion D/4). Additionally, it would not qualify as an Arcata Historical Landmark.

Tribal Cultural Resources

Sacred Lands File Search

Ascent requested a search of the Sacred Lands File from the NAHC on January 24, 2022. Negative results were returned on April 4, 2022.

Native American Consultation

Pursuant to AB 52, and consistent with Cal Poly Humboldt’s tribal notification list, the University mailed notification letters to these tribal representatives on February 25, 2022:

- Chairperson Claudia Brundin, Blue Lake Rancheria

- Ted Hernandez, Cultural Director, Wiyot Tribe
- Melanie McCavour, THPO Director, Bear River Band of Rohnerville Rancheria

Two tribes responded to the AB 52 notification letters. The Bear River Band responded on March 7, 2022, stating that a cultural resources report was previously prepared for the project site, and they were satisfied with the findings and recommendations of that document (Rich 2016). Blue Lake Rancheria responded on March 9, 2022, stating that they had no records of any previously documented tribal cultural resources in the project site, but did request to be notified if any indigenous resources were later identified. Blue Lake Rancheria requested to review the cultural resources report.

3.3.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The impact analysis for archaeological and historical resources is based on the findings and recommendations of the *Cultural Resources Survey and Assessment Report for the Cal Poly Humboldt Student Housing Project* (Ascent 2022). The analysis is also informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources.

PRC Section 21083.2(g) defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following CRHR-related criteria: (1) that it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; (2) that it as a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) that it is directly associated with a scientifically recognized important prehistoric or historic event or person. An impact on a resource that is not unique is not a significant environmental impact under CEQA (State CEQA Guidelines Section 15064.5[c][4]). If an archaeological resource qualifies as a resource under CRHR criteria, then the resource is treated as a unique archaeological resource for the purposes of CEQA.

PRC Section 21074 defines "tribal cultural resources" as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are listed or determined eligible for listing in the CRHR, listed in a local register of historical resources, or otherwise determined by the lead agency to be a tribal cultural resource.

For the purposes of the impact discussion, "historical resource" is used to describe built-environment historic-period resources. Archaeological resources (both prehistoric and historic-period), which may qualify as "historical resources" pursuant to CEQA, are analyzed separately from built-environment historical resources.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, the project would normally result in a significant impact on cultural resources if it would:

- cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

  - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.
- disturb any human remains, including those interred outside of dedicated cemeteries.

ISSUES NOT DISCUSSED FURTHER

Historic Resources

As described above, no historic resources were identified on the project site. Historic features Arcata-1 through Arcata-4 were evaluated and not recommended eligible for listing in the CRHR or NRHP, or as Arcata Historical Landmarks. As a result, they would not be considered significant for the purposes of CEQA. Therefore, project construction and operation would have no significant impacts on historical resources. This issue is not analyzed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Cause a Substantial Adverse Change in the Significance of an Archaeological Resource

Results of the records search and pedestrian survey did not result in the identification of archaeological resources within the project site. However, project-related ground-disturbing activities, including off-site roadway and utility improvements, could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5 or PRC Section 21083.2(g). This would be a **potentially significant** impact.

The NWIC records search revealed that no prehistoric or historic-period archaeological sites have been previously documented within the project site or within a one-half-mile radius. The pedestrian survey found no anthropogenic soils (i.e., midden), above ground features, or concentrations of shell, bone, or lithic materials that would have indicated the presence of a pre-contact indigenous archaeological deposit. Additionally, no unique archaeological resources as defined in PRC Section 21083.2(g) or archaeological resources as defined in State CEQA Guidelines Section 15064.5 were identified during the survey.

Nonetheless, project construction could encounter previously undiscovered or unrecorded archaeological sites and materials during preconstruction or construction-related ground disturbing activities. These activities could damage or destroy previously undiscovered unique archaeological resources. This would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.3-1: Halt Ground-Disturbing Activity Upon Discovery of Subsurface Archaeological Features

Prior to the start of any ground disturbing activities, a qualified archaeologist meeting the United States Secretary of Interior guidelines for professional archaeologists shall be retained to develop a construction worker awareness brochure. This brochure shall be distributed to all construction personnel and supervisors who may have the potential to encounter cultural resources. The topics to be addressed in the Worker Environmental Awareness Program shall include, at a minimum:

- types of cultural resources expected in the project area;
- what to do if a worker encounters a possible resource;
- what to do if a worker encounters bones or possible bones; and
- penalties for removing or intentionally disturbing cultural resources, such as those identified in the Archeological Resources Protection Act.

If any precontact or historic-era subsurface archaeological features or deposits (e.g., ceramic shard, trash scatters), including locally darkened soil ("midden"), which may conceal cultural deposits, are discovered during construction, all ground-disturbing activity within 100 feet of the resources shall be halted, and a qualified professional archaeologist shall be retained to assess the significance of the find. If the qualified archaeologist determines the archaeological material to be Native American in nature, Cal Poly Humboldt shall contact the appropriate California Native American tribes. A tribal representative from a California Native American tribe that is traditionally and culturally affiliated with the project area may make recommendations for further evaluation and treatment as necessary and provide input on the preferred treatment of the find. If the find is determined to be significant by the archaeologist or the tribal representative (i.e., because it is determined to constitute a unique archaeological resource or a tribal cultural resource, as appropriate), the archaeologist and tribal representative, as appropriate, shall develop, and Cal Poly Humboldt shall implement, appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures may include but would not necessarily be limited to preservation in place (which shall be the preferred manner of mitigating impacts on archaeological and tribal sites), archival research, subsurface testing, or contiguous block unit excavation and data recovery (when it is the only feasible mitigation, and pursuant to a data recovery plan). No work at the discovery location (i.e., within 100 feet of the discovered resource[s] unless a lesser buffer distance is determined appropriate by a qualified professional archaeologist) shall resume until necessary investigation, evaluation, and protection of the resource has been conducted.

Significance after Mitigation

Implementation of Mitigation Measure 3.3-1 would reduce impacts associated with archaeological resources to a **less-than-significant** level because it would require the performance of professionally accepted and legally compliant procedures for the discovery and protection of previously undocumented significant archaeological resources.

Impact 3.3-2: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource

Tribal consultation under AB 52 has not resulted in the identification of tribal cultural resources on the project site. However, excavation activities associated with project construction may disturb or destroy previously undiscovered significant subsurface tribal cultural resources. Impacts would be **potentially significant**.

Neither the NAHC Sacred Land File search nor the NWIC record search indicated the presence of indigenous sites within the project site or within a one-half-mile radius. As detailed above, the Cal Poly Humboldt sent AB 52 notification letters to three tribal representatives. Consultation with the responding tribes has not resulted in the identification of any tribal cultural resources as defined by PRC Section 21074.

Ground-disturbing activities during project construction could uncover previously unknown tribal cultural resources. These activities could damage or destroy tribal cultural resources. This is a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.3-2: Implement Mitigation Measure 3.3-1

Significance after Mitigation

Implementation of Mitigation Measure 3.3-2 would reduce impacts associated with tribal cultural resources to a **less than significant** level by requiring appropriate treatment and proper care of significant tribal cultural resources, in accordance with the wishes of the geographically and culturally affiliated tribe, in the case of a discovery.

Impact 3.3-3: Disturb Human Remains

Based on documentary research, no evidence suggests that any prehistoric or historic-period marked or un-marked human interments are present within or in the immediate vicinity of the project site. However, ground-disturbing construction activities could uncover previously unknown human remains. Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097 would make this impact **less than significant**.

Based on documentary research, no evidence suggests that any prehistoric or historic-period marked or un-marked human interments are present within or in the immediate vicinity of the project site. However, the location of grave sites and Native American remains can occur outside of identified cemeteries or burial sites. Therefore, there is a possibility that unmarked, previously unknown Native American or other graves could be present within the project site and could be uncovered by project-related construction activities.

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.

These statutes require that, if human remains are discovered, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and the appropriate County coroner shall be notified immediately. If the remains are determined by the coroner to be Native American, NAHC shall be notified within 24 hours and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the NAHC-designated Most Likely Descendant and the landowner shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments, if present, are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Compliance with California Health and Safety Code Section 7050.5 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, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

3.4 BIOLOGICAL RESOURCES

This section addresses common and sensitive biological resources that could be affected by implementation of the Cal Poly Humboldt Student Housing Project. This evaluation is based on data collected during a reconnaissance-level survey of the project site conducted on April 17, 2022; an aquatic resource field delineation conducted on April 16, 2022; a review of previously prepared environmental documents including The Village Student Housing Project EIR, Biological Review of The Village on APN 505-022-011, -012 by Natural Resources Management (NRM) Corporation (2016); a review of aerial photographs of the project area; species lists obtained from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation planning tool (USFWS 2022) and searches of the California Natural Diversity Database (CNDDB) (CDFW 2022) and California Native Plant Society Rare Plant Inventory (CNPS 2022); and other existing documentation pertaining to biological resources in the region.

No comments related to biological resources were received in response to the NOP.

3.4.1 Regulatory Setting

FEDERAL

Federal Endangered Species Act

The federal Endangered Species Act (ESA) requires formal or informal consultation with USFWS or the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) when it is likely that a project could affect species federally listed as threatened or endangered. The purpose of the ESA is to conserve the ecosystems upon which listed species depend. The law's ultimate goal is to "recover" listed species such that the protections of the act are no longer needed.

The act also regulates the "taking" of species listed as threatened or endangered under the ESA. Under the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take. If implementing a project would result in take of a federally listed species, either the project applicant must acquire an incidental take permit (ITP) under Section 10(a) of the ESA or, if a federal discretionary action is involved, the federal agency must consult with USFWS under Section 7 of the act.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in 50 CFR 10.13. The list includes nearly all birds native to the United States.

Clean Water Act

Section 404 of the Clean Water Act (CWA) requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States that has the effect of replacing any portion of waters of the United States with dry land or changing the bottom elevation of any portion of waters of the United States. Waters of the United States include navigable waters; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; relatively permanent tributaries to any of these waters; and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands typically must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be subject to federal jurisdiction under Section 404 of the CWA pending U.S. Army Corps of Engineers (USACE) verification.

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board (SWRCB) to the nine regional water quality control boards (RWQCBs). Section 3.9, "Hydrology and Water Quality," includes further discussion of water quality regulations.

STATE

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) regulates the taking of species listed as threatened or endangered under the California Endangered Species Act (CESA), which prohibits the taking of state-listed endangered or threatened species, as well as candidate species being considered for listing, without the issuance of ITPs. Project proponents may obtain an ITP pursuant to Fish and Game Code Section 2081 if the impacts of the take are minimized and fully mitigated and if the take would not jeopardize the continued existence of the species. A "take" of a species, under CESA, is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" an individual of a species. The CESA definition of "take" does not include "harm" or "harass" as is included in the ESA definition. As a result, the threshold for take under CESA may be higher than under the ESA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Water Code, Section 13000 et seq.) requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control in their respective regions. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB's jurisdiction includes waters of the United States, as well as areas not federally protected under CWA Section 404, provided they meet the definition of "waters of the state." "Waters of the state" is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The SWRCB published a new set of procedures for discharges of dredged or fill material into waters of the state on March 22, 2019. The California Water Code generally regulates more substances contained in discharges and defines discharges to receiving waters more broadly than does the CWA. In addition, waters of the State cover a broader range of aquatic habitats than the CWA. Actions that affect waters of the State, including wetlands, must meet the RWQCB waste discharge requirements. Mitigation requiring no net loss of overall abundance, diversity, and condition of aquatic resources within the affected watershed is required by the RWQCB for any permanent loss of waters of the state.

The SWRCB has adopted the following definition of wetlands:

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes the area lacks vegetation.

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1600 et seq. of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake designated by CDFW without first notifying CDFW of such activity and obtaining a final agreement authorizing such activity. The removal or treatment of vegetation from the bed or banks of lake and stream features is considered a substantial change and is regulated under Section 1602. CDFW's jurisdiction in altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) (California Fish and Game Code Section 1900 et seq.) allows the California Fish and Game Commission to designate plants as rare or endangered. Sixty-four species, subspecies, and varieties of plants are protected as rare under the NPPA. The act prohibits take of endangered or rare native plants but includes exceptions for agricultural and nursery operations; for emergencies; and, after proper notification of CDFW, for vegetation removal from canals, roads, and other building sites, changes in land use, and other situations.

Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. The fully protected status prohibits take or possession of these species and generally does not provide for authorization of incidental take. "Fully protected" is a separate classification, distinct from a listing as endangered or threatened under CESA and the federal ESA. The fully protected species laws were enacted prior to CESA and the ESA. Several of the fully protected species are also protected by the federal and state endangered species laws. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species. On October 8, 2011, the governor signed Senate Bill 618, authorizing CDFW to permit the incidental take of fully protected species if the species is covered and conserved in a natural community conservation plan (NCCP). An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activities. There are no NCCPs adopted within the project area.

Protection for Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.4 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. Section 3513 of the California Fish and Game Code codifies the federal MBTA.

California Environmental Quality Act

Rare, threatened, or endangered plant species, subspecies, and varieties are specifically considered in various sections of CEQA and the State CEQA Guidelines. State CEQA Guidelines Section 15380(b) provides the criteria for endangered, rare, and threatened species. Section 15380(d) states that species that are not on state and federal lists but meet the criteria in Section 15380(b) "shall nevertheless be considered to be endangered, rare or threatened." California Rare Plant Rank 1A, 1B, 2A, and 2B species are presumed to meet these criteria. Additionally, under Section 15380, species will be considered endangered, rare, or threatened if they are listed as such under CESA or the ESA. Species designated as candidates for listing by the California Fish and Game Commission under CESA also are "presumed to be endangered." CESA presumes that candidate species meet the criteria for listing as endangered, rare, or threatened.

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section in Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The City of Arcata General Plan contains guidelines for biological resources within the Open Space Element, and Resource Conservation and Management Element. The following policies from the Arcata General Plan are relevant to the project's assessment of impacts to biological resources:

- **Policy OS-1: Overall Open Space System.** Designate, maintain, and enhance the quality, and increase the amount of permanently protected open space in the Arcata Planning Area, including natural resource areas; resource production areas; outdoor recreation areas; and areas subject to health and safety hazards. These areas are to be protected, linked together in a network wherever practical for accessibility, managed for resource production and maintained for enjoyment by City residents and visitors.
- **Policy OS-2: Natural Resources Protection & Enhancement.** Designate, maintain, and enhance natural resource areas, including sensitive habitat areas, necessary to sustain plant and animal life and native biological diversity.
- **Policy RC-1a: Maintain Biological and Ecological Integrity.** Maintaining ecological balance, system function, biological integrity, and natural diversity is the primary focus of the Resource Conservation and Management Element. Protecting ecological functions of natural habitats, and natural drainage and infiltration processes, will enhance natural ecosystems in the Planning Area. Ecological system functions elements and processes are maintained through the following measures:
    1. The structure and composition of ecological systems within the City shall contain the same native plant and animal species, in the same relative abundances and proportions, which are found in the least-disturbed natural ecosystems in the Planning Area.
    2. The ecological functions performed by ecological systems in the City shall resemble the functions of the least-disturbed natural ecosystems in the Planning Area.
    3. Ecological systems and natural processes are not disrupted by exotic organisms to a significant degree.
    4. Ecological systems and natural processes are not to be disrupted by land use activities to a significant degree (e.g., a culvert or other drainage device that blocks fish passage).
- **Policy RC-1c: Habitat Value Protection.** Environmentally sensitive habitat areas (ESHA) shall be protected against any significant disruption of their habitat values, and only uses dependent on and compatible with maintaining those resources shall be allowed within ESHAs. Proposed development in areas adjacent to ESHAs shall be sited and designed to prevent impacts which would significantly degrade such areas, and must be compatible with the continuance of such habitat areas.
- **Policy RC-1d: Sensitive Habitat Definition.** The City declares the following to be ESHAs within the Planning Area:
    1. Rivers, creeks, sloughs, and associated riparian habitats: Mad River; Jacoby Creek; Beith Creek; Grotzman Creek; Campbell Creek; Jolly Giant Creek; Janes Creek; Gannon Slough; Butcher Slough; and McDaniel Slough.
    2. Wetlands, estuaries, and associated riparian habitats: Arcata Bay; Mad River Slough; Liscom Slough; Butcher Slough; the Aldergrove marshes and ponds; and the Arcata Marsh and Wildlife Sanctuary.
    3. Other unique habitat areas: waterbird rookeries; shorebird concentration sites; habitat for all rare, threatened, or endangered species on federal or state lists; and vegetated dunes.
    4. Public Trust lands such as grazed or farmed wetlands (i.e., diked/reclaimed former tidelands).
- **Policy RC-3: Wetlands Management.** To protect existing wetlands areas and their functional capacities and values, maintain a standard of "no net loss" in area and value, restore degraded wetland areas, enhance wetlands functions, and create additional wetland areas to replace historical losses.

City of Arcata Land Use Code

The City of Arcata Land Use Code addresses biological resources within Chapters 9.58 (Tree Preservation and Hazardous Tree Removal) and 9.59 (Environmentally Sensitive Habitat Areas Protection and Preservation). Chapter 9.58 (Tree Preservation and Hazardous Tree Removal) provides procedures for the filing, processing, and approval or disapproval of applications for tree removal. Establishes minimum standards and regulations to preserve and protect trees which are considered important to the character of the City of Arcata and its neighborhoods. Chapter 9.59 (Environmentally Sensitive Habitat Areas Protection and Preservation) establishes minimum standards and regulations to protect Environmentally Sensitive Habitat Areas (ESHA). Ensures that any proposed subdivision, land use or development adjacent to or capable of affecting ESHA will not degrade these resources or diminish their structure, function, and natural processes.

3.4.2 Environmental Setting

The 12.8-acre project site is located in the City on the northeast edge of the Sunset Neighborhood, near the intersection of the St. Louis Road and U.S. Highway 101 (US 101) overcrossing (Figures 2-1 and 2-2). The project site is bordered by US 101 on the east, single-family residences to the south and west, the Janes Creek Meadows riparian wetland/open space area and St. Louis Road to the north, and the Mad River Lumber Company to the northeast.

The project site includes the following Assessor's parcel numbers: 505-022-011, 505-022-012, 503-372-002, 503-372-003, 503-372-004, 503-372-005, 503-372-006, 505-011-002, 505-011-006, 505-011-007, 505-011-010, and 505-012-004. The project site housed a lumber mill until the 1970s. Currently and as shown in Figure 2-3, the project site consists primarily of Craftsman's Mall, a collection of wood-framed warehouse buildings housing artisan and light industrial rental spaces and outdoor storage areas for local contractors. Three single-family residences are also located within the northeast portion of the site. The northwestern portion and western edge of the site are grade-separated from the Craftsman's Mall and residential properties and are currently undeveloped. The majority of the site is unpaved.

Regionally, the project site is located within the North Coast subregion of the California Floristic Province (Baldwin et al. 2012). Regional natural plant communities surrounding the project site include those that are common to the northern California coast such as coniferous forests, coastal prairie, and coastal scrub. Elevations range from a high of nearly 62 feet above mean sea level at the eastern edge of the project site to a low of approximately 30 feet above mean sea level at the western edge of the project site.

VEGETATION AND HABITAT TYPES

Plant taxonomy follows *The Jepson Manual: Vascular Plants of California (Second Edition)* nomenclature (Baldwin et al. 2012) as revised by the Jepson eFlora (Jepson Flora Project 2022). Common names of plant species are derived from the USDA Plants Database (2022). The project site supports the following general habitat types: annual grassland, Himalayan blackberry scrub, seasonal wetland, riparian wetland, and urban (see Figure 3.4-1).

Grasslands

The northwest section of the project site consists of a vacant field dominated by non-native annual and perennial grasses and forbs with patches of willow (*Salix* sp.), Himalayan blackberry (*Rubus armeniacus*), and Fuller's teasel (*Dipsacus fullonum*). This habitat is disturbed and was previously used as animal pasture (NRM Corporation 2017). Grass species found in this habitat type include tall fescue (*Festuca arundinacea*), sweet vernal grass (*Anthoxanthum odoratum*), Kentucky bluegrass (*Poa pratensis*), common velvet grass (*Holcus lanatus*), and Italian ryegrass (*Festuca perennis*). Other species found in this habitat type include creeping buttercup (*Ranunculus repens*), California burclover (*Medicago polymorpha*), poison hemlock (*Conium maculatum*), English ivy (*Hedera helix*), and small patches of spreading rush (*Juncus patens*).

Himalayan Blackberry Scrub

There is a Himalayan blackberry scrub patch in the middle of the eastern boundary of the project site, adjacent to St. Louis Road. Himalayan blackberry is the dominant species in this area, with annual grasses and forbs occurring sporadically in the understory.

Source: Adapted by Ascent Environmental in 2022

Figure 3.4-1 Habitat Map of the Project Site

Developed/Disturbed

Most of the project site is composed of a developed storage facility that houses storage trailers, vehicles, and miscellaneous debris and materials. Developed areas are paved or otherwise developed or disturbed and generally lack natural vegetation. This area contains little to no vegetation and the few scattered plants present are nonnative grasses and weeds.

Riparian Wetland

The project boundary includes approximately 0.50 acres of riparian wetland habitat associated with a tributary to Janes Creek just south of St. Louis Road and west of Mad River Lumber. Vegetation in this area includes coast redwood (*Sequoia sempervirens*), grand fir (*Abies grandis*), bigleaf maple (*Acer macrophyllum*), red alder (*Alnus rubra*), Pacific wax myrtle (*Morella californica*), western skunk cabbage (*Lysichiton armericanus*), redwood violet (*Viola sempervirens*), bristly oxtongue (*Helminthotheca echioides*), queen Anne's lace (*Daucus carota*), wild teasel, common vetch (*Vicia sativa*), Himalayan blackberry, and English ivy (*Hedera helix*). The edge of the project boundary is approximately 100 feet from the centerline of Janes Creek tributary. The Janes Creek tributary was classified as a Palustrine-Forested Wetland-Riparian Wetland.

Seasonal Wetland

The project site contains 0.0008 acre of seasonal wetland habitat in a depression within the historical floodplain terrace of Janes Creek/McDaniel Slough. Surface runoff from precipitation feeds the seasonal wetland and the wetland drains into a culvert that goes underneath the adjacent residential property. Associated wetland plant species identified in this feature include willow, tall fescue, creeping buttercup, and poison hemlock.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources addressed in this ~~Draft~~ Final EIR include those that are afforded special protection or consideration through the California Fish and Game Code (including CESA), the ESA, the CWA, the Porter-Cologne Act, and CEQA.

Special-Status Species

Plants and animals may be special-status species because of declining populations, vulnerability to habitat change, or restricted distributions. Special-status species include those species legally protected under the CESA, the ESA, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. In this document, special-status species are defined as the following:

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register for proposed species) or candidates for possible future listing as threatened or endangered under ESA (75 CFR 69222);
- Species listed or candidates for listing by the State of California as threatened or endangered under CESA (14 CCR Section 670.5);
- Animals fully protected under the California Fish and Game Code (Section 3511 for birds, Section 4700 for mammals, Section 5050 for reptiles and amphibians, and Section 5515 for fish);
- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code Section 1900 et seq.);
- Plants considered by CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks of 1A, presumed extinct in California and either rare or extinct elsewhere; 1B, considered rare or endangered in California and elsewhere; 2A, presumed extinct in California but common elsewhere; and 2B, considered rare or endangered in California but more common elsewhere). Note, that while these rankings do not afford the same type of legal protection as ESA or CESA, the uniqueness of these species requires special consideration under Section 15380 of the CEQA Guidelines;
- Animals identified by CDFW as species of special concern;

- Species considered locally significant, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 I) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or
- Species that otherwise meets the definition of rare or endangered under CEQA Section 15380.

The term "California species of special concern" is applied by CDFW to animals not listed under ESA or CESA, but that are declining at a rate that could result in listing, or that historically occurred in low numbers and known threats to their persistence currently exist.

Appendix C provides a list of special-status species potentially occurring in the project vicinity and was developed based on review of the existing data sources described previously.

Plants

Query results of the CNDDB and CNPS Inventory of Rare and Endangered Plants of California indicate that 37 special-status plant species have been recorded within the U.S. Geological Survey (USGS) topographic quadrangle containing the project site and the eight surrounding quadrangles, although no occurrences of these species have been recorded in the project site (see Appendix C). For each species listed, a determination was made regarding the potential for the species to occur on the project site based on information gathered during the reconnaissance-level biological survey and aquatic resources delineation survey, including the location of the site, habitats present, current site conditions, and past and present land use.

Due to the historical and ongoing disturbance of the site and lack of required habitat (i.e., coastal salt marsh, dunes, wet meadows, broadleaf forest, north coast coniferous forest) none of the special-status plants known to occur in the region, based on the database query and other sources, have potential of occurring within the project site.

Wildlife and Fish

Query results of the USFWS Information for Planning and Consultation (IPaC), and CNDDB indicate that there are 39 special-status wildlife species that have been recorded within the USGS topographic quadrangle containing the project site and the eight surrounding quadrangles, although no occurrences of these species have been recorded in the project site (see Appendix C). Thirty-seven of these wildlife species were removed from additional consideration due to lack of habitat, or because the project site is outside the current known range of the species.

One species of special concern, northern red-legged frog (*Rana aurora*), and one fully protected species, white-tailed kite (*Elanus leucurus*), have potential for occurrence in the project site. These species, their status, habitat associations, and potential for occurrence on the project site are summarized in Table 3.4-1.

Table 3.4-1 Special-Status Species That May Occur on the Project Site

Name	Federal Status[1]	State Status/CRPR[1]	Habitat	Potential to Occur on the Project Site
AMPHIBIANS				
Northern red-legged frog *Rana aurora*	--	SSC	Klamath/North coast flowing waters, riparian forest, and riparian woodland. Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	May occur: Although the project site does not support suitable aquatic habitat for this species; aquatic habitat is adjacent to the project site on Janes Creek tributary and thus there is potential for this species to wander onto the project site. The riparian wetland onsite may provide suitable upland habitat for this species.

Name	Federal Status[1]	State Status/CRPR[1]	Habitat	Potential to Occur on the Project Site
BIRDS				
White-tailed kite *Elanus leucurus*	--	FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	May occur: Trees in the Janes Creek tributary riparian wetland habitat onsite may provide suitable nesting habitat for this species.

General references: Unless otherwise noted all habitat and distribution data provided by CNDDB.

Note: CNDDB = California Natural Diversity Database

[1] Legal Status Definitions

State:
FP Fully protected (legally protected)
SSC Species of special concern (no formal protection other than CEQA consideration)

Source: CDFW 2022; USFWS 2022

Sensitive Natural Communities and Habitats

Sensitive natural communities are those native plant communities defined by CDFW as having limited distribution statewide or within a county or region and that are often vulnerable to environmental effects of projects (CDFW 2018). These communities may or may not contain special-status plants or their habitat (CDFW 2018). CDFW designates sensitive natural communities based on their state rarity and threat ranking using NatureServe's Heritage Methodology. Natural communities with rarity ranks of S1 to S3, where S1 is critically imperiled, S2 is imperiled, and S3 is vulnerable, are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2018).

Sensitive natural communities are generally identified at the alliance level of vegetation classification hierarchy using the Manual of California Vegetation (Sawyer et al. 2009). Known occurrences of sensitive natural communities are included in the CNDDB; however, no new occurrences have been added to the CNDDB since the mid-1990s when funding was cut for this portion of the CNDDB program. Two sensitive natural communities were identified within the nine USGS quadrangles surrounding the project site through a query of the CNDDB: northern foredune grassland and northern coastal salt marsh (CDFW 2022). These communities were mapped and classified in the CNDDB prior to publication of the Manual of California Vegetation and are classified according to Holland 1986. No sensitive natural communities were identified as occurring within five miles of the project site during the desktop literature review or field surveys.

Forested Wetland – Riparian Wetland

There is approximately 0.50 acres of forested wetland along the northern boundary of the project site.

Wetlands and Other Waters of the United States and Waters of the State

As per the Aquatic Resource Delineation Report (Ascent 2022), the project site contains a single seasonal wetland comprising a total of approximately 0.0008 acre. This wetland is located in a low area along the western boundary of the project site against a fence line. The wetland is drained by a culvert connecting to the property to the west. The seasonal wetland within the project site is classified as palustrine emergent nonpersistent wetland using the *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC 2013). Vegetation in this wetland is characterized by willow (*Salix* sp.) in the tree/shrub layer and herbaceous species in the understory, including tall fescue, creeping buttercup, and poison hemlock. Primary hydrology indicators noted in this wetland include the presence of a high water table (Indicator A2) and saturation in the upper 12 inches (Indicator A3). Hydric soils were indicated in these features by the presence of a redox dark surface (Indicator F6).

The seasonal wetland in the project site was delineated as a federally protected wetland based on a predominance of hydrophytic plant species, the presence of wetland hydrology, the presence of hydric soils, and adjacency and connectivity to other waters of the United States.

The study area contains a single riparian wetland comprising a total of approximately 0.50 acre. In the study area, riparian wetland habitat occurs as a narrow, dense grove of broad-leaved, winter deciduous trees and shrubs along the banks and adjacent floodplain of an unnamed tributary to Janes Creek/McDaniel Slough. The riparian wetland within the study is classified as palustrine forested broadleaved deciduous wetland using the *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee 2013). This feature was mapped using remote sensing. Therefore, details regarding dominant plants species and the presence of hydric soils or wetland hydrology are not available. The riparian wetlands mapped in the study area are contiguous with Trout Creek. This feature was delineated as a jurisdictional wetland based on remote sensing of available data and adjacency and connectivity to other waters of the United States (i.e. the unnamed tributary to Janes Creek).

Designated Critical Habitat

There is no designated critical habitat within or in the immediate vicinity of the project site (USFWS 2022, NOAA NMFS 2022).

Wildlife Movement and Habitat Corridors

Effects on wildlife movement are an important consideration when assessing the potential impacts of any project. At a small enough scale, any project or activity can potentially affect the movement of wildlife, if wildlife are present at all. In general, however, the term "wildlife movement corridor" means an area of habitat that is important for the movement of wildlife between larger habitat areas. Wildlife movement corridors provide connections between two or more areas of habitat that would otherwise be isolated and unusable. Often drainages, creeks, riparian areas, ridgelines, or topographic contours at bases of slopes are used by wildlife as movement corridors as they can provide cover and access across a landscape. Wildlife movement corridors are important for maintaining population levels and genetic diversity.

Some of the important areas for habitat connectivity in California were mapped as Essential Connectivity Areas (ECA) for the California Essential Habitat Connectivity Project, which was commissioned by the California Department of Transportation and CDFW with the purpose of making transportation and land-use planning more efficient and less costly, while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010). The ECAs were not developed for the purposes of defining areas subject to specific regulations by CDFW or other agencies. The project site does not contain any portion of an identified ECA or Natural Landscape Block (CDFW 2022).

Although Janes Creek tributary is immediately north of the project site, this tributary is unlikely to serve as an important wildlife movement corridor as this tributary does not connect two or more areas of habitat what would otherwise be isolated and unusable. This tributary drains from one urban area to another, the Curtis Heights/Woodland Heights neighborhoods on the east side of US 101 to Westwood/Vasside neighborhoods on the west side of US 101.

The project site is unlikely to be of importance to wildlife movement for the following reasons:

- substantial existing anthropogenic site disturbance to habitats and
- the presence of US 101 immediately east of the project site.

3.4.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

This impact evaluation is based on data collected during a reconnaissance-level field survey and aquatic resources delineation conducted by Ascent Environmental on February 17, 2022, an aquatic resource delineation conducted by Ascent Environmental on February 16, 2022, a review of aerial photographs, species database records, and information from several previously completed documents that address biological resources in the project vicinity.

This impact analysis assumes that no project construction would occur in the riparian wetland habitat located along the northwestern boundary of the project site.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the project would normally have a significant adverse effect related to biological resources if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

ISSUES NOT DISCUSSED FURTHER

Special-Status Plants and Certain Special-Status Wildlife

Section 3.4.2, "Environmental Setting," discusses the special-status plant and animal species evaluated in this analysis and summarizes the potential for each of these species to occur in the project site. Those plant and animal species considered not likely to occur because of lack of suitable habitat and lack of other occurrence records. With respect to the 37 special-status plant species identified in Appendix C, all project elements would occur on developed, ruderal grassland and blackberry patch habitat, which are not suitable habitat for any of the listed species. Further, no special-status plants were identified on the site during a floristic survey conducted for a similar project that was proposed on the same project site in 2016. After analysis of the special-status plants known to occur in the vicinity of the project and based on updated site evaluations/surveys, none of their required habitats occur on the project site. As a result, no impacts to special status plants and special-status wildlife considered not likely to occur onsite would occur as a result of project implementation. This issue is not addressed further in this EIR.

Conflict with Local Policies or Ordinances Related to the Protection of Biological Resources

Appendix G of the State CEQA Guidelines suggests evaluating whether a project would "conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect." Pursuant to the CSU's sovereign immunity, development and uses on property under control of Cal Poly Humboldt that are in furtherance of its educational purposes are not subject to local land use regulation, including City of Arcata General Plan policies regarding protection of biological resources or the City of Arcata Tree Preservation and Hazardous Tree Removal Ordinance. Although Cal Poly Humboldt is not subject to City policies and regulations and trees on University-owned property are not within City jurisdiction and are not subject to the City's ordinance related to tree preservation, the University strives to be consistent with local policies, where feasible. As noted in Chapter 2, "Project Description," the majority of trees within the project are located along the periphery of the site's developable area and would be maintained as part of the project. If any trees are required to be removed, they would be replaced by Cal Poly Humboldt at a 1:1 ratio, ensuring no net loss of trees, consistent with the City's ordinance. As a result, no significant impacts are anticipated, and this issue is not addressed further in this EIR.

Conflict with Adopted Habitat Conservation Plan or Natural Community Conservation Plan

The project site is not within the plan area of any adopted HCP or natural community conservation plan. Therefore, potential conflicts with adopted HCPs or NCCPs would not occur, and this issue is not evaluated further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Have a Substantial Adverse Effect, Either Directly or through Habitat Modifications, on Special-Status Amphibians

Implementation of the project could disturb northern red-legged frog due to ground disturbing activities in proximity to a northern red-legged frog occupied habitat area. This would be a **potentially significant** impact.

Although the project does not support aquatic habitat suitable for northern red-legged frog, presence and/or potential habitat for northern red-legged frog has been identified within the Janes Creek tributary north of the project site. This species is frequently found in woods or vegetated areas adjacent to streams, as such there is potential for frogs to be present in the riparian wetland habitat onsite and to venture onto the grassland habitat in the low area of the project site or the riparian edge closer to St Louis Road.

Although no development is planned immediately adjacent to the riparian wetland habitat west of St. Louis Road, except for an access road approximately 165 feet east of the riparian wetland habitat, implementation of the project could injure or kill metamorphs, juveniles, and adults if they were to be present, due to ground disturbing activities that crush, bury, smother, or otherwise harm these amphibians. This would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1: Northern Red-Legged Frog

A preconstruction survey shall be conducted for northern red-legged frog within 48 hours of planned ground disturbance. A report summarizing the results of the survey shall be prepared and submitted to the City of Arcata Community Development Department.

If the surveys are negative, no additional mitigation is required. Because this is a mobile species, a biological monitor shall be present during initial grading and a worker environmental awareness training shall be conducted with construction personnel to educate them on northern red-legged frog, their protective status (species of special concern), and avoidance measures to be implemented by all personnel, including looking under vehicles and equipment prior to moving. The training shall include steps to be taken should northern red-legged frog be observed on the construction site, including allowing the individual to leave the project site on its own accord.

If the survey is positive, a qualified biological monitor with a northern red-legged frog Scientific Collecting Permit, shall be retained to be present during initial grading to monitor activities. The biological monitor shall be authorized to move individual northern red-legged frogs out of harm's way if individual frogs do not move on their own.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1 would reduce potentially significant impacts on special-status reptiles to a **less-than-significant** level because it would require the project proponent to conduct pre-construction surveys for northern red-legged frog to see if they have moved onto the project disturbance areas, have a biological monitor present during initial grading or ground disturbing activities, create and implement a worker environmental awareness training for all personnel working on the project, and move frogs out of disturbance areas so they are not killed during construction. Such steps would ensure that the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on northern red-legged frog.

Impact 3.4-2: Have a Substantial Adverse Effect, Either Directly or through Habitat Modifications, on Special-Status Birds

Implementation of the project could disturb white-tailed kites or their nests as the result of ground-disturbing activities in proximity to suitable nesting habitat. This would be a **potentially significant** impact.

Although there is a limited number of trees on the project site that could provide suitable nesting habitat for white-tailed kite, the adjacent Janes Creek tributary riparian area and large trees surrounding the project site provide suitable nesting habitat for this and other migratory bird species. White-tailed kite has a moderate to high potential for occurrence in the project vicinity because suitable nesting and foraging habitat are present in the area.

If ground-disturbing activities associated with project construction occur during the nesting season (generally February 1 through August 31), project construction could result in direct and indirect impacts to special-status and other nesting birds, including the loss of nests, eggs, and young through direct removal of nesting substrates or visual or noise disturbances that cause adults to abandon nests and young. Loss of common migratory birds and raptors (those not meeting the definition of special-status as provided in Section 3.4) would not be a significant impact under CEQA; however, mitigation to avoid the loss of active nests of these species is required for compliance with the MBTA and California Fish and Game Code. Construction activities such as grading, vegetation removal, increase in activity (including noise), during the nesting season may result in disturbance or abandonment of nests, which could result in mortality of eggs and young and reduced reproductive success. Furthermore, white-tailed kite is a fully protected species, and there is no take authorization for this species. As such, impacts to nesting white-tailed kites would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-2: White-tailed kite and other nesting birds

If construction activities occur within the raptor nesting season (February 1 through August 31), a pre-project nesting raptor survey shall be conducted within the project footprint and a 0.25-mile buffer for white-tailed kite and 500-foot buffer for other nesting birds no more than 14 days prior the start of ground disturbing activities or vegetation removal. Adjacent parcels under different land ownership shall be surveyed from public access areas (i.e., streets, trails, etc.) unless access is specifically granted. If construction activities lapse for more than two weeks during the breeding season, a follow up nesting bird survey shall be required. If no active nests are found, no further mitigation is required.

If an active nest is detected during the nesting bird survey, avoidance buffers shall be implemented as determined by a qualified biologist, except for white-tailed kite, which should remain at 0.25-mile buffer. The buffer for other nesting birds shall be of a distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. Monitoring of the nest by a qualified biologist during construction activities shall be required if the activity has the potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases. The exclusionary buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.

If work within the designated 0.25-mile no-activity zone for nesting white-tailed kite cannot be delayed, a wildlife biologist with verifiable experience with white-tailed kite behavior shall evaluate site-specific conditions and, in consultation with CDFW, recommend a smaller buffer (if possible) that minimizes the potential to disturb the white-tailed kites (and is deemed to still allow reproductive success during the breeding season). The site-specific buffer shall consider the type and extent of the proposed activity occurring near the nest, the duration and timing of the activity, the sensitivity and habituation of the kites, and the dissimilarity of the proposed activity to background activities. Additional measures may be identified by the wildlife biologist or CDFW including regular monitoring of the kite nest by a qualified biologist, modified construction activity schedule in proximity to the kite nest.

<u>Significance after Mitigation</u>

Implementation of Mitigation Measure 3.4-2 would reduce potentially significant impacts on white-tailed kite, raptors and other nesting birds to a **less-than-significant** level because these measures would require that active nests in or near the project site be identified and avoided or monitored so that project construction would not result in nest abandonment and loss of eggs or young. Such steps would ensure that the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on special-status birds.

Impact 3.4-3: Result in Degradation or Loss of Riparian Habitat or Other Sensitive Natural Communities

Implementation of the project would not result in the disturbance or loss of riparian habitat. As proposed, the project would avoid the identified riparian habitat associated with the unnamed Janes Creek tributary and the project would have **less-than-significant** impact on riparian habitat or other sensitive natural community.

The westernmost edge of the project site includes approximately 0.50 acres of riparian wetland habitat, just southwest of St. Louis Road and west of the Mad River Lumber property. As noted above, there are no sensitive natural communities within or near the project site. As proposed, the project would include a driveway onto the project site situated closer to the existing residences along St. Louis Road, or approximately 165 feet east of the Janes Creek tributary riparian dripline, as such, the project would not result in the degradation or loss of riparian habitat or other sensitive natural community. The project would have **a less-than-significant** impact on riparian habitat or other sensitive natural community.

Mitigation Measures

No mitigation measures are required.

Impact 3.4-4: Result in Degradation or Loss of State or Federally Protected Wetlands

Implementation of the project would not result in disturbance or fill of state or federally protected wetlands. As proposed, the project would avoid the identified wetland and the project would have a **less-than-significant** impact on protected wetlands.

Per the project Aquatic Resource Delineation Report, the project site contains a single seasonal wetland of approximately 0.008 acre in area, and a single riparian wetland. The seasonal wetland is located in a low area along the western boundary of the project site against a fence line. This wetland is drained by a culvert that connects to a stormwater pipe, which extends in a north-south direction within the backyards of the single-family residences located along the western boundary of the project site. The seasonal wetland located within the boundaries of the project site was delineated as jurisdictional wetlands based on a predominance of hydrophytic plant species, the presence of wetland hydrology, the presence of hydric soils, and adjacency and connectivity to other waters of the United States.

The riparian wetland is along the northern border of the site and occurs as a narrow, dense grove of broad-leaved, winter deciduous trees and shrubs along the banks and adjacent floodplain of an unnamed tributary to Janes Creek. The riparian wetland within the study is classified as palustrine forested broadleaved deciduous wetland. This feature was delineated as a jurisdictional wetland based on remote sensing of available data and adjacency and connectivity to other waters of the United States (i.e., the unnamed tributary to Janes Creek).

As designed, implementation of the project would avoid these wetlands, and thus the project would have a **less-than-significant** impact on state or federally protected wetlands.

Mitigation Measures

No mitigation measures are required.

Impact 3.4-5: Interfere with Important Wildlife Movement Corridors and Nursery Sites

Implementation of the project would result in construction of a 256-unit apartment building. All project elements would occur on developed, ruderal grassland and blackberry patch habitat; however, the project site is adjacent to the riparian area of a Janes Creek tributary, which is not a significant wildlife movement corridor. This would be a **less than significant** impact.

The project site does not contain any portion of an identified ECA or Natural Landscape Block, and because of the developed/disturbed nature of the project site, it does not provide suitable habitat to serve as a nursery site for wildlife. Although a tributary to Janes Creek is immediately north of the project site, this tributary is unlikely to serve as an important wildlife movement corridor, as this tributary does not connect two or more areas of habitat that would otherwise be isolated and unusable. The tributary connects two urban areas to each other: the Curtis Heights/Woodland Heights neighborhoods on the east side of US 101 to Westwood/Vasside neighborhoods on the west side of US 101, and does not provide habitat connectivity. As proposed, development is concentrated on the east side of the project site providing a buffer between the residential uses to the west and the riparian corridor along Janes Creek tributary. As such, implementation of the project would not interfere with an important wildlife movement corridor or nursery site. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.4-6: Substantially Reduce the Habitat of a Fish or Wildlife Species, cause a Fish or Wildlife Population to Drop Below Self-Sustaining Levels, Threaten to Eliminate a Plant or Animal Community, Substantially Reduce the Number or Restrict the Range of a Rare or Endangered Plant or Animal.

While implementation of the project includes construction of new buildings and the introduction of new light sources, these features would occur within a previously disturbed site, in an urban environment and immediately adjacent to US 101. Implementation of the project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal. This would be a **less-than-significant** impact.

As previously mentioned, the project is located within a developed area of the City of Arcata, which covers approximately 11.44 square miles. The project itself would develop approximately 325,000 square feet (0.012 square miles) and although the project will include the construction of new buildings, light sources, and impervious surfaces, the project site would be located within an already developed and disturbed area and adjacent to a major thoroughfare, and the development of 0.012 square miles would not substantially reduce the habitat of any fish or wildlife species in the region. Furthermore, implementation of Mitigation Measures 3.4-1 and 3.4-2 require the project proponent to conduct surveys to identify, avoid and/or mitigate effects to special-status amphibians and birds, further minimizing potential impacts to these resources and take of animals such that the project would not substantially reduce the number or restrict the range of such species. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

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3.5 ENERGY

This section evaluates whether implementation of the proposed project would result in inefficient, wasteful, and unnecessary consumption of energy. The capacity of existing and proposed infrastructure to serve the project is evaluated in Section 3.12, "Utilities and Service Systems." Detailed calculations and results can be found in Appendix B.

No comments were received during public review of the NOP related to energy.

3.5.1 Regulatory Setting

FEDERAL

Energy Policy and Conservation Act, and CAFE Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with the CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the country. The U.S. Environmental Protection Agency calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. Based on information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 and 2005

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally-fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs. The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The Energy Independence and Security Act of 2007 increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly fivefold increase over current levels; and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

By addressing renewable fuels and the CAFE standards, the Energy Independence and Security Act of 2007 builds upon progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

STATE

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission regulates privately owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Action Plan

CEC is responsible for preparing the state energy plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 2003 California Energy Action Plan (2008 update). The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban design that reduces vehicle miles traveled (VMT) and accommodates pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), CEC and the California Air Resources Board (CARB) prepared and adopted a joint agency report in 2003, *Reducing California's Petroleum Dependence*. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT (CEC and CARB 2003). A performance-based goal of AB 2076 was to reduce petroleum demand to 15 percent below 2003 demand by 2030.

Integrated Energy Policy Report

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required CEC to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety" (PRC Section 25301[a]). This work culminated in the Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every two years and an update every other year. The 2020 IEPR is the most recent IEPR, which was adopted March 2021. The 2020 IEPR provides a summary of priority energy issues currently facing the State, outlining strategies and recommendations to further the State's goal of ensuring reliable, affordable, and environmentally responsible energy sources. Energy topics covered in the report include progress toward Statewide renewable energy targets and issues facing future renewable development; efforts to increase energy efficiency in existing and new buildings; progress by utilities in achieving energy efficiency targets and potential; improving coordination among the State's energy agencies; streamlining power plant licensing processes; results of preliminary forecasts of electricity, natural gas, and transportation fuel supply and demand; future energy infrastructure needs; the need for research and development efforts to Statewide energy policies; and issues facing California's nuclear power plants (CEC 2020).

Renewables Portfolio Standard

The state passed legislation referred to as the Renewables Portfolio Standard (RPS) that requires increasing use of renewable energy to produce electricity for consumers. California utilities are required to generate 33 percent of their electricity from renewables by 2020 (SB X1-2 of 2011); 52 percent by 2027 (SB 100 of 2018); 60 percent by 2030 (also SB 100 of 2018); and 100 percent by 2045 (also SB 100 of 2018).

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December

31, 2030. It also establishes energy efficiency targets that achieve statewide, cumulative doubling of the energy efficiency savings in electricity and natural gas end uses by the end of 2030.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statues of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce greenhouse gas (GHG) emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

California Building Energy Efficiency Standards (Title 24, Part 6)

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Code was established by CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and to provide energy efficiency standards for residential and nonresidential buildings. CEC updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions.

The energy consumption of new residential and nonresidential buildings in California is regulated by the State's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). CEC updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current California Energy Code will require builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use. The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into onsite generation by requiring solar photovoltaic (PV) on new homes, providing significant GHG savings. The most recent is the 2022 California Energy Code which advances the onsite energy generation progress started in the 2019 California Energy Code by encouraging electric heat pump technology and use, establishing electric-ready requirements when natural gas is installed, expanding solar PV system and battery storage standards, and strengthening ventilation standards to improve indoor air quality. The CEC estimates that the 2022 California Energy Code will save consumers $1.5 billion and reduce GHGs by 10 million metric tons (MMT) of carbon dioxide-equivalent (CO_2e) over the next 30 years (CEC 2021).

Assembly Bill 32, Senate Bill 32, and Climate Change Scoping Plan and Update

In December 2008, CARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) of carbon dioxide equivalent (CO_2e) emissions, or approximately 21.7 percent from the state's projected 2020 emission level of 545 $MMTCO_2e$ under a business-as-usual scenario (this is a reduction of 47 $MMTCO_2e$, or almost 10 percent, from 2008 emissions). In May 2014, CARB released and has since adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate progress that has been made between 2000 and 2012 (CARB 2014). According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 (CARB 2014). The update also reports the trends in GHG emissions from various emission sectors (e.g., transportation, building energy, agriculture).

In August 2016, SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020, were signed into law. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction to at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order B-30-15 for 2030, which set the next interim step in the state's continued efforts to pursue the long-term target expressed in Executive Orders S-3-05 and B-30-15 of 80 percent below 1990 emission levels by 2050. Achievement of these goals will have the co-benefit of reducing California's dependency of fossil fuels and making land use development and transportation systems more energy efficient.

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and "substantially advance toward our 2050 climate goals" (CARB 2017: 1, 3, 5, 20, 25–26). It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste).

The *2022 Draft Scoping Plan Update* (2022 Scoping Plan Update) assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. The proposed 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022). The Draft 2022 Scoping Plan Update and associated environmental documentation were released for public review on May 10, 2022. The comment period ended June 24, 2022.

Senate Bill 375 of 2008

SB 375, signed into law in September 2008, aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. It requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy or Alternative Planning Strategy, showing prescribed land use allocation in each MPO's Regional Transportation Plan. CARB, in consultation with the MPOs, is to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks for 2020 and 2035. Implementation of SB 375 will have the co-benefit of reducing California's dependency of fossil fuels and making land use development and transportation systems more energy efficient.

Senate Bill 743 of 2013

SB 743 of 2013 required that the Governor's Office of Planning and Research (OPR) propose changes to the State CEQA Guidelines to address transportation impacts in transit priority areas and other areas of the state. In response, Section 15064.3, which requires that transportation impacts no longer consider congestion but instead focus on the impacts of VMT, was added to the State CEQA Guidelines in December 2018. Agencies have until July 1, 2020, to implement these changes but can also choose to implement these changes immediately. In support of these changes, OPR published its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which recommends that the transportation impact of a project be based on whether the project would generate a level of VMT per capita (or VMT per employee or some other metric) that is 15 percent lower than that of existing development in the region (OPR 2017:12–13) or that a different threshold based on substantial evidence be used. OPR's technical advisory explains that this criterion is consistent with PRC Section 21099, which states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions" (OPR 2017:18). This metric is intended to replace the use of delay and level of service to measure transportation-related impacts.

CALIFORNIA STATE UNIVERSITY

California State University Sustainability Policy

In the Spring of 2022, The California State University (CSU) Board of Trustees adopted the revised version of the CSU system-wide Sustainability Policy which was updated from the 2014 version and became effective March 23, 2023. The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The CSU Sustainability Policy established the following goals related to energy:

- reduce GHG emissions 80 percent below 1990 levels by 2040,
- procure 60 percent of energy supply from renewable sources by 2030,
- increase on-site energy generation from 32 to 80 megawatts by 2030, and

- promote use of alternative fuels and transportation programs.

Energy Use Index

Energy use is the primary metric used by the CSU to track progress toward energy conservation goals, referred to as the Energy Use Index (EUI). EUI represents total annual electricity and natural gas use per square foot of building space, measured in British thermal units per square foot. To normalize this metric between different CSU campuses, the square footage is adjusted to prorate or remove buildings and structures that are very low or zero energy users, such as parking structures, stadiums, and farm buildings such as barns and storage sheds. The last two CSU Executive Orders on energy and sustainability (i.e., 917 of 2004, 987 of 2006) established goals to reduce British thermal units per square foot by 15 percent over two consecutive 5-year periods.

Executive Order 987

Executive Order 987 is the CSU Policy Statement on Energy Conservation, Sustainable Building Practices, and Physical Plant Management. Cal Poly Humboldt operates under this Executive Order, which sets minimum efficiency standards for new construction and renovations, and establishes operating practices intended to ensure CSU buildings are used in the most energy efficient and sustainable manner possible while still meeting the programming needs of Cal Poly Humboldt.

Cal Poly Climate Action Plan

The Cal Poly Humboldt Climate Action Plan 2.0 (CAP 2.0) intends to build upon the first CAP released by Cal Poly Humboldt in 2017, which targeted the reduction of greenhouse gas emissions to 1990 levels by 2020, and to become carbon neutral by 2050. Cal Poly Humboldt was successful in achieving the 2020 goal. The CAP 2.0 outlines strategies to achieve carbon neutrality by 2045, as well as to incorporate sustainability and climate action into the campus' research and academic operations through a variety of actions and strategies related to Buildings, Energy & Fuels (BEF); Transportation (TRA), Solid Waste & Purchasing (SWP); Carbon Sequestration & Offset (CSO); Academics & Research (A&R); and Resilience (RES). The goals and strategies of the CAP 2.0 that are relevant to energy consumption and conservation are as follows:

- **BEF GOAL 1:** All buildings owned/operated by Cal Poly Humboldt will generate zero direct emissions by 2045
  - Strategy 1.1: By 2025, 50% of new major renovations of state buildings will be zero net energy (ZNE). By 2030, 50% of buildings will be retrofitted to ZNE and all new construction will be ZNE.
  - Strategy 1.2: Adopt whole-building performance targets for campus buildings to further energy and water efficiency.
  - Strategy 1.3: Reduce natural gas consumption below 2018-19 levels by 50% by 2030, by 75% by 2040, and by 100% by 2045.
  - Strategy 1.4: Increase installation of solar photovoltaic energy systems on campus infrastructure to a minimum of 2.5 megawatt (MW) by 2025
- **BEF GOAL 2:** Build resilience into campus buildings and infrastructure to adapt to, and continue to provide functionality during, climate change impacts
  - Strategy 2.1: Ensure critical loads maintain power during power shut-off events utilizing low-carbon technologies.
- **BEF GOAL 3**: Zero emissions fleet by 2045
  - Strategy 3.1 Adopt and implement a long-range plan for transitioning fleet and grounds equipment to zero emissions

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section of Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The following policies of the City of Arcata General Plan are relevant to the consideration of energy and energy use at the project site:

- **Policy RC-8a: Encouragement of Appropriate Energy Alternatives.** Attempt to purchase at least 10% of electrical energy from renewable sources within Humboldt County by the year 2020. City to consider how energy suppliers meet this goal before purchasing electricity.
- **Policy RC-8b: Encouragement of Energy Efficiency and Conservation.** Educate residents, property owners, and business operators about the need for and benefits of conserving energy.
- **Policy RC-8c: Promotion of Energy Efficiency in Transportation.** Attempt to reduce the need for motor vehicle trips when making traffic management and transportation decisions.
- **Policy RC-8d: Restoration for Greenhouse Gases Absorption.** Restore and foster forests and other terrestrial ecosystems that offer significant carbon mitigation potential.

City of Arcata Climate Action Plan

The City of Arcata developed a Community Greenhouse Gas Reduction Plan in 2006 to address and reduce the ways in which the City's energy use contributes to climate change through the emission of greenhouse gases. This plan consists of six "action areas" which provide recommendations for meeting the city's projected energy needs while reducing greenhouse gas emissions. The six actions areas are as follows:

- **Energy Efficiency:** Conserve energy or reduce electricity and gas use to reduce greenhouse gas emissions.
- **Renewable Energy:** Encourage private residencies to install renewable energy systems such as rooftop solar panels, as well as transition municipal buildings towards the use of renewable energy.
- **Sustainable Transportation:** Reduce automobile travel, encourage more efficient vehicles and cleaner transportation fuels, support cleaner and alternative transportation to lower emissions and energy costs to create energy independence.
- **Waste and Consumption Reduction:** Consider industrial ecology and examine local, regional, and global uses and flows of materials and energy in products and processes. Reduce environmental burdens throughout product life cycle. Implement measures that reduce waste in consumption, and encourage recycling and reuse in purchasing.
- **Carbon Sequestration and Other Methods:** Increase carbon sequestration capacity by sustainably managing forests. Additionally, utilize biogas and encourage policies which support both goals.
- **Cross-Cutting Approaches:** Develop city-wide green building promotional campaign, support green economic growth, and develop regional partnerships and incentive programs to promote energy efficiency and renewable energy.

3.5.2 Environmental Setting

Pacific Gas and Electric Company (PG&E) provides both natural gas and electricity to customers in the City of Arcata and to Cal Poly Humboldt. PG&E's 2021 grid mix includes 50% renewable, 39% nuclear, 4% large hydroelectric, and 7% natural gas (PG&E 2022). PG&E owns and operates overhead electric transmission and electric distribution facilities as well as gas transmission facilities throughout the City of Arcata. Overhead electric distribution lines extend along the northern edge St. Louis Road as it borders the project site, as well as along the eastern boundary of the project site. There are also current connections to natural gas pipelines within St. Louis Road that extend to the residential uses at the project site.

ENERGY TYPES AND SOURCES

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. One-third of energy commodities consumed in California is natural gas. In 2014, approximately 35 percent of natural gas consumed in the State was used to generate electricity. Residential land uses represented approximately 17 percent of California's natural gas consumption with the balance consumed by the industrial, resource extraction, and commercial sectors (EIA 2017). Power plants in California generate approximately 70 percent of the in-State electricity demand, with large hydroelectric in the Pacific Northwest and power plants in the Southwestern US generating the remaining electricity (CEC 2017). The contribution of in- and out-of-State power plants depends on the precipitation that occurred in the previous year, the corresponding amount of hydroelectric power that is available, and other factors.

Alternative Fuels

A variety of alternative fuels are used to reduce demand for petroleum-based fuels. The use of these fuels is encouraged and required through various Statewide regulations and plans (e.g., Low Carbon Fuel Standard, Climate Change Scoping Plan). Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many transportation fuels, including:

- biodiesel,
- electricity,
- ethanol (E-10 and E-85),
- hydrogen,
- natural gas (methane in the form of compressed and liquefied natural gas),
- propane,
- renewable diesel (including biomass-to-liquid),
- synthetic fuels, and
- gas-to-liquid and coal-to-liquid fuels.

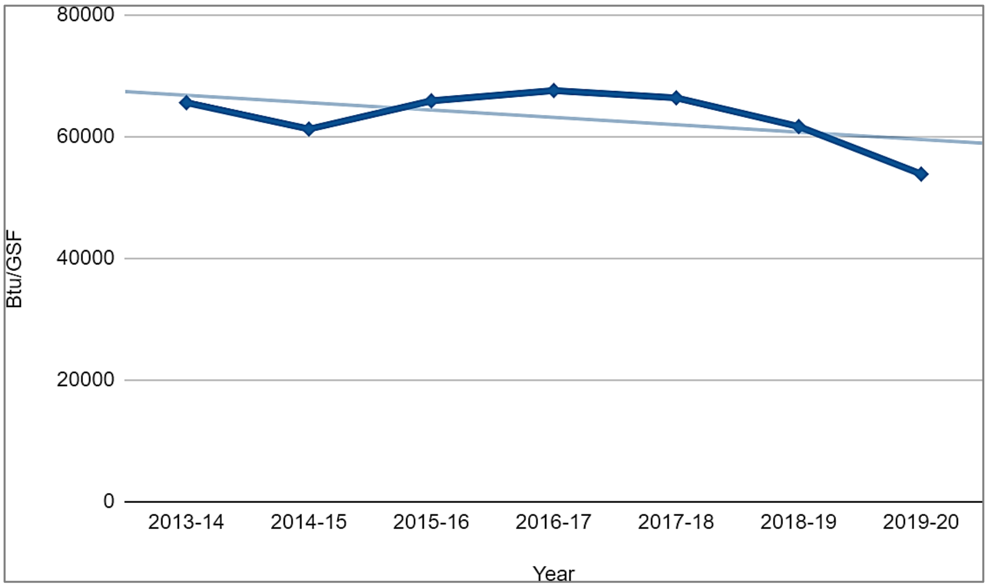
California has a growing number of alternative fuel vehicles through the joint efforts of CEC, CARB, local air districts, federal government, transit agencies, utilities, and other public and private entities. As of September 2022, California contained 15,200 alternative fueling stations (US Department of Energy 2022).

Transportation Fuels

On-road vehicles use about 90 percent of the petroleum consumed in California. The California Department of Transportation projected 92 million gallons of gasoline and diesel were consumed in Humboldt County in 2020, an increase of approximately 8 million gallons of fuel from 2015 levels (Caltrans 2009).

CAMPUS ENERGY FACILITIES AND SERVICES

As part of its implementation of CAP 2.0, Cal Poly Humboldt has reduced the overall energy demand of the campus. Figure 3.5-1 shows this reduction in energy demand relative to the gross square footage of the campus, where building gross square footage increased by 5%, while overall energy use (natural gas and electricity) declined by 18% in the same period, with current demand being approximately 5,600 British Thermal Units (Btu) per gross square foot (GSF), according to the last recorded data point (2019-2020) (Cal Poly Humboldt 2021).



Source: Cal Poly Humboldt 2021.

Figure 3.5-1 Historical Campus Energy Demand

3.5.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Construction- and operation-related energy consumption by the project, measured in megawatt-hours of electricity, gallons of gasoline, and gallons of diesel fuel were calculated using the proposed phasing of the project, the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (CAPCOA 2020) computer program, and fuel consumption rates obtained from CARB's Emission Factors (EMFAC) model for Humboldt County. Construction- and operation-related energy are based on a combination of project details provided by the project applicant and model defaults. Consistent with information provided in Chapter 2, "Project Description," no natural gas consumption was assumed to occur on-site.

THRESHOLDS OF SIGNIFICANCE

The following significance criteria are based on Appendices F (Energy Conservation) and G of the CEQA Guidelines, under which the project would have a significant adverse energy impact if it would:

- result in the wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources during project construction or operation; or
- conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

ISSUES NOT DISCUSSED FURTHER

All issues related to energy listed under the significance criteria above are addressed in this section.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Result in the Wasteful, Inefficient, or Unnecessary Consumption of Energy or Wasteful Use of Energy Resources

Construction and operation of buildings and facilities associated with the project would result in consumption of fuel (gasoline and diesel) and electricity. Energy consumption associated with construction would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. Through adherence to and exceedance of current building code requirements, energy consumption associated with operation of the buildings and facilities would not result in wasteful, inefficient, or unnecessary consumption of energy. This impact would be **less than significant**.

Appendix G of the State CEQA Guidelines requires the consideration of the energy implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient, and unnecessary energy usage” (PRC Section 21100[b][3]). Neither the law nor the State CEQA Guidelines establish criteria that define wasteful, inefficient, or unnecessary use. Compliance with the California Energy Code would result in energy-efficient buildings. However, compliance with the California Energy Code does not address all potential energy impacts during construction and operation of the project. Energy use is discussed by project component below.

Construction-Related Energy

Energy would be required to construct, operate, and maintain construction equipment and to produce and transport construction materials associated with construction of the proposed project. The proposed project would be constructed in over an approximately 18-to 24-month period starting in 2023 and finishing in 2024/2025. The one-time energy expenditure required to construct the physical buildings and infrastructure associated with the project would be nonrecoverable. Most energy consumption would result from operation of construction equipment and vehicle trips associated with commutes by construction workers and haul trucks supplying materials. See Table 3.5-1 for an estimate of fuel needed for construction activities.

Table 3.5-1 Construction Energy Consumption

Phase	Diesel (Gallons)	Gasoline (Gallons)
Construction Equipment	49,250	0
Worker Commute	213	31,671
Deliveries and Haul Trucks	19,554	1,755
Total	**69,017**	**33,425**

Notes: Gasoline gallons include on-road gallons from worker trips. Diesel gallons include off-road equipment and on-road gallons from worker and vendor trips.

Source: Calculations by Ascent Environmental in 2022.

Building Energy

The operation of new buildings and facilities would result in the consumption of electricity for lighting, space heating, water heating, and other electrical uses. No natural gas would be consumed, and all power needs would be met by through electrical connections. Indirect energy use would include wastewater treatment; water pumping, treatment, and distribution; and solid waste removal. Electrical service is provided by PG&E.

Cal Poly Humboldt aims to exceed the requirements of both the California Green Building Code (CBC) and California Energy Code. Project sustainability features include high-efficiency irrigation for the landscaping, water-efficient plumbing, energy-efficient and CBC-compliant lighting and appliances, and durable exterior building materials. Energy

Star office equipment, energy efficient computer monitors, and LED (light-emitting diode) lighting and lighting controls would be used throughout the buildings to achieve the energy goals. In addition, the project would encourage onsite solar energy production through the provision of space for photovoltaic solar panels on rooftops, consistent with the CSU Sustainability Policy, and facilities that provide shade for parking, pedestrian paths, and/or gathering areas. However, due to broader considerations within the Cal Poly Humboldt campus regarding the on-campus microgrid and potential feasibility issues surrounding the ability for the project to connect to the campus microgrid (Sierra Sun Times 2022), on-site solar is not considered feasible as part of the project. However, it may be considered as part of a broader effort to expand the university's microgrid, in line with CSU Sustainability Policy goals and Cal Poly Humboldt CAP 2.0. As a result, the estimated energy use assumed here is conservative because it does not reflect additional energy efficiency measures that may be implemented in exceedance of CBC and California Energy Code requirements or solar energy production. The estimated energy demand from building energy is shown in Table 3.5-2.

Table 3.5-2 Operational Energy Consumption for Buildout Year

Energy Type	Energy Consumption	Units
Electricity Demand	1,930	MWh/year

Notes: MWh/year = megawatt-hours per year.

Source: Calculations by Ascent Environmental in 2022.

Transportation Energy

Transportation-related fuel consumption was estimated using the estimated daily VMT and estimated miles per gallon per fuel type for Humboldt County from the CARB mobile source emissions inventory EMFAC database. The estimated transportation energy demand from building energy is shown in Table 3.5-3. These fuel calculations are based on fuel economy and consumption rates during the expected first year of operation. State and federal regulations regarding fuel efficiency standards for vehicles in California are designed to reduce wasteful, inefficient and unnecessary use of energy for transportation. Over time, these regulations and efficiency standards will reduce fuel consumption from fossil fuels.

Table 3.5-3 Operational Transportation Fuel Consumption

Phase	Diesel (Gallons Per Year)	Gasoline (Gallons Per Year)
Vehicle Trips	51,628	262,022

Notes: Gasoline and diesel gallons based on EMFAC assumption for Humboldt County in 2024.

Source: Calculations by Ascent Environmental in 2022.

Summary

The project would increase energy consumption for temporary construction activities related to vehicle use and material transport. However, construction activities would be temporary and would not increase long-term energy or fuel demand. Construction activities would consume the necessary amount of fuel/energy to complete work in an efficient and timely manner. Once operational, the project would increase transportation and building energy, the project would not consume natural gas, and the project would include various features that reduce vehicle trips and promote energy conservation. On-site circulation provides a series of interconnected pedestrian and bicycle paths throughout the development to promote multimodal transportation choices. The project would provide covered bicycle parking areas near building entrances for visitors and inside buildings for residents and employees, design and incorporate traffic-calming features within the development, encourage flexible work scheduling and on-site employment for proposed support services to minimize vehicle trips, and 10 percent of the onsite parking spaces would be electrical-vehicle ready (EV-ready). Additionally, parking areas may include a combination of integrated energy generation systems (such as photovoltaic carports), large canopy shaded trees, and permeable and high-albedo (i.e., reflectivity) paving materials, all of which promote energy conservation by reducing energy demand.

According to Appendix F of the State CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall per capita energy consumption, decreasing reliance on oil, and increasing reliance on renewable energy sources. Project energy consumption for building operation and transportation would support these goals due to the effects of existing State laws and requirements and project design that promotes energy conservation. For example, the proposed project would comply with the minimum energy performance standards of the California Building Code, which decrease per capita energy consumption. The proposed project would also support per capita energy consumption decreases through its uses of grid electricity, which is required by State legislation (e.g., SB 100) to source at least 60 percent of its supplies from renewable energy sources by 2030 and 100 percent carbon-free sources by 2045. Further on-site renewable energy consideration is not considered feasible at this time (as noted above) due to broader campus considerations regarding the campus microgrid and the feasibility of the project's connection to it. Transportation-related uses of energy would also be increasingly efficient during implementation of the proposed project, for example due to the State's Advanced Clean Car Standards requiring vehicles sold in the State to be increasingly fuel efficient and use fuel sources other than gasoline and diesel (e.g., electricity). The project would not develop uses or involve activities that would conflict with goals of decreasing per capita energy consumption, reliance on oil (petroleum), or increasing uses of renewable energy sources, or that would result in wasteful, inefficient, or unnecessary consumption of energy. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.5-2: Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency

Onsite renewable energy generation from the implementation of project, would result in an increase in renewable energy use, which would directly support the goals and strategies in the State's Energy Efficiency Action Plan, the CSU Sustainability Policy, and the Cal Poly Humboldt Climate Action Plan. Construction and operating project buildings in compliance with the 2022 (or as updated) California Energy Code would improve energy efficiency compared to buildings built to earlier iterations of the code. Therefore, construction and operation of the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. This impact would be **less than significant**.

Relevant plans that pertain to the efficient use of energy include the Energy Efficiency Action Plan, which focuses on energy efficiency and building decarbonization (CEC 2019); the CSU Sustainability Policy, which seeks to increase on-site renewable energy generation, exceed RPS requirements, increase energy efficiency, and provide alternative transportation and use alternative fuels to meet GHG reduction goals (CSU 2014); as well as the Cal Poly Humboldt CAP 2.0, which incorporates numerous sustainability measures to reduce GHG emissions, including promoting zero net energy buildings by 2045, installing 2.5 MW of solar photovoltaic energy systems by 2025, transitioning to a zero emissions fleet, and promoting VMT reductions.

As discussed in Impact 3.5-1, although implementation of the project has the potential to result in the overall increase in consumption of energy resources during construction and operation of new buildings and facilities, implementation of the project would ensure various energy conservation and generation features would be incorporated into new development, including bicycle parking, parking areas that include a combination of integrated energy generation systems (such as photovoltaic carports), large canopy shaded trees, and permeable and high-albedo (i.e., reflectivity) paving materials, traffic-calming features, and installation of energy efficient appliances and features.

These features would align with the Energy Efficiency Action Plan, CSU Sustainability Policy, and the Cal Poly Humboldt CAP. Therefore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

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3.6 GREENHOUSE GAS EMISSIONS

This section presents a summary of regulations applicable to greenhouse gas (GHG) emissions, a summary of climate change science and GHG sources in California, quantification of GHGs emitted from construction and operation of the project, and a discussion of their contribution to global climate change. Detailed calculations, modeling inputs, and results can be found in Appendix B.

One comment related to GHG was received in response to the NOP and requested consideration of mitigation to further reduce emissions associated with vehicular travel to less-than-significant levels.

3.6.1 Regulatory Setting

FEDERAL

Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks and Corporate Average Fuel Economy Standards

In October 2012, US Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration, on behalf of the U.S. Department of Transportation, issued final rules to further reduce GHG emissions and improve corporate average fuel economy standards for light-duty vehicles for model years 2017 and beyond (77 Federal Register [FR] 62624). These rules would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of carbon dioxide (CO_2) per mile for the fleet of cars and light-duty trucks by model year 2025 (77 FR 62630). However, on April 2, 2018, the EPA administrator announced a final determination that the current standards are not appropriate and should be revised. It is not yet known what revisions will be adopted or when they will be implemented (EPA 2018).

Affordable Clean Energy Rule

In June 2019, EPA, under authority of the Clean Air Act Section 111(d), issued the Affordable Clean Energy rule which provides guidance to states on establishing emissions performance standards for coal-fired electric generating units (EGUs). Under this rule, states are required to submit plans to EPA that demonstrate the use of specifically listed retrofit technologies and operating practices to achieve CO_2 emission reductions through heat rate improvement (HRI). HRI is a measurement of power plant efficiency that EPA determined as part of this rulemaking to be the best system of emission reductions for CO_2 generated from coal-fired EGUs (EPA 2019).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The Energy Independence and Security Act of 2007 increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly fivefold increase over current levels, and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

Executive Order 14057

President Joe Biden signed Executive Order (EO) 14057 on December 8, 2021 which sets a path for reducing GHG emissions across federal operations, investing in clean energy industries and manufacturing, and creating clean, healthy, and resilient communities to achieve carbon neutrality by 2050. The EO outlines five goals for the federal government:

- 100 percent carbon pollution-free electricity (CFE) by 2030, at least half of which will be locally supplied clean energy to meet 24/7 demand;

- 100 percent zero-emission vehicle (ZEV) acquisitions by 2035, including 100 percent zero-emission light-duty vehicle acquisitions by 2027;
- Net-zero emissions from federal procurement no later than 2050, including a Buy Clean policy to promote use of construction materials with lower embodied emissions;
- A net-zero emissions building portfolio by 2045, including a 50 percent emissions reduction by 2032; and
- Net-zero emissions from overall federal operations by 2050, including a 65 percent emissions reduction by 2030.

STATE

Climate Change Targets

Executive Order S-3-05

In 2005, EO S-3-05 was signed into law and proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, statewide emissions are to be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, the California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32, was signed into law. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that "(a) the statewide greenhouse gas emissions limit shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (c) The state board [California Air Resources Board (CARB)] shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020" (California Health and Safety Code, Division 25.5, Part 3, Section 38551).

Cap-and-Trade Program

In 2011, CARB adopted the cap-and-trade regulations and created the cap-and-trade program. The program covers GHG emission sources that emit more than 25,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year), such as refineries, power plants, and industrial facilities. The cap-and-trade program includes an enforceable statewide emissions cap that declines approximately 3 percent annually. CARB distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources that reduce emissions more than their limits can auction carbon allowances to other covered entities through the cap-and-trade market. Sources subject to the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period (CARB 2012). The cap-and-trade program took effect in early 2012 with the enforceable compliance obligation beginning January 1, 2013. The cap-and-trade program was initially slated to sunset in 2020, but the passage of SB 398 in 2017 extended the program through 2030.

There are five facilities in Humboldt County with annual emissions exceeding 10,000 $MTCO_2e$/year, requiring annual reporting of those emissions to CARB. Of these, only the Pacific Gas and Electric Company (PG&E) Humboldt Bay Station is bound to mandatory reductions under cap-and-trade because emissions exceed the regulatory threshold of 25,000 $MTCO_2e$/year (CARB 2022). The Cal Poly Humboldt campus has no sources regulated under cap-and-trade.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, SB 32 and AB 197 were signed into law and serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030.

CARB's Climate Change Scoping Plan

In December 2008, CARB adopted its first version of its *Climate Change Scoping Plan,* which contained the main strategies California will implement to achieve the mandate of AB 32 (2006) to reduce statewide GHG emissions to 1990 levels by 2020. In May 2014, CARB released and subsequently adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching the goals of AB 32 (2006) and evaluate the progress made between 2000 and 2012. After releasing multiple versions of proposed updates in 2017, CARB adopted the final version titled *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan) in December (CARB 2017). The 2017 Scoping Plan indicates that California is on track to achieve the 2020 statewide GHG target mandated by AB 32 of 2006 (CARB 2017:9. It also lays out the framework for achieving the mandate of SB 32 of 2016 to reduce statewide GHG emissions to at least 40 percent below 1990 levels by the end of 2030 (CARB 2017). The 2017 Scoping Plan identifies the GHG reductions needed by each emissions sector.

As of the writing of this document, the 2022 Scoping Plan Update is currently being prepared and assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. The proposed 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022).

Assembly Bill 1279

AB 1279 establishes a statewide target of achieving net zero GHG emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85% below the 1990 levels.

Renewable Energy & Procurement

Senate Bill 1078

SB 1078 was approved by the California legislature in August 2002 and signed by Governor Davis in October 2002. The bill required each electrical utility to increase its total procurement of eligible renewable energy resources by at least 1 percent per year so that 20% of its retail sales are procured from eligible renewable energy resources by the end of 2017.

Senate Bill 350

SB 350 was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) an RPS of 50 percent and (2) a doubling of efficiency for existing buildings.

Senate Bill 100

SB 100 was approved by the California legislature and signed by Governor Brown in September 2018. The bill establishes a new RPS target of 50 percent by 2026, increases the RPS target in 2030 from 50 to 60 percent, and establishes a goal of 100 percent zero-carbon energy sources by 2045.

Building Energy Efficiency Standards

Title 24, Part 6

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Commission (CEC) updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current California Energy Code will require builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use. The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into onsite generation by requiring solar photovoltaic (PV) on new homes, providing significant GHG savings. The most recent is the 2022 California Energy Code which advances the onsite energy generation progress started in the 2019 California Energy Code by encouraging electric heat pump technology and use, establishing electric-ready requirements when natural gas is installed, expanding solar PV system and battery storage standards, and strengthening ventilation standards to improve indoor air quality. The CEC estimates that the 2022 California Energy Code will save consumers $1.5 billion and reduce GHGs by 10 $MMTCO_2e$ over the next 30 years (CEC 2021a).

Title 24, Part 11

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2019 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers (Tiers I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;
- 65 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.
- The voluntary standards require:
  - Tier I: stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste with third-party verification, 10 percent recycled content for building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof; EV capable parking spaces; and
  - Tier II: stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste with third-party verification, 15 percent recycled content for building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar reflective roof; stricter EV capable parking spaces.

Title 20

The CEC first developed the Appliance Energy Efficiency Standards (as part of Title 20) in 1977. These standards apply to appliances sold or are offered for sale in California and include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficiency appliances. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems.

Mobile Sources

EO S-1-07, Low Carbon Fuel Standard

In January 2007, EO S-1-07 established a Low Carbon Fuel Standard (LCFS). The EO calls for a statewide goal to be established to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020 and for an LCFS for transportation fuels to be established for California. The LCFS applies to all refiners, blenders, producers, or importers (providers) of transportation fuels in California, including fuels used by off-road construction equipment

(Wade, pers. comm., 2017). The LCFS is measured on the total fuel cycle and may be met through market-based methods. For example, providers exceeding the performance required by an LCFS receive credits that may be applied to future obligations or traded to providers not meeting the LCFS.

In Jun 2007, CARB adopted the LCFS as a Discrete Early Action item under AB 32 pursuant to Health and Safety Code Section 38560.5, and in April 2009, CARB approved the new rules and carbon intensity reference values with new regulatory requirements taking effect in January 2011. The standards require providers of transportation fuels to report on the mix of fuels they provide and demonstrate they meet the LCFS intensity standards annually. This is accomplished by ensuring that the number of "credits" earned by providing fuels with a lower carbon intensity than the established baseline (or obtained from another party) is equal to or greater than the "deficits" earned from selling higher-intensity fuels. After some disputes in the courts, CARB readopted the LCFS regulation in September 2015, and the LCFS went into effect on January 1, 2016.

Senate Bill 375 of 2008

In September 2008, Senate Bill (SB) 375 was signed into law and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy, showing prescribed land use allocation in each MPO's Regional Transportation Plan. CARB, in consultation with the MPOs, is to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks for 2020 and 2035. CARB's Mobile Source Strategy (2020) described California's strategy for containing air pollutant emissions from vehicles and quantifies growth in vehicle miles traveled (VMT) that is compatible with achieving state climate targets. While Humboldt County is not part of an MPO and not required to adopt an SCS, the Humboldt County Association of Governments does strive to achieve the goals established by SB 375.

Senate Bill 743 of 2013

SB 743 of 2013 required that the Governor's Office of Planning and Research (OPR) propose changes to the State CEQA Guidelines to address transportation impacts in transit priority areas and other areas of the state. In response, Section 15064.3 was added to CEQA in December 2018, requiring that transportation impacts no longer consider congestion but instead focus on the impacts of VMT. Agencies have until July 1, 2020, to implement these changes but can also choose to implement these changes immediately. In support of these changes, OPR published its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which recommends that the transportation impact of a project be based on whether the project would generate a level of VMT per capita (or VMT per employee or some other metric) that is 15 percent lower than that of existing development in the region (OPR 2017:12–13), or that a different threshold is used based on substantial evidence. OPR's technical advisory explains that this criterion is consistent with PRC Section 21099, which states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions" (OPR 2017:18). This metric is intended to replace the use of delay and level of service to measure transportation-related impacts. More detail about SB 743 is provided in the "Regulatory Setting" section of Section 3.11, "Transportation."

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles (ZEVs), into a single package of regulatory standards for vehicle model years 2017– 2025. The new regulations strengthen the GHG standards for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's ZEV regulation requires battery, fuel cell, and plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025 (CARB 2016a:15). The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, GHG emissions from the statewide fleet of new cars and light-duty trucks will be reduced by 34 percent, and cars will emit 75 percent less smog-forming pollution than the statewide fleet in 2016 (CARB 2016b:1).

<u>Executive Order B-48-18: Zero-Emission Vehicles</u>

In January 2018, EO B-48-18 was signed into law and requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This EO also requires all state entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a *Plug-in Charging Station Design Guidebook* and update the *Hydrogen Station Permitting Guidebook* (Eckerle and Jones 2020) to aid in these efforts. All state entities are required to participate in updating the *2016 Zero-Emissions Vehicle Action Plan* (CARB 2016a) to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all state entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS program, and to recommend how to ensure affordability and accessibility for all drivers.

CALIFORNIA STATE UNIVERSITY

California State University Sustainability Policy

In the Spring of 2022, The California State University (CSU) Board of Trustees adopted an update to the CSU system-wide Sustainability Policy, which was first adopted in 2014 with subsequent updates in 2019 and 2020. The current update became effective March 23, 2022. The policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The CSU Sustainability Policy established the following goals related to GHG emissions:

- procure 60 percent of energy supply from renewable sources by 2030;
- reduce GHG emissions 80 percent below 1990 levels by 2040;
- increase on-site energy generation from 32 to 80 megawatts by 2030;
- reduce per-capita landfill waste by 50 percent by 2030 and 80 percent by 2040;
- reduce water use by 10 percent by 2030;
- promote use of alternative fuels and transportation programs;
- procure goods that are recycled, recyclable, or reusable; and
- integrate sustainability across the curriculum.

CSU Executive Order 987

Executive Order 987 is the CSU Policy Statement on Energy Conservation, Sustainable Building Practices, and Physical Plant Management. Cal Poly Humboldt operates under this Executive Order, which sets minimum efficiency standards for new construction and renovations, and establishes operating practices intended to ensure CSU buildings are used in the most energy efficient and sustainable manner possible while still meeting the programmatic needs of the University.

Cal Poly Humboldt Climate Action Plan 2.0

The Cal Poly Humboldt Climate Action Plan (CAP) 2.0 intends to build upon the first CAP released by Cal Poly Humboldt in 2017, which targeted the reduction of greenhouse gas emissions to 1990 levels by 2020, and to become carbon neutral by 2045. Cal Poly Humboldt was successful in achieving the 2020 goal. The CAP 2.0 outlines strategies to achieve carbon neutrality by 2045, as well as to incorporate sustainability and climate action into the campus' research and academic operations through a variety of actions and strategies related to Buildings, Energy & Fuels (BEF); Transportation (TRA), Solid Waste & Purchasing (SWP); Carbon Sequestration & Offset (CSO); Academics & Research (A&R); and Resilience (RES). The goals and strategies of the CAP 2.0 that are relevant to GHG reductions for all sectors are as follows:

BEF GOAL 1: All buildings owned/operated by Cal Poly Humboldt will generate zero direct emissions by 2045

- Strategy 1.1: By 2025, 50% of new major renovations of state buildings will be zero net energy (ZNE). By 2030, 50% of buildings will be retrofitted to ZNE and all new construction will be ZNE.
- Strategy 1.2: Adopt whole-building performance targets for campus buildings to further energy and water efficiency.
- Strategy 1.3: Reduce natural gas consumption below 2018-19 levels by 50% by 2030, by 75% by 2040, and by 100% by 2045.
- Strategy 1.4: Increase installation of solar photovoltaic energy systems on campus infrastructure to a minimum of 2.5 MW by 2025

BEF GOAL 2: Build resilience into campus buildings and infrastructure to adapt to, and continue to provide functionality during, climate change impacts

- Strategy 2.1: Ensure critical loads maintain power during power shut-off events utilizing low-carbon technologies.

BEF GOAL 3: Zero emissions fleet by 2045

- Strategy 3.1: Adopt and implement a long-range plan for transitioning fleet and grounds equipment to zero emissions

TRA GOAL 1: Reduce commute emissions 50% below 2015 levels by 2030, and to zero by 2045

- Strategy 1.1: Develop and implement a Transportation Demand Management (TDM) Plan
- Strategy 1.2: Adjust parking policies, programs and infrastructure to reduce number of personal, non-zero emission vehicles on campus
- Strategy 1.3: Improve walkability and bikeability of campus and area surrounding campus
- Strategy 1.4: Support and expand alternative transportation programs
- Strategy 1.5 Support improvement of public transit services to the campus
- Strategy 1.6: Adopt additional provisions to reduce employee trips to/from campus

TRA GOAL 2: Reduce business air travel emissions by 50% of 2015 levels by 2030 Strategy

- Strategy 2.1: Educate air travelers on their impact while enhancing alternatives to air travel

SWP GOAL 1: Cal Poly Humboldt is a zero waste campus by 2045

- Strategy 1.1: Develop and implement a Zero Waste Action Plan to achieve 50% below 2015 levels by 2030 and 80% below 2015 levels by 2040 for residential and commercial waste (measured in pounds per person per day, or PPD)
- Strategy 1.2: Reduce waste associated with campus resident move-out by 25% below 2019 levels by 2025

SWP GOAL 2: Reduce non-hazardous construction and demolition waste going to the landfill

- Strategy 2.1: Divert a minimum of 65% of non-hazardous construction and demolition waste; by 2030 increase diversion rate to 75%.

SWP GOAL 3: By 2030 prioritize the procurement and use of materials, goods, and supplies that are recycled, reused, repurposed or returned at the end of life.

- Strategy 3.1: Implement policies and procedures to maximize the use of suppliers and vendors with sustainable practices in campus contracting activities.

SWP GOAL 4: Reduce the embodied carbon of specified construction materials by 50% of 2022 levels by 2030

- Strategy 4.1: Reduce Scope 4 emissions by only purchasing specified building materials with a global warming potential below the industry average

CSO GOAL 1: By 2045, any remaining GHG emissions are mitigated through sequestration and carbon offset programs or purchases

- Strategy 1.1: Identify and manage for carbon sequestration on Humboldt managed properties
- Strategy 1.2: Offset 25% of emissions from business air travel by 2025, and 100% of remaining emissions from air travel by 2045
- Strategy 1.3: Offset 10% of emissions from commute by 2025, and 100% of remaining emissions from commute by 2045
- Strategy 1.4: Develop community based small-scale carbon offset projects
- Strategy 1.5: Develop a carbon reduction fund for purchasing carbon offsets through the traditional voluntary market and for funding small scale carbon projects.
- Objective 1.6: Integrate carbon sequestration into campus decision-making.

A&R GOAL 1: Further integrate sustainability into the curriculum

- Strategy 1.1: Increase the percentage of courses with sustainability content to 25% by 2025 and to 40% by 2030. Increase the percentage of academic departments with sustainability course offerings to 85% by 2025 and to 90% by 2030.

A&R GOAL 2: Foster cross-disciplinary research and creative activities in sustainability.

- Strategy 2.1: Increase the percentage of researchers that are engaged in sustainability research to 50% by 2025 and to 60% by 2030.
- Strategy 2.2: Support the increase and enhancement of creative activities in sustainability.

A&R GOAL 3: Firmly and publicly establish Cal Poly Humboldt as a hub for sustainability innovation, curriculum and research

- Strategy 3.1: Support the establishment of a sustainability center by 2025.

RES GOAL 1: Develop a campus and community that can withstand and thrive through climate change-driven disruptions

- Strategy 1: Plan now for a future constrained by climate change impacts.
- Strategy 2: Educate the campus community about climate change vulnerabilities and adaptation strategies.
- Strategy 3: Reduce food and housing insecurity.
- Strategy 4: Improve ecosystem management to increase biodiversity, remove invasive species, and foster pollinator health.
- Strategy 5: Improve storm, wastewater and irrigation management.
- Strategy 6: Improve indoor and outdoor air quality.
- Strategy 7: Strengthen campus emergency operations and response.

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section of Chapter 3 of this EIR, CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The City of Arcata General Plan serves as a guide to all city development projects, both private and public. The following policies of the City of Arcata General Plan are relevant to greenhouse gas emissions within the project site:

- **Policy RC-8a: Encouragement of Appropriate Energy Alternatives**. Attempt to purchase at least 10% of electrical energy from renewable sources within Humboldt County by the year 2020. City to consider how energy suppliers meet this goal before purchasing electricity.
- **Policy RC-8b: Encouragement of Energy Efficiency and Conservation**. Educate residents, property owners, and business operators about the need for and benefits of conserving energy.
- **Policy RC-8c: Promotion of Energy Efficiency in Transportation**. Attempt to reduce the need for motor vehicle trips when making traffic management and transportation decisions.
- **Policy RC-8d: Restoration for Greenhouse Gases Absorption**. Restore and foster forests and other terrestrial ecosystems that offer significant carbon mitigation potential.

City of Arcata Climate Action Plan

The City of Arcata developed the Community Greenhouse Gas Reduction Plan in 2006 to address the ways in which the city's energy use contributes to climate change through the emission of greenhouse gases. This plan consists of six "action areas" which provide recommendations for meeting the city's projected energy needs while reducing greenhouse gas emissions. The six actions areas are as follows:

- Energy Efficiency: Conserve energy or reduce electricity and gas use in order to reduce greenhouse gas emissions.
- Renewable Energy: Encourage private residencies to install renewable energy systems such as rooftop solar panels, as well as transition municipal buildings towards the use of renewable energy.
- Sustainable Transportation: Reduce automobile travel, encourage more efficient vehicles and cleaner transportation fuels, support cleaner and alternative transportation to lower emissions and energy costs to create energy independence.
- Waste and Consumption Reduction: Consider industrial ecology and examine local, regional, and global uses and flows of materials and energy in products and processes. Reduce environmental burdens throughout product life cycle. Implement measures that reduce waste in consumption, and encourage recycling and reuse in purchasing.
- Carbon Sequestration and Other Methods: Increase carbon sequestration capacity by sustainably managing forests. Additionally, utilize biogas and encourage policies which support both of these goals.
- Cross-Cutting Approaches: Develop city-wide green building promotional campaign, support green economic growth, and develop regional partnerships and incentive programs to promote energy efficiency and renewable energy.

3.6.2 Environmental Setting

THE PHYSICAL SCIENTIFIC BASIS OF GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth emits lower frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing (IPCC 2014:5).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remain stored in the atmosphere (IPCC 2013:467).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

GREENHOUSE GAS EMISSION SOURCES

Statewide

As discussed previously, GHG emissions are attributable in large part to human activities. The total GHG inventory for California in 2019 was 418 million $MMTCO_2e$ (CARB 2021). This is less than the 2020 target of 431 $MMTCO_2e$ (CARB 2021). Table 3.6-1 summarizes the statewide GHG inventory for California. As shown, transportation, industry, and electricity generation are the largest GHG emission sectors. Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing CO_2 from the atmosphere.

Table 3.6-1 Statewide GHG Emissions by Economic Sector

Sector	Percent of Total	Total Emissions (MMTCO2e)1
Transportation	41	170
Industrial	24	100
Electricity generation (in state)	9	37
Electricity generation (imports)	5	22
Agriculture	8	32
Residential	8	33
Commercial	6	24

Notes: $MMTCO_2e$ = million metric tons of carbon dioxide equivalent.

[1] Total emissions are approximate value based on 2019 total California emissions. Totals may not equal the sum of the numbers because of independent rounding.

Source: CARB 2021.

Cal Poly Humboldt

The Cal Poly Humboldt CAP 2.0 contains a GHG inventory which categorizes GHG emissions under four scopes:

- Scope 1: On-site combustion of fossil fuels in equipment owned or operated by Cal Poly Humboldt.
- Scope 2: Indirect emissions (i.e., emissions at the power plant) from purchased electricity.
- Scope 3: Emissions from related activities and supply chain not under direct control.
- Scope 4: The embodied carbon footprint of materials.

Table 3.6-2 summarizes Cal Poly Humboldt's GHG emissions by source for Fiscal Year 2019/2020.

Table 3.6-2 Cal Poly Humboldt GHG Emissions by Source

Scope	Source	Total Emissions (MMTCO$_2$e)	Percent of Total
1	Natural Gas	4,556.6	33.2%
1	Fleet and Grounds Fuels	199.3	1.5%
2	Purchased Electricity	2,866.0	20.9%
3	Faculty Commute	165.0	1.2%
3	Staff Commute	579.34	4.2%
3	Student Commute	1,578.8	11.5%
3	Air Travel	3,507.4	25.6%
3	Landfilled Solid Waste	129.9	1.0%
3	Transmission and Distribution Losses	144.3	1.1%
	Total	**13,726.64**	**100%**

Notes: MMTCO$_2$e = million metric tons of carbon dioxide equivalent.

Source: Cal Poly Humboldt 2021.

EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

According to the Intergovernmental Panel on Climate Change, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature will increase by 3.7 to 3.8 degrees Celsius (°C) (6.7 to 8.6 degrees Fahrenheit [°F]) by the end of the century unless additional efforts to reduce GHG emissions are made (IPCC 2014:10). According to CEC, temperatures in California will warm by approximately 2.7°F above 2000 averages by 2050 and by 4.1°F to 8.6°F by 2100, depending on emission levels (CEC 2012:2).

Other environmental resources could be indirectly affected by the accumulation of GHG emissions and the resulting rise in global average temperature. In recent years, California has been marked by extreme weather and its effects. According to CNRA's *Safeguarding California Plan: 2018 Update*, California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014 (CNRA 2018:55). In contrast, the northern Sierra Nevada experienced its wettest year on record during the 2016-2017 water year (CNRA 2018:64). The changes in precipitation exacerbate wildfires throughout California, increasing their frequency, size, and devastation. As temperatures increase, the amount of precipitation falling as rain rather than snow also increases, which could lead to increased flooding because water that would normally be held in the snowpack of the Sierra Nevada and Cascade Range until spring would flow into the Central Valley during winter rainstorm events. This scenario would place more pressure on California's levee/flood control system (CNRA 2018:190–192). Furthermore, in the extreme scenario involving the rapid loss of the Antarctic ice sheet, the sea level along California's coastline could rise up to 10 feet by 2100, which is approximately 30–40 times faster than the sea-level rise experienced over the last century (CNRA 2017:102). Changes in temperature, precipitation patterns, extreme weather events, wildfires, and sea-level rise have the potential to threaten transportation and energy infrastructure and crop production (CNRA 2018:64, 116–117, 127).

Cal-Adapt is a climate change scenario planning tool developed by CEC that downscales global climate model data to local and regional resolution under two emissions scenarios. The Representative Concentration Pathway (RCP) 8.5

scenario represents a business-as-usual future emissions scenario, and the RCP 4.5 scenario represents a future with reduced GHG emissions. According to Cal-Adapt, annual average maximum temperatures in the project area are projected to rise by 4.5°F to 7.4°F by 2099, with the low and high ends of the range reflecting the lower and higher emissions increase scenarios (CEC 2021b).

Humboldt County experienced an annual average high temperature of 59.7°F between 1950 and 2004. Under the RCP 4.5 scenario, the county's annual average high temperature is projected to increase by 2.1°F to 61.8°F by 2050 and increase an additional 2.4°F to 64.2°F by 2099 (CEC 2021a). Under the RCP 8.5 scenario, the county's annual average high temperature is projected to increase by 2.4°F to 62.1°F by 2050 and increase an additional 5.0°F to 67.1°F by 2099 (CEC 2021b).

Humboldt County experienced an average precipitation of 44.4 inches per year between 1950 and 2004. Under the RCP 4.5 scenario, the county is projected to experience an increase of 1.0 inches to 45.4 inches per year by 2050 and increase to 46.2inches per year by 2099 (CEC 2021b). Under the RCP 8.5 scenario, the county is projected to experience an increase of 1.3 inches to 45.7 inches per year by 2050 and increase to 48.8 inches per year by 2099 (CEC 2021b).

3.6.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

GHG emissions associated with the project would be generated during project construction and during operation after the project is built. Construction and operational GHG emissions of criteria air pollutants and precursors were calculated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (CAPCOA 2020) computer program, as recommended by NCUAQMD. Modeling was based on project-specific information (e.g., housing units, building square footage) where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type.

Construction-Related Greenhouse Gas Emissions

Construction activities would occur over an approximately 18-month period, starting in 2023 and finishing in 2024/2025. Construction activities would include site grading and excavation, utility trenching, building foundation pouring, and building construction. Specific phasing schedule and duration was not available. CalEEMod defaults were used to estimate equipment based on the project's acreage, square footage by land use type, and expected overall schedule. It was assumed that all diesel construction equipment would be powered by Tier 4 engines. Detailed construction assumptions and inputs can be found in Appendix B.

Operation-Related Greenhouse Gas Emissions

Operation-related emissions of GHGs were estimated for area sources (e.g., landscape maintenance equipment), energy use (i.e., electricity consumption), water use, wastewater generation, solid waste generation, and mobile sources. Operation-related mobile-source emissions were modeled based on the estimated daily vehicle trips and VMT associated with new student housing uses. The number of trips and VMT used in the air quality modeling were obtained from the transportation analysis conducted for the project (see Section 3.11, "Transportation"). Mobile-source emissions were calculated using CalEEMod default emission rates along with project-specific trip and VMT. Indirect emissions associated with electricity consumption were estimated using adjusted GHG emissions factors for PG&E based on compliance with RPS targets. Emissions associated with water, wastewater, and solid waste were estimated based on defaults in CalEEMod for the project area.

As noted in Section 2, "Project Description," it was assumed that natural gas services would not be provided, and all energy-related needs would be provided by PG&E electrical procurement. As such, energy-related emissions associated with on-site combustion of natural gas (which is typically associated with space and water heating) is assumed to be zero. Operational output sheets can be found in Appendix B.

Consistency with Applicable Plans, Policies, Regulations

The project was also evaluated for its consistency with adopted regulations, plans, and policies aimed at reducing GHG emissions. These include the 2017 Scoping Plan, CSU Sustainability Policy, and the Cal Poly Humboldt CAP 2.0. The analysis was generally qualitative in nature and considered proposed GHG-reduction design features as GHG emissions reduction targets set by CSU and Cal Poly Humboldt.

THRESHOLDS OF SIGNIFICANCE

The issue of global climate change is inherently a cumulative issue because the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Thus, the project's impact on climate change is addressed only as a cumulative impact.

State CEQA Guidelines Section 15064 and relevant checklist questions contained in Appendix G recommend that a lead agency consider a project's consistency with relevant, adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. Under Appendix G of the State CEQA Guidelines, implementing the project would result in a cumulatively considerable contribution to climate change if it would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or
- conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

State CEQA Guidelines give the lead agency the discretion to select the most appropriate tools based on substantial evidence. Neither NCUAQMD nor Cal Poly Humboldt have developed project-specific GHG emissions thresholds. Other agencies throughout the state, including multiple air districts, have adopted numerical thresholds that allow projects to demonstrate consistency with the 2030 statewide GHG reduction target codified by SB 32 (i.e., 40 percent below 1990 levels) and the 2045 carbon neutrality goal identified in EO B-55-15. Given that neither NCUAQMD nor Cal Poly Humboldt has developed project-specific GHG emissions thresholds, the assessment of GHG emissions in this analysis is based on guidance from Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Bay Area Air Quality Management District (BAAQMD). Based on the guidance provided by these air districts, which includes a tiered approach to determining project significance, the separate threshold approaches for construction and operation are provided below.

Construction

Result in construction emissions that exceed 1,100 $MTCO_2e$/year.

Operation

Be inconsistent with the Climate Change Scoping Plan by not implementing applicable SMAQMD best management practices (BMPs) or equivalent on/off site mitigation. The following tiered approach is used to determine consistency:

- Tier 1 includes BMP's 1 and 2, along with comparison to the numerical threshold:
- Projects shall be designed and constructed without natural gas infrastructure. (BMP 1)
    - Projects shall meet the current CalGreen Tier 2 electric vehicle (EV) charging standards except all EV capable spaces[1] shall instead be EV ready.[2] (BMP 2)
    - Projects that exceed 1,100 $MTCO_2e$ after implementation of Tier 1 GHG reduction measures must implement Tier 2 GHG reduction measures.

[1] 2019 California Green Building Standards Code (CALGreen, Title 24, Part 11) requires EV capable parking spaces to install a "raceway" (the enclosed conduit that forms the physical pathway for electrical wiring to protect it from damage) and adequate panel capacity to accommodate future installation of a dedicated branch circuit and charging station(s).

[2] 2019 CALGreen, Title 24, Part 11 requires EV ready parking spaces to be equipped according to EV capable standards plus the installation of dedicated branch circuit(s) (electrical pre-wiring), circuit breakers, and other electrical components, including a receptacle (240-volt outlet) or blank cover needed to support future installation of one or more charging stations.

- Tier 2 includes BMP 3, as described below:
  - Residential projects shall achieve a 15 percent reduction in VMT per resident and office projects shall achieve a 15 percent reduction in VMT per worker compared to existing average VMT for the county, and retail projects shall achieve no net increase in total VMT to show consistency with the Office of Planning and Research (OPR) SB 743. (BMP 3)

To apply the tiered approach shown above, total annual construction emissions for each year of construction should be compared to the annual threshold of 1,100 $MTCO_2e$ and emissions that exceed the threshold in any year would be determined to have a cumulative considerable contribution to climate change. Mitigation would be required to reduce emissions to the threshold for that given year.

For operational emissions, SMAQMD recommends a tiered approach to determine significance, as shown above. Tier 1 requires projects to implement BMPs 1 and 2 to demonstrate consistency with the 2017 Scoping Plan. Once BMPs 1 and 2 are implemented, the project's operational GHG emissions would be compared to a threshold of 1,100 $MTCO_2e$ per year. Projects that fall under that level would not result in a cumulative considerable contribution to climate change and projects that exceed the screening level threshold are to implement the Tier 2 BMP (BMP 3) to be consistent with SB 743.

ISSUES NOT DISCUSSED FURTHER

All issues pertaining to GHGs are discussed below.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: Generate GHG Emissions That May Have a Significant Impact on the Environment

The project would generate GHG emissions from construction activities and operational activities including vehicle trips, area sources, electricity consumption, water use and waste generation. The project includes various sustainability measures consistent with CSU Sustainability Policy and the Cal Poly Humboldt CAP, which would offset a portion of project GHG emissions. Additionally, the project would achieve a 15 percent reduction in regional VMT; therefore, the project would be consistent with GHG SMAQMD's VMT reduction threshold of significance and the project's GHG emissions would be **less than significant**.

GHG emissions associated with the project would be generated during construction and operation, which are discussed separately below to address SMAQMD's thresholds for each. However, GHG emissions are inherently cumulative in nature and the overall project-related GHGs are considered in determining the GHG impact conclusion.

Construction

Project-related construction activities would result in the generation of GHG emissions from the use of heavy-duty off-road construction equipment, delivery trucks associated with materials transport, and vehicle use during worker commute during both phases of construction.

Table 3.6-3 provides a summary of the total construction-related emissions that would occur. As shown, the project's emissions would not result in an exceedance of the SMAQMD construction threshold and would not result in a cumulatively considerable increase in GHG emissions during construction.

Table 3.6-3 Construction-Generated Greenhouse Gas Emissions

Construction Year	Total $MTCO_2e$ per Year
2023	590
2024	424
SMAQMD Screening Level	1,100

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

Source: Modeling conducted by Ascent Environmental in 2022.

Operation

Operation of the project would result in mobile-source GHG emissions from vehicle trips (i.e., project-generated VMT), area-source emissions from the operation of landscape maintenance equipment, energy use emissions from consumption of electricity, water-related energy consumption associated with water use and the conveyance and treatment of wastewater, and waste-generated emissions from the transport and disposal of solid waste. Table 3.6-4 below summarizes the project's operational emissions for the assumed buildout (opening) year of 2024.

Table 3.6-4 Operations-Generated Greenhouse Gas Emissions

Emissions Source	Total $MTCO_2e$ per Year
Area	3
Electricity	125
Mobile (Vehicular)	2,828
Waste	422
Water	43
Total	**3,421**
SMAQMD Screening Level	1,100

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

Source: Modeling conducted by Ascent Environmental in 2022.

Based on the proposed land uses and using project-specific information where available, operational emissions were estimated to be 3,421 $MTCO_2e$/year at buildout (opening) year of 2024. Additionally, project design features were assessed to determined level of compliance/consistency with the Tiers 1 and 2 (BMP 1 through 3), as noted above.

With respect to building-related energy use, all on-site structures would be electric-only; no natural gas connections would be provided. As a result, the project would be consistent with BMP 1. Development of the project site, as part of implementation of CSU Sustainability Policy, is required to support zero emissions vehicles to help achieve 2017 Scoping Plan reduction targets. With respect to BMP 2, the project would construct 10 percent of the project's 340 total parking spaces (i.e., 34 spaces) to be EV-ready, consistent with CalGreen Tier 2. As a result, the project would be consistent with BMP 2. It should be noted that potential reductions associated with EV-ready spaces have not been quantified as they would require further installation of charging modules prior to achieving measurable reductions in GHG emissions. As shown in Table 3.6-4, project operations would exceed 1,100 $MTCO_2e$ after implementation of Tier 1 GHG reduction measures. Consequently, the project's level of consistency with Tier 2 (BMP 3) measures was considered.

With respect to Tier 2 (BMP 3), the project would achieve at least a 15 percent reduction in VMT per resident compared to existing average VMT for the county. As discussed in detail in Section 3.11, "Transportation," the project would result in 12.3 VMT per resident, which more than achieves the 15 percent reduction threshold set out by BMP 3. As such, the project would be consistent with established thresholds for GHGs, and project-related GHG emissions would not conflict with the State's Scoping Plan. As a result, this impact would be **less than significant.**

Mitigation Measures

No mitigation measures are required.

Impact 3.6-2: Conflict with an Applicable Plan, Policy or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of GHGs

The project would include GHG efficiency measures consistent with CSU policies and plans adopted for the purpose of reducing GHG emissions and enabling the achievement of reduction targets. Additionally, the project would be consistent with the goals of the 2017 Scoping Plan. Therefore, this impact would be **less than significant**.

The project was evaluated, qualitatively, for consistency with applicable local and State plans that were developed with the intent of reducing GHG emissions. Each applicable plan is discussed separately below.

<u>Consistency with the 2017 Scoping Plan</u>

The 2017 Scoping Plan lays out the framework for achieving the 2030 statewide GHG reduction target of 40 percent below 1990 levels and progress toward additional reductions. Appendix B of the 2017 Scoping Plan includes detailed GHG reduction measures and local actions that land use development projects can implement to support the statewide goal. For CEQA analyses, the 2017 Scoping Plan states that projects should implement feasible mitigation, preferably measures that can be implemented on-site. The project would include many GHG reduction features including building electrification and not providing natural gas infrastructure. Project sustainability features include high-efficiency irrigation for the landscaping, water-efficient plumbing, energy-efficient and the California Green Building Code -compliant lighting and appliances, and durable exterior building materials. Energy Star office equipment, energy efficient computer monitors, and LED (light-emitting diode) lighting and lighting controls would be used throughout the buildings to achieve the energy goals. In addition, the project would encourage onsite solar energy production through the provision of EV-ready space for photovoltaic solar panels on rooftops, consistent with the CSU Sustainability Policy, and facilities that provide shade for parking, pedestrian paths, and/or gathering areas. The project also includes the installation of 34 EV-ready parking spaces Additionally, the project would provide additional student housing proximate to campus, whereas existing student living off-campus may commute further to and from campus each day. As a result, the project would result in VMT per resident (student) that is more than 15 percent better than the regional average, which is consistent with the 2017 Scoping Plan's efforts to reduce GHG emissions from transportation. For these reasons, operational GHG emissions would be consistent with the intent of reducing GHG emissions in the 2017 Scoping Plan.

<u>Consistency with the CSU Sustainability Policy</u>

The CSU Sustainability Policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum. The latest GHG emissions reduction target of the policy includes 80 percent below 1990 levels by 2040. This goal would be achieved through implementation of various sustainability strategies including water conservation, waste management, and zero natural gas use. Therefore, the project would be consistent with goals of the CSU Sustainability Policy.

<u>Consistency with the Second Nature Climate Leadership Commitment</u>

In 2016, Cal Poly Humboldt became a Charter Signatory to the Climate Leadership Commitment, establishing a goal for Cal Poly Humboldt to achieve net zero emissions from all sources (Scope 1, 2, and 3) by 2050. As discussed above, this project would help achieve GHG emission reduction targets with implementation of sustainable design features to help achieve net zero emissions by 2050. The project would be consistent with the Climate Leadership Commitment.

<u>Consistency with Cal Poly Humboldt Climate Action Plan 2.0</u>

The Cal Poly Humboldt CAP 2.0 aims to exceed the CSU Sustainability Policy by setting a carbon neutral goal by 2050. As part of that commitment, locating a higher percentage of students closer to the main campus is considered necessary and would be partially fulfilled by the project. For the same reasons that the project would be consistent with Climate Leadership Commitment, the project would implement sustainable design features that would put Cal Poly Humboldt on track toward meeting emission reduction goals. These features include no natural gas use, energy and water efficiency systems, and EV-ready parking spaces. Thus, the project would be consistent with the CAP.

<u>Summary</u>

The project would be consistent with the 2017 Scoping Plan, and the project's sustainability features would be consistent with CSU Sustainability Policy, Second Nature Climate Leadership Commitment, and the Cal Poly Humboldt CAP 2.0. Therefore, the project would not conflict with an applicable plan adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, this impact is **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.7 LAND USE AND PLANNING

This land use analysis evaluates consistency of the Student Housing Project with applicable land use plans and policies. The physical environmental effects associated with the project, many of which pertain to issues of land use compatibility (e.g., noise, aesthetics, air quality), are evaluated in other sections of Chapter 3 of this ~~Draft~~ Final EIR.

No comments regarding land use and planning were received in response to the NOP.

3.7.1 Regulatory Setting

FEDERAL

No federal plans, policies, regulations, or laws related to land use are applicable to the project.

STATE

State Planning and Zoning Laws

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. Cities typically identify a "sphere of influence" in their general plans; these are areas outside the city corporate boundaries that comprise the probable future boundary and service area of the city. The general plan addresses a broad range of topics, including at a minimum land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area.

The State Zoning Law (California Government Code, Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific zone district, are required to be consistent with the general plan. Local general plan policies and zoning ordinances, as they relate to the project, are summarized below.

CALIFORNIA STATE UNIVERSITY

Humboldt State University 2004 Master Plan

The *Humboldt State University 2004 Master Plan* is a strategy for modifying the Cal Poly Humboldt campus to accommodate growth and change over the 30- to 40-year planning horizon. Chapter 3, "Planning Principles," of the *Humboldt State University 2004 Master Plan* includes campus planning objectives, requirements and guidelines, which ensure that projects are planned out to contribute to Cal Poly Humboldt's vision of the campus (Humboldt State University 2004). The planning objectives and guidelines serve as a roadmap for guiding future campus development, including new student housing within university-owned property. Currently, approximately 70 percent of students currently reside in off-campus housing, and most live within the city or elsewhere within the county. The lack of student housing within university-owned property has put pressure on the City's and County's single-family housing market (Cal Poly Humboldt 2022). Additionally, the lack of available on-campus student housing has deterred prospective students from accepting enrollment, thereby reducing the total number of enrolled students. As a result, Cal Poly Humboldt has identified a need to provide additional student housing on university property at or near the main campus. Cal Poly Humboldt was also recently designated (as of 2021) as the third Cal Poly university in the CSU system.

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section in Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The City of Arcata General Plan Land Use Element provides policies to address land use and planning within the city and to guide sustainable development that meets their land use and planning needs (City of Arcata 2008a). The following policies are relevant to the project.

- **Policy LU-1: Overall Land Use Pattern: Land Use Plan Map.** Provide an overall land use arrangement that concentrates city-wide uses and functions in the central Plaza Area, linked with a series of neighborhood centers which provide a mix of commercial services, residential uses, and community facilities.
- **Policy LU-2: Residential Land Use.** Allow for a mix of housing types and densities to meet the physical, social, and economic needs of residents, with new and converted housing designed to be compatible with the established neighborhood character.
- **Policy LU-4: Industrial Land Use.** Provide for uses which will retain and generate jobs, including labor-intensive manufacturing, processing, assembly, warehousing, services, and complementary non-industrial uses, in appropriate locations.

Other policies provided in the General Plan pertain to specific issue areas (e.g., visual resources) and are provided in other sections of this EIR where appropriate.

As noted in Chapter 2, "Project Description," the City is currently in the process of updating its General Plan. An NOP of an EIR for the City's General Plan 2045 and Gateway Area Plan was released in February 2022. As of the writing of this document, draft policies of the new General Plan 2045 have yet to be released, however the project site is identified as an infill opportunity zone for residential development (City of Arcata 2022a).

City of Arcata Land Use Code

The City of Arcata's Land Use Code establishes zones for residential development and contains development standards to ensure orderly housing development that is consistent with the character of existing residential neighborhoods (City of Arcata 2008b). The following chapters are relevant to the project.

- **Chapter 9.30:** This chapter expands upon the zoning district development standards by addressing additional details of site planning, project design, and the operation of land uses. The intent of these standards is to ensure that proposed development is compatible with existing and future development on neighboring properties, and produces and environment of stable and desirable character, consistent with the General Plan and any applicable specific plan.
- **Chapter 9.34:** This chapter establishes requirements for landscaping to enhance the appearance of development projects, reduce heat and glare, control soil erosion, conserve water, screen potentially incompatible land uses, preserve the integrity of neighborhoods, improve air quality, and improve pedestrian and vehicular traffic safety.
- **Chapter 9.36:** The requirements of this chapter are intended to minimize impervious areas, to ensure that accessible, suitable, and well maintained off-street parking and loading facilities are provided for all uses and development, and that the facilities are properly designed, attractive, and located to be unobtrusive while meeting the needs of the specific use.

- **Chapter 9.42:** This chapter provides site planning, development, and/or operating standards for certain land uses that are allowed within individual or multiple zoning districts, and for activities that require special standards to mitigate their potential adverse impacts.
- **Chapter 9.58:** Provide procedures for the filing, processing, and approval or disapproval of applications for tree removal. Establishes minimum standards and regulations to preserve and protect trees which are considered important to the character of the City of Arcata and its neighborhoods.
- **Chapter 9.59:** Environmentally sensitive habitat areas (ESHA) within the City (Janes Creek, riparian corridors, wetlands, etc.) are important natural resources that provide ecological balance, ecosystem function, biological productivity, and values such as wildlife habitat, water quality, open space and scenic resources, flood control, and opportunities for scientific study and education. This chapter contains requirements that are intended to protect ESHAs through measures including setback restrictions, easements, overlay zones, limitations on uses within ESHAs, and mitigation.
- **Chapter 9.72 PD:** Provide a method whereby land may be designed and developed as a single unit by taking advantage of modern site planning techniques thereby resulting in a more efficient use of land and a better living environment than is otherwise possible through strict application of the development standards. Ensure that approved development meets high standards of environmental quality, public health and safety, the efficient use of the City's resources, and the purpose, intent, goals, policies, programs, and land use designations of the General Plan, the Local Coastal Program, and any applicable specific plan.

3.7.2 Environmental Setting

Land use planning is used to direct the amount, type, and location of different land uses and to coordinate anticipated development efforts for long-term efficiency of land uses and developed systems (e.g., circulation, infrastructure, and building space) within a planning area. This section describes the existing conditions related to land use and the existing land use designations at and near (within approximately 0.25 mile) of the project site.

PROJECT SITE

The project site is located in the north central portion of the City of Arcata. The majority of the project site is an elevated terrace (approximately 50 feet above mean sea level), and topography dips in the northwestern portion of the project site toward a tributary of Janes Creek. This northwestern portion of the site is 15-20 feet lower than the majority of the site and is an undeveloped area with a variety of native and non-native vegetation, a drainage ditch, concrete culvert, and a small wetland area. The difference in grade also provides a vertical grade separation between the project site and residential neighborhood to the west.

Currently, the project site is occupied by the existing Craftsman's Mall and three residential structures. Structures associated with the Craftsman's Mall are predominantly located in the southwestern portion of the site and consist of a collection of wood-framed warehouse buildings housing artisan and light industrial rental spaces and outdoor storage areas for local contractors. Elsewhere within the Craftsman's Mall property, portable structures (i.e., mobile homes) are scattered throughout. The three residences are located along the northeastern portion of the site. The northwestern portion and western edge of the site are currently undeveloped but provide some on-site detention of stormwater flows. Access to the site is available via St. Louis Road; however, no connection to Eye Street is currently provided.

Per the City's adopted General Plan and Zoning Code, land use and zoning designations within the project are predominantly industrial, with the majority of the site related to the Craftsman's Mall designated and zoned as "Industrial – Limited." However, the southeasternmost parcel is currently designated and zoned as "Residential – Low-Density." In addition and as noted in Chapter 2, "Project Description," the project site has been identified to be redesignated as an Infill Opportunity Zone for higher-density residential development in the City's 2019 Housing Element (City of Arcata 2019) and in updates to the City's General Plan Land Use Updates map (City of Arcata 2022a), The five parcels located along St. Louis Road, along the project site's northern edge, are designated and zoned as "Industrial – General." Table 3.7-1 lists the designations for the project site and the definition of each.

Table 3.7-1 Zoning and Land Use Designations Used for the Project Site

Name – Type	Location	Definition
Industrial – Limited (IL) – City of Arcata General Plan Land Use and Zoning Designation	Majority of Craftsman's Mall property	The IL designation is applied to areas appropriate for light and moderate impact manufacturing, and limited commercial uses. Residential uses may also be allowed where they are compatible with the nature of the production process, or the related sales of products made on the premises.
Industrial – General – City of Arcata General Plan Land Use and Zoning Designation	Parcels located along northern portion of the site, adjacent to St. Louis Road	The IG Designation is applied to areas appropriate for light, moderate impact, and high impact manufacturing, and limited commercial uses.
Residential – Low-Density – City of Arcata General Plan Land Use and Zoning Designation	Southeastern parcel of the project site, south of St. Louis Road cul-de-sac	The RL designation is applied to areas appropriate for neighborhoods of single-family homes on individual lots and related, compatible uses. The allowable density ranges from two to 7.25 dwellings per acre.

Source: City of Arcata 2022b.

SURROUNDING LAND USES

Surrounding land uses include single-family residential development to the north, west, and south, industrial uses to the north, and US Highway (US) 101 to the east. A tributary to Janes Creek and its associated riparian corridor occurs surrounding the Janes Creek Meadows residential development to the northwest of the site. Arcata Elementary School is located approximately 340 feet to the south of the project site. St. Louis Road borders the project site to the north and provides one lane in each direction within an approximate 40 foot right of way. Adjacent to the project site across St. Louis Road is an industrial facility, Mad River Lumber, that processes and sells wholesale building materials/lumber. The Northwestern Pacific Railroad tracks are located to the east of the site parallel to St. Louis Road. The railroad is currently inactive and owned by the North Coast Railroad Authority.

3.7.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

This discussion focuses on consistency with regional planning, planning designations/zoning, and existing use consistency. Please refer to Section 3.1, "Aesthetics," for a discussion of consistency with pertinent City of Arcata General Plan policies.

Evaluation of potential land-use impacts is based on a review of the planning documents pertaining to the project study area, including the current City of Arcata General Plan, and the City of Arcata Land Use Code. In determining the level of significance, this analysis assumes the Student Housing Project would comply with relevant state and other County ordinances and regulations related to land use.

THRESHOLDS OF SIGNIFICANCE

A land-use impact is considered significant if implementation of the Student Housing Project would do any of the following:

- physically divide an established community; or
- cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

ISSUES NOT DISCUSSED FURTHER

Division of an Established Community

The project site is currently somewhat isolated from downtown Arcata by distance and the lack of roadway access from the south, and is separated from the Valley East and Valley West neighborhoods to the north and the Sunny Brae residential neighborhood to the east by grade-separated US 101. It is also separated and distinct from the Alliance residential neighborhood to the west and northwest due to the presence of the tributary to Janes Creek and the Janes Creek Meadows riparian wetland, McDaniel Slough, and other open space. Because it is already physically separated from these land uses and centers of commercial activity in the City, there is no potential for the project to physically divide the community. The project would involve an extension of existing residential uses further east, north, and south from the existing single-family neighborhoods. As noted in Chapter 2, "Project Description," access to Eye Street would only be provided for emergency access purposes and project-related vehicular circulation would not use or otherwise disrupt the single-family neighborhood to the south. Therefore, the project would not physically divide an established community, and this issue is not discussed further in this EIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Cause a Significant Environmental Impact Due to a Conflict With Any Land Use Plan, Policy, or Regulation Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect

The project would involve the redevelopment of an underutilized parcel with residential uses. As noted above, the City of Arcata encourages appropriate redevelopment of certain parcels of land which are either underutilized, brownfields, or vacant but surrounded by existing urban/suburban development. The project site has also been identified by the City, through its Housing Element and in-progress updates to the General Plan, as an infill opportunity zone for high density residential development, both in prior planning documents for the City and currently under consideration updates to the City General Plan. Therefore, the project would not create a conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be **less than significant.**

As part of the CSU, a statutorily and legislatively created, constitutionally authorized State entity, Cal Poly Humboldt is not subject to municipal regulations of surrounding local governments, such as the City of Arcata general plans or land use designations, for uses on property owned or controlled by Cal Poly Humboldt that are in furtherance of its education purposes. The project, in and of itself, would provide additional housing opportunities for students proximate to campus and would considered be generally consistent with the 2004 Master Plan, although the project site itself was not owned by the Humboldt State University Foundation or Cal Poly Humboldt at the time the current campus Master Plan was adopted.

According to the City's General Plan, Arcata encourages appropriate redevelopment of certain parcels of land which are either underutilized, brownfields, or vacant but surrounded by existing urban/suburban development. These locations, of which the project site is one, represent development opportunities using existing infrastructure and have priority for development over vacant sites that are located outside the urban/suburban services boundary which require investment in extension of infrastructure and services. Infill development can include new residential units on upper floors of commercial structures, development of second units on residential lots, and new or expansion of existing residential and commercial structures consistent with the provisions of the applicable land use plan designations (City of Arcata 2008a).

As noted above, both the City's 2019 Housing Element and the updated land use map for the City's General Plan Update that is currently in progress identify the project site as an Infill Opportunity Zone for higher density residential development. More specifically, the General Plan Update's preliminary land use maps identifies the project site to be redesignated for high-density residential uses (City of Arcata 2022a). Further, City policies encourage the development of new uses proximate to existing uses, which is one of the primary foci of the project. Therefore, the project is considered consistent with the City's current land use planning efforts.

As the project would provide additional student housing proximate to campus that will reduce the student housing burden on the local community, while also accommodating a greater percentage of existing and future students in Cal Poly Humboldt housing on or near the main campus, it is considered consistent with both the 2004 Master Plan and the City's General Plan. The project, therefore, would not create a conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.8 NOISE

This section includes a summary of applicable regulations related to noise and vibration, a description of ambient-noise conditions, and an analysis of potential short-term construction and long-term operational noise impacts associated with the project. Mitigation measures are recommended as necessary to reduce significant noise and vibration impacts.

During public review of the NOP, a comment was received that identified the potential need for a noise wall along the southern property line and western edge of development.

This analysis uses the following noise and vibration descriptors:

- **A-Weighted Decibels (dBA):** Noise levels are commonly reported in decibels using the A-weighting decibel scale (dBA). The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds.
- **Equivalent Continuous Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period. For instance, the 1-hour equivalent sound level, also referred to as the hourly L_{eq}, is the energy average of sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by the California Department of Transportation (Caltrans) and Federal Transit Administration (FTA) (Caltrans 2013:Table 2-11; FTA 2018:Tabe 5-1).
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period (Caltrans 2013:Table 2-11; FTA 2018).
- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-decibel (dB) "penalty" applied to sound levels occurring during nighttime hours between 10 p.m. and 7 a.m. (Caltrans 2013:Table 2-11; FTA 2018:Table 5-1).
- **Community Noise Equivalent Level (CNEL):** CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dBA penalty applied to sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m. and a 5 dBA penalty applied to the sound levels occurring during evening hours between 7 p.m. and 10 p.m., to account for added human sensitivity to noise during these periods (Caltrans 2013:Table 2-11).
- **Vibration Decibels (VdB):** VdB is the vibration velocity level in decibel scale (FTA 2018:Table 5-1).
- **Peak Particle Velocity (PPV):** PPV is the peak signal value of an oscillating vibration waveform. Usually expressed in inches/second (FTA 2018:Table 5-1).

3.8.1 Regulatory Setting

FEDERAL

U.S. Environmental Protection Agency Office of Noise Abatement and Control

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate Federal noise control activities. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, documents and research completed by the EPA Office of Noise Abatement and Control continue to provide value in the analysis of noise effects.

Federal Transit Administration

To address the human response to ground vibration, the FTA has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines are presented in Table 3.8-1.

Table 3.8-1 Groundborne Vibration Impact Criteria for General Assessment

Land Use Category	GVB Impact Levels (VdB re 1 micro-inch/second) Frequent Events[1]	GVB Impact Levels (VdB re 1 micro-inch/second) Occasional Events[2]	GVB Impact Levels (VdB re 1 micro-inch/second) Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 [4]	65 [4]	65 [4]
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

Notes: GBV = groundborne vibration.

VdB = vibration decibels referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.

1 "Frequent Events" is defined as more than 70 vibration events of the same source per day.

2 "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

3 "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.

4 This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define acceptable vibration levels.

Source: FTA 2018

In addition to vibration criteria, FTA has also established construction noise criteria based on the land use type affected by noise and depending on whether or not construction noise would occur during the daytime or nighttime. The FTA criteria are as follows:

- Residential: 90 dBA L_{eq} (day) and 80 dBA L_{eq} (night)
- Commercial/Industrial: 100 dBA L_{eq} (day and night)

STATE

California General Plan Guidelines

The State of California General Plan Guidelines, published by the California Governor's Office of Planning and Research (2017), provides guidance for the compatibility of projects within areas of specific noise exposure. Acceptable and unacceptable community noise exposure limits for various land use categories have been determined to help guide new land use decisions in California communities. In many local jurisdictions, these guidelines are used as the basis for local noise standards and guidance. Citing U.S. Environmental Protection Agency materials and the state Sound Transmissions Control Standards, the state's general plan guidelines recommend interior and exterior CNEL of 45 and 60 dB for residential units, respectively (OPR 2017:378).

California Department of Transportation

In 2013, Caltrans published the Transportation and Construction Vibration Manual (Caltrans 2013). The manual provides general guidance on vibration issues associated with construction and operation of projects in relation to human perception and structural damage. Table 3.8-2 presents recommendations for levels of vibration that could result in damage to structures exposed to continuous/frequent intermittent sources of vibration.

Table 3.8-2 Caltrans Recommendations Regarding Levels of Vibration Exposure

Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2013

California State University

<u>Cal Poly Administrative Policies</u>

General Policy. Section 141.3.2.1 of the "Campus Administrative Policies" states the following:

- Outdoor events and activities that involve amplified music or speech are limited to the hours of: 7:00 a.m. to 10:00 p.m., Monday through Sunday, and University scheduling protocols must be followed (see sections 144.4 and 141.3.2.2).
- Outdoor events and activities that do not require use of amplified sound (for speech or music) may be held between 7:00 a.m. and midnight, Monday through Sunday. Use of the University's scheduling protocols is encouraged, to facilitate coordination with other events and among potential campus service providers. Regardless of the time they are held, events and activities must be conducted in a manner consistent with Section 141.3.1 (General Limitations) and in conformity with any additional guidelines pertinent to a particular venue.

General Policy. Section 141.3.1 of the "Campus Administrative Policies" states the following:

- All campus events and activities shall be conducted consistent with Federal and State law, with existing University policies, with the orderly conduct of University business, with preservation of the campus learning environment, with the preservation of public safety, with maintenance of University property and with the free flow of pedestrian and vehicular traffic. Entrances to campus facilities shall not be obstructed. No individual or group shall abridge, halt or disrupt the right of others to present their views. In addition, plans for outdoor events and activities should address potential impacts on residential communities, on and off campus.

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section of Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The City of Arcata General Plan contains goals and policies related to noise. Relevant policies are included below:

- **Policy N-1a: Noise attenuation measures.** Noise attenuation measures and stationary noise source controls shall include the use of barriers, setbacks, site design, baffles, enclosures, silencers, and improved facade construction techniques.

- **Policy N-1b: Noise attenuation guidelines.** Noise attenuation measures and stationary noise source controls shall follow the guidelines provided in the technical document entitled: *Noise Control Manual* (which is considered an implementation measure).
- **Policy N-1c: Noise mitigation.** Where noise mitigation measures are required, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.
- **Policy N-2c: Noise created by new or proposed stationary noise sources.** Noise created by new or proposed stationary noise sources, or the expansion or alteration of an existing use, shall be mitigated so as not to exceed noise level standards (Table N-1) [Table 3.8-3 in this EIR] at noise-sensitive land uses. All noise generators not in compliance with these standards will be encouraged to mitigate impacts.
- **Policy N-2d: Acceptable noise levels**. New construction and retrofits at existing buildings shall include appropriate insulation, glazing, and other sound attenuation measures so that they comply with standards contained in Table N-1 [Table 3.8-4 in this EIR]. These standards are intended to set levels for external noise sources that could potentially impact a new dwelling or other noise-sensitive use.

Table 3.8-3 City of Arcata Noise Standards for New Projects and Retrofits

Land Use Noise Level Descriptor	Exterior 7 am-7 pm	Exterior 7 pm to 10 pm	Exterior 10 pm to 7 am	Interior 7 am to 7 pm	Interior 7 pm to 10 pm	Interior 10 pm to 7 am
Residences, Transient Lodging, Hospitals, Nursing Homes						
Hourly L_{eq}	55 dB	50 dB	45 dB	45 dB	40 dB	35 dB
Maximum	75 dB	75 dB	70 dB	65 dB	65 dB	60 dB
Auditoriums, Theaters, Libraries, Schools, Churches						
Hourly L_{eq}	55 dB	55 dB	n/a	40 dB	40 dB	n/a
Maximum	75 dB	75 dB	n/a	60 dB	60 dB	n/a

The City can impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.

These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

The standards will be applied at the outdoor activity areas of the receiving land use, and at the building facade for upper floor receivers which do not have an outdoor activity area facing the noise source. Where no outdoor activity area is identified, the City has the option to apply only the interior noise level performance standards.

Source: City of Arcata 2020.

Table 3.8-4 City of Arcata Maximum Allowable Transportation Noise Sources Exposure

Property Receiving Noise Type of Use	Property Receiving Noise Outdoor Activity Areas[1] L_{dn}/CNEL, dB	Interior Spaces L_{dn}/CNEL, dB	Interior Spaces L_{eq}, dB[2]
Residential	60[3]	45	--
Transient Lodging	60[4]	45	--
Hospitals, Nursing Homes	60[3]	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60[3]	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	—	--

Notes: CNEL = community noise equivalent level; L_{dn} = day-night average noise level

[1] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2] As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

[4] In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.

Source: City of Arcata 2020.

- **Policy N-3a: New development of noise-sensitive land uses**. New development of noise receptors will not be permitted in areas exposed to existing or projected levels of transportation noise exceeding levels specified in Table N-2 [Table 3.8-4 in this EIR] unless exterior noise or noise levels in interior spaces can be reduced to meet City Standards (Table N-2) [Table 3.8-3 in this EIR].
- **Policy N-3c: Roadway projects.** To minimize noise impacts, the following criteria may be used as a test of significance for roadway projects:
    1. Where existing traffic noise levels are less than 60 dB L_{dn} at the outdoor activity areas of noise receptors, a +5 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant.
    2. Where existing traffic noise levels range between 60 and 65 dB L_{dn} at the outdoor activity areas of noise receptors, a +3 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant.
    3. Where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise receptors, a + 1.5 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant.
- **Policy N-5a: Intrusive noise**. When intrusive noise sources have been identified, the detrimental effects (sleep interference or the potential for annoyance) shall be disclosed to neighboring receptor properties.
- **Policy N-5b: Noise levels due to non-transportation sources.** Noise levels due to non-transportation sources which may be intermittent or recurring, impulsive noises, pure tones, or noises consisting primarily of speech or music, shall be subject to the criteria contained within Table N-1 [Table 3.8-3 in this EIR], with a 5 dB penalty applied to the criteria.
- **Policy N-5c: Rhythmic, recurring, or impulsive noise sources.** When noise sources have been identified to be rhythmic, reoccurring, or impulsive in nature or comprised mainly of music or speech, they may comply with applicable noise level criteria and still be annoying to individuals. When these types of noise sources have been identified, they may be subject to additional mitigation or mediation.

- **Policy N-5d: Construction site tool or equipment noise.** The following shall apply to construction noise from tools and equipment:

  1. The operation of tools or equipment used in construction, drilling, repair, alteration or demolition shall be limited to between the hours of 8 a.m. and 7 p.m. Monday through Friday, and between 9 a.m. and 7 p.m. on Saturdays.
  2. No heavy equipment related construction activities shall be allowed on Sundays or holidays.

  This shall apply to construction noise from tools and equipment which are subject to the review of the City, and which may affect receptor uses. This policy shall not apply to emergency work of public service utilities or by variance under a noise ordinance.

- **Policy N-5e: Stationary and construction equipment noise.** All stationary and construction equipment shall be maintained in good working order and fitted with factory approved muffler systems.

City of Arcata Municipal Code

Article 2 of the City of Arcata's Municipal Code sets exterior noise level standards for the Downtown Plaza area of the city; however, because the project is not within the Downtown Plaza, those standards do not apply. Chapter 9.30.050 Noise Standards adopts the noise standards from the General Plan. In accordance with this section of the municipal code, noise level standards shown in Table 3.8-3 above would apply to operational non-transportation noise sources and the standards shown in Table 3.8-4 would apply to operational transportation noise sources. Last, this section also establishes limitations on hours of construction Monday through Friday from 8:00 a.m. to 7:00 p.m., Saturday from 9:00 a.m. to 7:00 p.m., and no heavy equipment-related construction activities on Sundays and holidays.

3.8.2 Environmental Setting

SOUND, NOISE, AND ACOUSTICS

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a human ear. Noise is defined as a loud, unexpected, annoying, or unwanted sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this large range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB).

Addition of Decibels

Because decibels are logarithmic units, SPLs cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness at the same time, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. For example, if one idling truck generates an SPL of 70 dB, two trucks idling simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level approximately 5 dB louder than one source.

A-Weighted Decibels

As noted above, the decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within this range better than sounds of the same amplitude with frequencies outside of this range. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of A-weighted decibels) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds. Thus, noise levels are typically reported in terms of A-weighted decibels. Table 3.8-5 describes typical A-weighted noise levels for various noise sources.

Table 3.8-5 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 miles per hour	— 80 —	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, daytime, Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office, Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime	— 30 —	Library, Bedroom at night
Quiet rural nighttime	— 20 —	
	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013: Table 2-5

Human Response to Changes in Noise Levels

The doubling of sound energy results in a 3 dB increase in the sound level. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 Hz and perceives both higher and lower frequency sounds of the same magnitude with less intensity (Caltrans 2013:2-18). In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness (Caltrans 2013:2-10). Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3 dB increase in sound would generally be perceived as barely detectable.

Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2018; Caltrans 2013:6).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2018; Caltrans 2020:7). This is based on a reference value of 1 micro inch per second.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Ground vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2018; Caltrans 2020:27).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur to fragile buildings. Construction activities can generate sufficient ground vibrations to pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2018).

Vibrations generated by construction activity can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations are generated by vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment.

Table 3.8-6 summarizes the general human response to different ground vibration-velocity levels.

Table 3.8-6 Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many humans.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying.
85 VdB	Vibration tolerable only if there are an infrequent number of events per day.

Note: VdB = vibration decibels referenced to 1 µ inch/second and based on the root mean square (RMS) velocity amplitude.

Source: FTA 2018.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which a noise level decreases with distance depends on the following factors.

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Roads and highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources, thus propagating at a slower rate in comparison to a point source. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

As the path of noise from a source to a receiver is generally linear, it generally proceeds in a manner very close to the ground. As a result, the ground itself, as well as structures and/or features, located between source and receptor reduce (i.e., attenuate) noise over distance. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no additional attenuation beyond that associated with geometric spreading is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), additional ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. Taking into consideration the standard attenuation rate of a line source (e.g., roadways) identified above, attenuation of noise from a roadway over an acoustically soft site would equate to a reduction in noise levels of 4.5 dB per doubling of distance. This would also hold true for point sources, resulting in an overall attenuation rate of up to 7.5 dB per doubling of distance over soft/absorptive (e.g., grassy) ground.

Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels in anything other than calm conditions, whereas locations upwind can experience lowered noise levels, as wind can carry sound. Sound levels can also be increased at considerable distances (e.g., more than 500 feet) from the source because of atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also affect sound attenuation.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction (Caltrans 2013:2-41; FTA 2018). Barriers higher than the line of sight provide increased noise reduction (FTA 2018). Vegetation between the source and receiver is rarely effective in reducing noise because it does not create a solid barrier unless there are multiple rows of vegetation (FTA 2018).

EXISTING NOISE ENVIRONMENT

Existing Noise Sources and Ambient Levels

The predominant noise source in the project area is vehicle traffic associated with US 101, located adjacent to the project site, with the nearest lane of traffic located approximately 80 feet to the east of the project site. Noise associated with Mad River Lumber Company, located across St. Louis Road (approximately 30 feet from the project site's northern boundary), is audible at the project site during periods of on-site lumber movement and cutting. Noise measurements were conducted on the project site in 2017. Based on those measurements, noise levels on the project site range from 60.4 dBA L_{eq} (on-site at the point farthest from US 101) to 68.5 dBA L_{eq} (at a location closest to US 101 on the eastern edge of the site) (City of Arcata 2017). To the northwest of the project site, existing vegetation along

Janes Creek provides a natural buffer and noise attenuating feature between the project site and the Janes Creek residential development. Additionally, topographic differences between the project site and the residential neighborhood to the west and southwest largely prevent line of sight and noise levels from the residential neighborhood from reaching the project site and vice versa.

Existing Noise- and Vibration-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Additional land uses such as schools, transient lodging, historic sites, cemeteries, and places of worship are also generally considered sensitive to increases in noise levels. These land use types are also considered vibration-sensitive land uses in addition to commercial and industrial buildings, where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

The nearest noise-sensitive receptors to the project site are located along the site's western and southern boundaries and include single-family homes at the north end of Eye Street, at the east end of Stromberg Avenue, and along Maple Lane. The nearest residential receptors (structures) are located within 10 feet of the site's southern boundary and approximately 25 feet from the project site's western boundary.

3.8.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Construction Noise and Vibration

To assess potential short-term (construction-related) noise and vibration impacts, sensitive receptors and their relative exposure were identified. Project-generated construction source noise and vibration levels were determined based on methodologies, reference emission levels, and usage factors from FTA's *Guide on Transit Noise and Vibration Impact Assessment* methodology (FTA 2018) and FHWA's *Roadway Construction Noise Model User's Guide* (FHWA 2006). Reference levels for noise and vibration emissions for specific equipment or activity types are well documented and the usage thereof common practice in the field of acoustics.

Operational Noise and Vibration

With respect to non-transportation noise sources (e.g., stationary) associated with project implementation, the assessment of long-term (operational-related) impacts was based on reference noise emission levels, and measured noise levels for activities and equipment associated with project operation (HVAC Units, parking facilities), and standard attenuation rates and modeling techniques.

To assess potential long-term (operation-related) noise impacts due to project-generated increases in traffic, noise levels were estimated using calculations consistent with the Federal Highway Administration's Traffic Noise Model and project-specific traffic data (Appendix D). The analysis is based on the reference noise emission levels for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and ground attenuation factors. Truck usage and vehicle speeds on area roadways were estimated from field observations and the project-specific traffic report. Note that the modeling conducted does not account for any natural or human-made shielding (e.g., the presence of walls or buildings) or reflection off building surfaces.

THRESHOLDS OF SIGNIFICANCE

Cal Poly Humboldt does not have adopted noise standards or policies. Therefore, although State projects are exempt from local ordinances and standards, this analysis relies on adopted noise standards of the City of Arcata, as well as other appropriate agencies (e.g., FTA) where local standards are not available. It is considered appropriate to use these standards because they were adopted to protect the community from excessive noise exposure and associated adverse effects. Impacts related to noise would be significant if implementation of the project would result in:

- Construction noise levels that exceed an adopted local or other applicable noise standard or a substantial temporary increase in noise that has the potential to cause an adverse effect to a sensitive receptor. Based on the City's adopted municipal code, this criterion is applied in the following manner:
  - Construction noise that occurs outside of the allowable daytime hours (i.e., before 8:00 a.m. or after 7:00 p.m., Monday through Friday, before 9:00 a.m. or after 7:00 p.m. on Saturdays, on any Sundays or holidays);
  - An exceedance of FTA's construction noise criteria of 90 dBA L_{eq} (day) and 80 dBA L_{eq} (night) at residential receptors; or
  - An increase by 5 dBA or more over existing ambient noise levels.
- Generation of a substantial permanent traffic noise increase in ambient levels in the vicinity of the project. Based on FTA standards, this criterion is applied in the following manner:
  - Where existing traffic noise levels are less than 60 dB L_{dn}, a 5 dB L_{dn} increase in noise levels;
  - Where existing traffic noise levels range between 60 and 65 dB L_{dn}, a 3 dB L_{dn} increase in noise levels; or
  - Where existing traffic noise levels are greater than 65 dB L_{dn}, a 1.5 dB L_{dn} increase in noise levels.
- Generation of a substantial permanent stationary noise increase in ambient noise levels in the vicinity of the project in excess of exterior noise standards for stationary noise sources of 55 L_{eq}/75 L_{max} during the daytime hours (7:00 a.m. to 7:00 p.m.), 50 L_{eq}/75 L_{max} during the daytime hours (7:00 p.m. to 10:00 p.m.), and 45 L_{eq}/70 L_{max} during the nighttime hours (10:00 p.m. to 7:00 a.m.) at noise-sensitive land uses; or
- Construction vibration levels exceeding FTA's recommended standards with respect to the prevention of structural building damage (i.e., 0.2 PPV in/sec for non-engineered timber and masonry building) or FTA's maximum-acceptable-vibration standard with respect to human response/sleep disturbance (i.e., 80 VdB for residential uses) at nearby existing vibration-sensitive land uses;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels; or
- For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels.

ISSUES NOT DISCUSSED FURTHER

Airport/Airstrip-Related Noise Exposure

The project site is not located within an airport influence area, and no public or private airport/airstrip is located within two miles of the project site. Thus, the project would not result in noise impacts related to the exposure of people residing or working in the project area to excessive aircraft-related noise levels. This issue is not discussed further.

Long-Term Operational Vibration

Project implementation would not introduce any major sources of long-term or permanent ground vibration (in contrast to construction vibration, which is evaluated in impact analysis, below). Additionally, no major stationary sources of ground-borne vibration were identified in the project area that would result in the long-term exposure of proposed on-site land uses to unacceptable levels of ground vibration. Thus, long-term or permanent ground vibration levels in exceedance of the significance thresholds are not anticipated as a result of project implementation. This issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Generate Substantial Temporary (Construction) Noise

Hourly noise levels during construction activities would range from approximately 84 dBA to 86 dBA at the nearest residential receptor (i.e., residence at 2590 Eye Street). Based on available existing noise level data for the project site, hourly noise levels closest to the nearest sensitive receptor are 68.5 dBA L_{eq}. Considering that noise levels at this location could reach as high as 86 dBA L_{eq}, (i.e., 17 dBA over existing levels), construction noise would constitute a substantial increase (perceived more than doubling of the existing noise levels) for an extended period of time. This impact would be **significant.**

Construction would take approximately 18-24 months and is estimated to begin in 2023 and be completed by 2024/2025, with occupancy and operation planned for Fall 2025. Consistent with the construction hour limits established by Section 9.30.050 of the City's Municipal Code, construction would occur Monday through Friday between the hours of 8:00 a.m. and 7:00 p.m., with the potential for weekend construction on Saturday between 9:00 a.m. and 7:00 p.m. No construction would occur on Sundays or holidays. Overall construction activities would include site grading and excavation, utility trenching, building foundation pouring, and building construction.

The types of heavy equipment used during project construction would include dozers, backhoes, excavators, graders, scrapers, cranes, concrete trucks, generators, welders, compressors, and haul trucks. No pile driving or blasting would occur as part of the project. Reference noise levels of heavy equipment that would be used during project construction are summarized in Table 3.8-7.

Table 3.8-7 Noise Emission Levels from Construction Equipment

Equipment Type	Typical Noise Level (L_{max} dBA) @ 50 feet
Backhoe	80
Concrete Mixer	85
Compactor	80
Crane/Lift	85
Dozer	85
Dump Truck	84
Excavator	85
Flat Bed Truck	84
Front End Loader	80
Generator	70
Grader	85
Paver	89
Roller	85
Pickup Trucks	54
Scraper	85

Notes: Assumes all equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are manufacture-specified noise levels for each piece of heavy construction equipment.

Source: FTA 2018: 176

Construction noise can be characterized based on the type of activity and associated equipment needed and, in this analysis, is evaluated by considering noise levels associated with site preparation, grading, building construction, and paving, all construction phases that would occur throughout the buildout of the project and activities that generate the most noise. Using construction equipment typically associated with these construction phases, reference noise levels shown in Table 3.8-8, and assuming the simultaneous use of multiple pieces of equipment, worst-case noise levels were modeled for each phase of construction.

Table 3.8-8 Estimated Temporary Noise Levels During Each Construction Phase

Noise-Sensitive Receptor	Construction Phase	Modeled dBA L_{eq} at Receptor	Reference dBA L_{max} at Receptor
Residences along Eye Street (within 50′)	Site Preparation	84.3	88.2
	Grading	85.8	89.8
	Construction	85.5	90.3
	Paving	85.8	89.8

Source: Modeled by Ascent in 2022. Refer to Appendix D

It should be noted that the reference noise levels for construction equipment were obtained from FTA's Transit Noise and Vibration Impact Assessment Manual and are all referenced to a distance of 50 feet from the operation of equipment. When discussing noise levels, providing a reference distance from the source is necessary to be able to calculate perceived noise levels at various distances from the source (i.e., noise reduces as distance between the source and receiver increase). Reference distances and associated noise levels can be used to calculate perceived noise levels at nearby receptors, at distances beyond 50 feet and within 50 feet. In addition, it should be further clarified that these noise levels represent a conservative estimate based on the assumptions that multiple pieces of equipment would operate at the same location and time affecting the same individual receptors. However, typically, construction equipment moves about a site and individual pieces of equipment operate at varying frequencies throughout the day, thus, noise levels tend to fluctuate during the day, resulting in varying noise levels at surrounding receptors. In addition, this analysis is focused on the nearest receptors to the construction activities because these receptors would be exposed to the loudest noise levels. At receptors located at further distances, noise levels would be reduced. Table 3.8-8 below summarizes hourly noise levels (L_{eq}) and maximum noise levels (L_{max}) associated with grading, building construction, and paving activities at nearby sensitive receptors. However, consistent with FTA guidance, the L_{eq} is the most appropriate metric for construction noise assessment. Additionally, construction noise was based on a distance from the acoustical center of where equipment would operate to the nearest offsite receptor. This approach accounts for the fact that individual pieces of equipment move about a site throughout a workday, some approaching the edge of the site and likewise an offsite receptor at one point in time, while others are further away and contributing less to the overall noise exposure at that specific time. Further, the noise modeling assumes all equipment operate at the same single location, but in reality, this cannot occur because of the physical space needed between pieces of equipment to operate safely; thus, measuring from the acoustical center (rather than property boundary) adjusts for these variables and fluctuations in noise exposure at the offsite receptors.

As shown above in Table 3.8-8, hourly noise levels during construction activities would range from approximately 84 dBA to 86 dBA at the nearest residential receptors. The City and CSU have not adopted construction-related numerical noise limits, thus, for informational purposes and to provide context as to the level of exposure receptors would be exposed to, noise levels in the range of 84 dBA to 86 dBA is comparable to a diesel truck driving by. In addition, FTA has established noise criteria for the purpose of conducting construction noise assessments, which are 90 dBA L_{eq} for residential receptors. Based on the modeling conducted, this level would not be exceeded at nearby sensitive land uses, during any phase of the construction.

However, when considering impacts from construction noise, not only is the maximum noise exposure important, but the duration of noise exposure as well as the perceived increase in noise over existing ambient levels also important. Regarding duration of noise exposure, FTA evaluates long-term construction noise impacts using a 30-day average noise standard and other jurisdictions (e.g., City of San Jose) have identified extended periods of construction as a 12-month period. Project construction is anticipated to occur over an 18- to 24-month period, which would be considered an extended period of time to be exposed to increased noise levels. Further, based on available existing noise conditions on the project site, hourly noise levels closest to the nearest sensitive receptor at 2590 Eye Street, is 68.5 dBA L_{eq} (City of Arcata 2017). Considering that noise levels at this location could reach as high as 86 dBA L_{eq}, (i.e., 17 dBA over existing levels), construction noise would result in a substantial increase (perceived as more than doubling of the existing noise levels) for an extended period of time at the nearest receptor. Based on preliminary modeling, construction noise levels generated at the project site would be perceivable (i.e., equivalent to or greater than 3 dBA L_{eq} above existing noise levels) within 200 feet of the project site (e.g., houses along Maple Lane, Stromberg Avenue east of Maple Lane, and within 200 feet of construction along Eye Street). As a result, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.8-1: Implement Construction-Noise Reduction Measures

For all construction activities, Cal Poly Humboldt shall implement or incorporate the following noise reduction measures into construction specifications for contractor(s) implementation during project construction:

- All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturer recommendations. Equipment engine shrouds shall be closed during equipment operation.
- All construction equipment and equipment staging areas shall be located as far as possible from nearby noise-sensitive land uses, and/or located to the extent feasible such that existing or constructed noise attenuating features (e.g., temporary noise wall or blankets) block line-of-site between affected noise-sensitive land uses and construction staging areas.
- Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site, using electric powered equipment instead of pneumatic or internal combustion powered equipment) where feasible and consistent with building codes and other applicable laws and regulations.
- Stationary noise sources such as generators or pumps shall be located as far away from noise-sensitive uses as feasible.
- No less than 1 week prior to the start of construction activities at a particular location, a notification shall be provided to nearby off-campus, noise-sensitive land uses (e.g., residential uses) that are located within 150 feet of the construction site (i.e., based on the construction noise modeling, distance at which noise-sensitive receptors would experience noise levels of 5 dBA over existing ambient levels).
- When construction requires material hauling, a haul route plan shall be prepared for construction of each facility and/or improvement for review and approval by the Cal Poly Humboldt that designates haul routes as far as feasible from sensitive receptors.
- The contractor shall designate a disturbance coordinator and post that person's telephone number conspicuously around the construction site and provide to nearby residences. The disturbance coordinator shall receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem.
- When construction activities would occur within 150 feet of existing residential land uses, the following measures shall be implemented:
  - Use of noise-reducing enclosures and techniques around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors).
  - Installation of temporary noise curtains installed as close as possible to the boundary of the construction site within the direct line of sight path of the nearby sensitive receptor(s) and consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side.
  - Retain a qualified noise specialist to develop a noise monitoring plan and conduct noise monitoring to ensure that noise reduction measures are achieved the necessary reductions such that levels at the receiving land uses do not exceed 5 dBA over existing levels.

Significance after Mitigation

Mitigation Measure 3.8-1 would reduce noise by locating equipment as far away from receptors as possible, requiring the proper use of available noise-reduction equipment, including use of alternatively powered equipment, exhaust mufflers, engine shrouds, equipment enclosures, and barriers for activities in the vicinity of noise-sensitive uses, and require on-site monitoring to ensure noise levels do not exceed allowable limits. Implementation of these noise-reduction features can reduce construction noise levels by 10 dBA or more (NCCHP 1999). With mitigation, construction-generated noise levels would be substantially reduced. However, construction noise levels would still exceed ambient levels by up to 17 dBA and a reduction in noise of 10 dBA would still result in an increase in noise by 7 dBA, which is considered distinctly perceptible by most people. Thus, even with implementation of all feasible mitigation, construction noise could still result in potential construction noise impacts or residences within 200 feet of the project site, including 2590 Eye Street. Therefore, this impact would remain **significant and unavoidable**.

Impact 3.8-2: Generate Substantial Temporary (Construction) Vibration Levels

The operation of heavy-duty construction equipment can generate various levels of vibration that could result in disturbance to nearby sensitive land uses or potentially structural damage. Based on modeling conducted, vibration levels for a vibratory roller at the nearest structure to the project site, approximately 30 feet from where the use of construction equipment could occur, would be 91.6 VdB and 0.16 PPV in/sec. Construction vibration would occur during the less-sensitive times of the day when people are less likely to be disturbed and would be further masked by nearby existing roadway noise on US 101; thus, the potential for disturbance to nearby receptors is low. In addition, FTA's criteria of 0.2 PPV in/sec would not be exceeded at the nearest structure. This impact would be **less than significant**.

Construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment used and activities involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, result in low rumbling sounds and detectable vibrations at moderate levels, and, at high levels, cause annoyance, sleep disturbance, or damage to nearby structures.

Pile driving and blasting are the types of construction activities that typically generate the highest vibration levels and are, therefore, of greatest concern when evaluating construction-related vibration impacts. However, pile driving and blasting would not be conducted as part of the project. Table 3.8-9 presents vibration levels for typical pieces of equipment used during construction.

Table 3.8-9 Vibration Reference Levels for Construction Equipment

Equipment		PPV at 25 ft, in/sec	Approximate Lv * at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.17	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.21	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Note: *RMS velocity in decibels, VdB re 1 micro-in/sec

Source: FTA 2018:184

Based on reference vibration levels for typical construction equipment (Table 3.8-10), the piece of equipment that could generate the greatest levels of ground vibration would be a vibratory roller which generates ground vibration levels of 0.210 in/sec PPV and 94 VdB at 25 feet (FTA 2018:184). Adjusting the reference vibration levels for a vibratory roller to the nearest structure to the project site, located at 2590 Eye Street, approximately 30 feet from where the use of construction equipment could occur, vibration levels would be 91.6 VdB and 0.16 PPV in/sec. Considering FTA's criteria of 80 VdB for places where people sleep, vibration levels could exceed the recommended levels and cause annoyance or sleep disturbance. However, as discussed above, the use of heavy equipment would not occur during sensitive times of the day when people are more sensitive to disturbance. Although vibration may be perceptible at nearby receptors because it would occur during the daytime hours when existing ambient noise levels are higher (especially considering existing roadway noise from the nearby US 101), higher ambient noise levels can mask vibration noise, thereby reducing the potential to result in intolerable levels (Caltrans 2020). Regarding the potential for structural damage, based on the modeling conducted, vibration levels at the nearest existing residential structure would be below applicable FTA criteria; thus, there would be a low potential for structural damage. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.8-3: Generate Substantial Increase in Long-Term (Traffic) Noise Levels

Long-term increases in traffic noise could occur as a result of increased vehicular trips on local roads near the project site. Based on modeling conducted using project-specific daily traffic volumes and applying Arcata's allowable increase levels for transportation noise sources of 5 dB where existing levels are less than 60 dBA CNEL, 3 dB where existing levels range between 60 dBA CNEL and 65 dBA CNEL, and 1.5 dB increase when existing levels are greater than 65 dBA CNEL, in all cases, based on existing noise levels of modeled roadways, these levels would not be exceeded. This impact would be **less than significant.**

Long-term increases in traffic noise could occur as a result of increased vehicular trips on local roads near the project site. Based on project-generated traffic associated with the proposed residential land uses, traffic noise modeling was conducted using average daily trip volumes, which considered existing traffic volumes and associated noise levels and existing plus project anticipated traffic volumes and associated noise level increases. See Appendix D for modeling inputs and outputs. Traffic noise modeling results is summarized below in Table 3.8-10.

Table 3.8-10 Long-Term Traffic Noise Increases

Roadway Segment/Segment Description	dBA CNEL at 50 feet from Roadway Centerline Existing	dBA CNEL at 50 feet from Roadway Centerline Existing + Project	Change
Spear Avenue from Alliance Road to West End Road	62.7	63.4	+0.7
West End Road from Spear Avenue to West End Court	62.9	63.4	+0.5
St. Louis Road from West End Road to US 101 Overcrossing	62.7	63.9	+1.2
US 101 Overcrossing from West End Road to L.K. Wood Boulevard	63.1	65.8	+2.6
L.K. Wood Boulevard from Granite Avenue to Sunset Avenue	66.3	67.3	+1.0
L.K. Wood Boulevard from Sunset Avenue to Plaza Avenue	67.0	67.5	+0.5
Sunset Avenue from G Street to L.K. Wood Boulevard	67.3	67.7	+0.4

Notes: dBA= A-Weighted Decibel, CNEL= Community Equivalent Noise Level

Source: Modeled by Ascent Environmental 2022

As shown above in Table 3.8-10, traffic noise increases would range from less than 1 dB (which is not perceptible) to 2.6 dBA (which is barely perceptible). It should also be noted that maximum allowable transportation noise levels for residential land uses of 60 dBA CNEL are currently not being met. Applying Arcata's allowable increase levels of 5 dB where existing levels are less than 60 dBA CNEL, 3 dB where existing levels range between 60 dBA CNEL and 65 dBA CNEL, and 1.5 dB increase when existing levels are greater than 65 dBA CNEL, in all cases, based on existing noise levels of modeled roadways, these levels would not be exceeded. Further, the segment that experiences the greatest increase in noise is an overpass that crosses US 101, where no sensitive receptors are located. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.8-4: Generate Substantial Long-Term Increase in Stationary Noise

Noise generated by building mechanical equipment and parking lot activity would not exceed established noise standards for sensitive receptors exposed to non-transportation noise sources. This impact would be **less than significant**.

Noise sources commonly associated with the facilities proposed for the project would include parking lot activities (e.g., opening and closing of vehicle doors, people talking); and the use of onsite building equipment such as HVAC systems. Noise levels associated with these noise sources are discussed separately, below.

Building Mechanical Equipment

Implementation of the project would result in stationary source noise, primarily associated with building mechanical equipment (e.g., HVAC systems). Specific equipment type, size, and location of proposed HVAC equipment is not available at this time. However, noise levels commonly associated with larger commercial-use air conditioning systems can reach levels of up to 78 dBA at 3 feet (Lennox 2019). Applying this reference noise level as an hourly average (L_{eq}) and assuming a 50 percent usage range, would result in a 75 dBA L_{eq} at 3 feet from the source. Based on the modeling conducted (refer to Appendix D), nighttime noise standards (i.e., 45 dBA L_{eq}) would be achieved if equipment were located beyond 40 feet from residential uses. By achieving the lowest standards (i.e., nighttime), the project would also achieve daytime and evening standards. Further, HVAC equipment would be located on the roofs of new structures, located well beyond 42 feet from any offsite nearby sensitive receptor; thus, all stationary noise standards (i.e., 55 dBA L_{eq} from 7:00 a.m. to 7:00 p.m., 50 dBA L_{eq} from 7:00 p.m. to 10:00 p.m., and 45 dBA L_{eq} from 10:00 p.m. to 7:00 a.m.) would be achieved. As a result, project-generated equipment noise would not exceed established criteria.

Parking Facilities

Parking areas would be located along the perimeter of the project site and would provide approximately 340 single-occupancy vehicle spaces. The majority of on-site surface parking would be located in the western and southern portions of the site with some parking located along the western developable edge of the site. Based on preliminary site plans (see Figure 2-9 in Chapter 2, "Project Description"), up to 40 spaces may be located within 50 feet of an existing single-family home located off-site. Assuming 50 percent of the total number of spaces (i.e., 20 vehicles) would be accessed/active in a single hour, noise levels associated with the parking lot would be 45.4 dBA L_{eq} at 50 feet and 51.4 dBA L_{eq} at 25 feet. As on-site parking would be provided as close as close as 25 feet to the residence at 2590 Eye Street, a noise exposure of 51.4 dBA L_{eq} during a peak hour (i.e., between the hours of 7:00 a.m. to 7:00 p.m.). Based on the modeling conducted, parking lot noise would not exceed City of Arcata noise standards during all times of the day (i.e., 55 dBA L_{eq} from 7:00 a.m. to 7:00 p.m., 50 dBA L_{eq} from 7:00 p.m. to 10:00 p.m., and 45 dBA L_{eq} from 10:00 p.m. to 7:00 a.m.). In addition, the parking lot noise of 51.4 dBA L_{eq}, would be more than 10 dBA less than measured ambient noise levels at the project site (68.5 dBA L_{eq}) (City of Arcata 2017). Generally, a difference in 10 dBA between two noise levels, which in this case is project-generated operational noise and existing noise from US 101, does not result in a perceptible increase in ambient noise levels. As a result, parking lot noise associated with the project would not be perceptible, and project-generated parking lot noise would not exceed established criteria.

Summary

Operation of on-site uses, including HVAC equipment and parking facilities, would not result in an exceedance of appropriate noise standards (i.e., 55 dBA L_{eq} from 7:00 a.m. to 7:00 p.m., 50 dBA L_{eq} from 7:00 p.m. to 10:00 p.m., and 45 dBA L_{eq} from 10:00 p.m. to 7:00 a.m.). This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required. Implementation of Mitigation Measure 3.1-4, as provided in Section 3.1, "Aesthetics," would provide fencing along the western and southern boundaries, which would further reduce potential noise levels from the project.

3.9 POPULATION AND HOUSING

This section describes the existing population, employment, and housing supply for Cal Poly Humboldt, the City of Arcata, the County of Humboldt, and the Student Housing Project's potential contributions to population growth, employment opportunities, and housing as a result of project implementation. Potential growth-inducing impacts of the project are further addressed in Chapter 6, "Other CEQA Considerations."

No comments regarding population and housing were received in response to the NOP.

3.9.1 Regulatory Setting

FEDERAL

No federal plans, policies, regulations, or laws are applicable to the provision of population and housing for the project.

STATE

State California Environmental Quality Act Guidelines Section 15131

State CEQA Guidelines Section 15131 provides that economic or social information may be included in an EIR, but those economic or social effects shall not be considered significant effects on the environment. In an EIR, the lead agency is responsible for researching economic or social changes resulting from a project, which may eventually lead to physical changes in the environment. These economic or social changes can be used to determine the significance of physical changes on the environment.

Government Code Section 65040.12

Government Code Section 65040.12(e) defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws and policies."

Cortese-Knox-Hertzberg Local Government Reorganization Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act Section 56668(o) defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services. Environmental justice addresses issues concerning whether an activity could expose minority or disadvantaged populations to proportionately greater impacts compared with those borne by other individuals.

California Education Code

The California Education Code contains several provisions mandating CSU enrollment access levels, to ensure the CSU system accommodates all eligible California resident students. Section 66202.5 of the Education Code states the following:

> The State of California reaffirms its historic commitment to ensure adequate resources to support enrollment growth, within the systemwide academic and individual campus plans to accommodate eligible California freshmen applicants and eligible California Community College transfer students, as specified in Sections 66202 and 66730.
>
> The University of California and the California State University are expected to plan that adequate spaces are available to accommodate all California resident students who are eligible and likely to apply to attend an appropriate place within the system. The State of California likewise reaffirms its historic commitment to

> ensure that resources are provided to make this expansion possible and shall commit resources to ensure that students from enrollment categories designated in subdivision (a) of Section 66202 are accommodated in a place within the system.

Similarly, Section 66011(a) of the California Education Code provides that all resident applicants to California institutions of public higher education, who are determined to be qualified by law or by admission standards established by the respective governing boards, should be admitted to either (1) a district of the California Community Colleges, in accordance with Section 76000; (2) the California State University (CSU); or (3) the University of California.

Section 66741 of the California Education Code requires acceptance of qualified transfer students at the advanced standing level.

California Housing Element Law

California's Housing Element Law (California Government Code Sections 65580 through 65589.8) recognized that early attainment of decent housing and a suitable living environment for every Californian, including farmworkers, was a "priority of the highest order." The law was enacted to ensure that counties and cities recognize their proportionate responsibilities in contributing to the attainment of state housing goals, to establish the requirement that all counties and cities adopt housing elements to help meet state goals, to recognize that each locality is best capable of determining what efforts it is required to take to contribute to attainment of state housing needs, and to encourage and facilitate cooperation between local governments to address regional housing needs. Section 65583 states "the housing element shall consist of an identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing" and "the housing element shall identify adequate sites for housing, including rental housing, factory-built housing, mobile homes, and emergency shelters, and shall make adequate provision for the existing and projected needs of all economic segments of the community."

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation and is based on a Regional Housing Needs Plan developed by councils of government. The Humboldt County Association of Governments (HCAOG) is the lead agency for developing the Regional Housing Needs Plan for seven cities, including the City of Arcata, and County of Humboldt. The Humboldt State University 2004 Master Plan is accounted for in the current housing need projections developed by HCAOG as part of the 2019 Humboldt County Regional Housing Needs Assessment Plan (HCAOG 2019). If approved, the student housing complex would be included as part of future housing need projections developed by HCAOG.

CALIFORNIA STATE UNIVERSITY

Humboldt State University 2004 Master Plan

The *Humboldt State University 2004 Master Plan* is a strategy for modifying the Cal Poly Humboldt campus to accommodate anticipated growth, including both in terms of student enrollment and academic programming. The Master Plan accommodates anticipated increases instructional facilities and in the administrative and office space needed to accommodate increased faculty and staff. As part of the 2004 Master Plan, specifically within Chapter 4, "Illustrative Plan," housing requirements and guidelines for identifying sites for new housing facilities are provided, as well as reinforcing the need for additional student housing. The current Master Plan was approved in 2004 and anticipated an increase in student enrollment from 7,092 to 12,000 full-time-equivalent students (FTES) over the next 30 to 40 years (Humboldt State University 2004). Cal Poly Humboldt was also recently designated the third Cal Poly university in the CSU system.

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section in Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The City of Arcata General Plan Land Use Element and Housing Element provide policies to address population and housing within the city and to guide sustainable development that meets their population and housing needs (City of Arcata 2008a, 2019). The following policies apply to the project.

Land Use Element

- Policy LU-2. Allow for a mix of housing types and densities to meet the physical, social, and economic needs of residents, with new and converted housing designed to be compatible with the established neighborhood character.

Housing Element

- Policy HE-1. Support innovation and creativity in sustainable construction techniques, energy efficient design, property conveyances, and types of development. Condominium, Community Land Trusts, cooperative and co-housing, developments, and planned developments shall be encouraged.
- Policy HE-6. Provide opportunities for infill development of vacant and re-developable properties in a way that allows for gradual, rather than drastic, changes from surrounding development density or type. Design features such as gradual increases in building height, functional open space, well-designed landscaping and natural vegetation, breaks in wall and roof lines, and building separations.
- Policy HE-7. Encourage a wide range of public and private investment to help meet the City's Housing Goals.
- Policy HE-12. Encourage Humboldt State University to maintain, rehabilitate or replace existing campus housing, develop additional on-campus housing, and to work with the City and private developers to ensure that there are adequate and appropriate housing opportunities for Humboldt State University students and staff.
- Policy HE-13. Support affordable housing and greenhouse gas emissions reduction by prioritizing high-density, mixed-income, infill housing projects that improve alternative transportation infrastructure. Affordable housing and infill projects that include public and/or private infrastructure for public transit, bike and other ride share programs, electric vehicles, and other transportation demand management strategies or alternative transportation modes will receive incentives including deferred fees and reduced development standards, including but not limited to reduced parking, setbacks, or landscaping requirements.

The City's 2019-2027 Housing Element specifically identifies the project site as an opportunity site for infill redevelopment with housing (City of Arcata 2019).

City of Arcata Land Use Code

The City of Arcata's Land Use Code establishes zones for residential development and contains development standards to ensure orderly housing development that is consistent with the character of existing residential neighborhoods (City of Arcata 2008b). The following chapters apply to the project.

- Chapter 9.24 RH: The RH zone is applied to areas appropriate for various types of multi-family housing, including duplexes, townhouses, and apartments.
- Chapter 9.72 PD: Provide a method whereby land may be designed and developed as a single unit by taking advantage of modern site planning techniques thereby resulting in a more efficient use of land and a better living environment than is otherwise possible through strict application of the development standards. Ensure that approved development meets high standards of environmental quality, public health and safety, the efficient

use of the City's resources, and the purpose, intent, goals, policies, programs, and land use designations of the General Plan, the Local Coastal Program, and any applicable specific plan.

3.9.2 Environmental Setting

POPULATION AND POPULATION GROWTH

As part of its regional planning functions, HCAOG is required to adopt a RHNP that allocates a share of the regional housing need to each city and county to aid in the preparation of housing elements ~~develops regional population, employment, and housing forecasts for the county and the individual cities and communities within the county~~. The housing elements of the City's and County's respective general plans each incorporate the Regional Housing Needs Allocation (RHNA) ~~projected population and housing estimates~~ from HCAOG into their overall planning efforts. The Department of Finance, Demographic Research Unit, prepares population projections for the state and each county. The Department of Housing and Community Development provides the regional housing needs to HCAOG. A discussion of population trends in the city and county ~~are discussed~~ is provided below.

Regional Population

Humboldt County (County) is a rural county with a large land area and low population density. Per California Department of Finance (DOF) statistics, the county's population in 2022, inclusive of incorporated cities, is 135,168 residents, which represents a decrease of 1,295 compared to the County's 2020 population but an increase of 545 residents over 2010 county population (DOF 2021a, 2022). As of 2022, there are 62,771 households in Humboldt County with an average person-per-household ratio of 2.31 (DOF 2022).

The City of Arcata is one of the primary population centers in the County. In 2010, City population was 17,231, and then swelled to 18,592 in 2020 before decreasing slightly in 2022 to 18,059 (DOF 2021a, 2022). The city's population is largely determined by student enrollment at Cal Poly Humboldt. With 42 percent of residents being age 18-24, the City has the largest share of college-age adults in the County (City of Arcata 2019). Table 3.9-1 displays the current and historic populations of both the County and the City between 2010 and 2022. As shown in this table, the population growth experienced in the City between 2010 and 2022 was almost 10 times that experienced in the County over that same period.

Table 3.9-1 Regional Population Characteristics

County/City	2010	2020	2022	Percent Change (2010-2022)
City of Arcata	17,231	18,592	18,059	4.79
Humboldt County	134,623	136,463	135,168	0.40

Sources: DOF 2021a, 2022.

In terms of population projections, countywide population is anticipated to fluctuate somewhat over the next 20 years but would experience an incremental decline in overall population from its current 134,623 residents to 130,791 by 2040 (DOF 2021b).

Cal Poly Humboldt Student Enrollment

At the time the 2004 Master Plan was prepared, student enrollment was 7,092 FTES. Student enrollment has fluctuated over the years but has been declining in recent years (7,054 FTES in 2018, 5,600 FTES in 2020, and 5,862 FTES in fall 2022) (Cal Poly Humboldt 2022a). Fluctuations in enrollment trends are a result of numerous variables including demand for certain degrees, economic prosperity, and the reputation of the university. However, with Cal Poly Humboldt's recent conversion to a polytechnic institution, current enrollment is expected to increase by 50 percent to approximately 8,973 FTES in the next 3 years and double to approximately 11,724 FTES in the next seven years. This is due to the enhancements that will be possible as a polytechnic institution and the university's ability to offer additional in-demand degree programs (Cal Poly Humboldt 2022b).

HOUSING UNITS AND VACANCY

Regional Housing

Humboldt County

According to DOF, there were a total of 62,120 housing units in the county in 2020, which is an increase of 561 over the county's total housing units in 2010 (DOF 2021a). The number of housing units within the county did not increase between 2020 and 2022 (DOF 2022). Over 44,000 units were single-family housing (attached and detached) whereas approximately 22,000 housing units were multi-family housing, about 35 percent of the County's housing supply (DOF 2022).

The housing vacancy rate is a measure of general housing availability and represents the percentage of all available housing units that are vacant or unoccupied at a particular time. A low vacancy rate, 5 percent or less, suggests that housing availability is low; conversely, a high vacancy rate (over 8 percent) may indicate a high number of housing units are available for occupancy, a high number of seasonal units are vacant, or there is an oversupply of housing. By maintaining a "healthy" vacancy rate between 5 percent and 8 percent, housing consumers have a wider choice of housing types and prices to choose from. As vacancy rates drop, shortages generally raise housing costs and limit choices. The county's housing vacancy rate usually exceeds the state's vacancy rate. In 2020, the vacancy rate of the county was 9.20 percent, while California's vacancy rate was ~~4.1~~ 6.4 percent. The County's vacancy rate increased to 9.9 percent in 2022 (DOF 2022).

The County's average persons per household (pph) has been consistently lower than that of the State. In 2022, the household size of the county has averaged 2.31 persons per household compared to California's average of 2.81 persons per household in 2022 (DOF 2022).

City of Arcata

According to DOF, there were a total of 8,502 housing units in the City of Arcata in 2020 (DOF 2022), which is an increase of 561 units over the city's total in 2020 and 780 units over the city's total in 2010 (DOF 2021a). Of those, 4,077 units were single-family housing (attached and detached) and 4,425 housing units were multi-family housing, about 52 percent of the City's housing supply (DOF 2022). The City's multi-family housing units represent approximately 20 percent of the County's total housing supply.

Since 2020, the City's housing vacancy rate has generally been over 6 percent. In 2020, the City had 573 vacant housing units, representing a vacancy rate of 6.8 percent. The vacancy rate grew to 7.8 percent in 2022 with 667 vacant units out of the total 8,502 units within the city (DOF 2022). In 2022, the average household size in the City was 2.11 persons per household (DOF 2022).

Cal Poly Humboldt Housing

Two types of housing are available on campus: traditional dormitory-style student housing, where students share bathrooms and do not have cooking facilities; and apartment-style units that include bathrooms and cooking facilities. When evaluating student housing, it is important to note that the number of beds available does not always match the number of beds occupied. The number of beds available represents the design capacity for residence halls, typically some combination of single and double rooms; however, when demand is high due to a large entering freshman class or other circumstances, Cal Poly Humboldt adds beds by converting double rooms to triples, thus increasing the number of beds occupied. The following discussion makes the distinction between design capacity and beds occupied.

Historically, additional housing facilities have been developed on campus to correspond to increased student enrollment, which has resulted in a gradual net increase in the total percentage of undergraduate students housed on campus. On-campus housing has increased gradually over the years. At present, Cal Poly Humboldt has a design capacity of approximately 2,100 beds (as of 2020) for students on campus, which represents roughly one third of FTES enrollment. Existing housing for freshmen students includes the following facilities: the Hills Complex, Canyon Residences, and Cypress Residence Hall; and existing housing for sophomore and upper division students includes the College Creek Apartments, Creekview Complex, and Campus Apartments (Cal Poly Humboldt 2022b). Cal Poly

Humboldt is also providing temporary student housing for academic years 2022-2023 and 2023-2024 through a short-term lease at the Comfort Inn, approximately 3 miles from the main campus.

Approximately 70 percent of students currently reside in off-campus housing, and most live within the city or elsewhere within the county. As of Fall 2022, Cal Poly Humboldt housed 2,044 students on-campus and approximately 3,900 students resided off campus in the City or other areas of the County (Cal Poly Humboldt 2022b). The lack of available on-campus student housing has deterred prospective students from accepting enrollment, thereby reducing the total number of enrolled students. Additional student housing on university-owned property would provide additional living space for Cal Poly Humboldt students, as well as reduce pressure on the current off-campus housing market.

EMPLOYMENT AND EMPLOYMENT CENTERS

According to the California Employment Development Department (EDD), employment within the County has remained steady with little fluctuation between 2000 and 2020. As of 2020, the top four industries in terms of share of total employment are government, education and health services, retail trade, and professional and business services (EDD 2022a). There are also an estimated 2,500 construction jobs within Humboldt County (EDD 2022b).

Unemployment rates have followed a cyclical pattern as reflected in the economic recessions in the early 1990s, early 2000s, the Great Recession of 2008–2013, and during the COVID-19 recession in 2020. EDD data show the unemployment rate in the County has generally been one to three percentage points below the state unemployment rate. In 2018, the statewide unemployment rate was 4.3 percent while the countywide unemployment rate was 3.4 percent. The countywide unemployment rate has sharply decreased since 2020 COVID-19 recession, when it peaked at 13.7 percent, and has continued to drop to 2.9 percent in 2022 (EDD 2022a).

As of 2020, Cal Poly Humboldt was the second largest employer in the County, employing 490 instructional faculty and more than 1,200 staff and management. Cal Poly Humboldt is thus considered a key employer and economic driver in the region. One of three polytechnic universities in the CSU system, Cal Poly Humboldt attracts students from all over California with strong programs in engineering, architecture, construction management, and agriculture (Cal Poly Humboldt 2022b).

3.9.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

To evaluate the potential impacts of the Student Housing Project on population and housing, the existing population and housing availability in the City of Arcata was compared to population and housing anticipated under buildout of the project. This examination of population, employment, and housing conditions is based on information obtained from review of the plans for the project and review of available population, employment, and housing projections from Cal Poly Humboldt, the City, the County, HCAOG, the U.S. Census Bureau, DOF, and other sources. In determining the level of significance, the analysis assumes compliance with relevant federal and state laws, regulations, and ordinances.

THRESHOLDS OF SIGNIFICANCE

A population, employment, and housing impact would be significant if implementation of the project would:

- induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- displace substantial numbers of existing people or homes, necessitating the construction of replacement housing elsewhere.

ISSUES NOT DISCUSSED FURTHER

Displace Substantial Numbers of Existing People or Homes

As noted in Chapter 2, "Project Description," three single-family residences are currently present at the project site and would be demolished as part of the project. However, based on available housing stock and the provision of housing on the site for up to 964 students who might otherwise occupy available housing within the City or County, this would be considered a net increase in housing stock in the area and would reduce further competition between students and private individuals for the limited housing stock within the City and County. As such, the residents of the three units located on-site currently could be accommodated within the available housing stock of either the city (573 available units) or the broader county (6,197 available units) and would not substantially affect the availability of housing locally or regionally. Thus, there would be no significant impacts associated with displacement of substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. This topic is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Directly or Indirectly Induce Substantial Unplanned Population Growth and Housing Demand

The proposed project would provide purpose-built housing for up to 964 students that would help to meet existing demand for student housing as well as future demand due to anticipated student enrollment growth, and relieve potential pressure on the local/regional housing market. Although Cal Poly Humboldt student enrollment is expected to increase in the coming years, the project itself would not attract additional students to Cal Poly Humboldt, and instead would accommodate existing demand and anticipated future enrollment growth as projected in the 2004 Master Plan and EIR. Further, the 2004 Master Plan for Cal Poly Humboldt projected an increase in student enrollment up to 12,000 FTES, which is accounted for in both the City of Arcata General Plan and regional growth projections. Therefore, the project would not result in substantial unplanned population growth and would reduce housing demand. This impact would be **less than significant.**

During construction, it is anticipated that up to 60 workers may be required on-site. The existing number of residents within Humboldt County who are employed in the construction industry (approximately 2,500) are anticipated to be sufficient to meet the needed number of construction workers for the project. Further, construction employees could commute from areas outside the county, including several nearby communities in Del Norte and Siskiyou Counties. Therefore, the project's anticipated construction labor force needs would likely be fulfilled by residents currently living in the region and would not likely result in substantial increased housing demand in the region. Furthermore, even if some construction workers from outside the region were employed at the project site, construction workers typically do not change residences when assigned to a new construction site, and substantial permanent relocation of these workers to the area is not anticipated. Therefore, the project would not be expected to generate the need for substantial additional housing in Arcata during construction.

In terms of operational impacts, and as noted above, Cal Poly Humboldt currently faces a shortage of student housing, both on- and off-campus, as many students have had to take up residence within available rental housing, including single-family housing units. In addition, Cal Poly Humboldt's student population is expected to double from 5,862 to 11,724 FTES within the next seven years because of Cal Poly Humboldt's recent conversion to a polytechnic institution. Of note, the 2004 Master Plan for the campus anticipated a similar increase in student enrollment (up to 12,000 FTES), which was also reflected in HCAOG growth projections for the region upon adoption of the Master Plan by CSU. The City's most recent Housing Element also identifies that "the addition of new homes for students is needed" as a result of projected Cal Poly Humboldt growth under the 2004 Master Plan (City of Arcata 2019).

As noted above, Cal Poly Humboldt has a current housing capacity for 2,100 student residents on campus, which represents roughly a third of current student enrollment. The remainder of enrolled students live off campus within available housing in the city or the county. The project would provide purpose-built housing for 964 students within

Cal Poly Humboldt property that would help to meet the demand for housing in City of Arcata and Humboldt County and accommodate anticipated growth in student enrollment identified in both the 2004 Master Plan and as a result of conversion of the university to a Cal Poly university. With implementation of the project, on-campus student resident capacity would increase to 54 percent of 2022 FTES enrollment. As the additional on-site population that would occur as a result of the project was already anticipated and planned by Cal Poly Humboldt, the City of Arcata, and HCAOG, the project would neither directly nor indirectly induce unplanned population growth or housing demand. Impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.10 PUBLIC SERVICES AND RECREATION

This section provides an overview of existing public services in the City of Arcata; evaluates the potential for implementation of the Student Housing Project to adversely affect the availability, service ratios, and/or capacity of public services, including fire protection services, police protection services, libraries, parks and recreation, and public schools; and if such an effect is determined to occur, evaluates whether new or expanded facilities would be required that could result in a potentially significant impact on the environment.

Other publicly provided utility services, such as water and wastewater treatment, stormwater management, electricity, and natural gas services, are addressed in Section 3.12, "Utilities and Service Systems."

No comments regarding public services or recreation were received in response to the NOP.

3.10.1 Regulatory Setting

FEDERAL

Higher Education Opportunity Act

The Campus Fire Safety Right-to-Know Act in the Higher Education Opportunity Act was signed on August 1, 2008. Specifically, the legislation requires that a Fire Safety Report be distributed by each university containing statistics concerning the following in each on-campus student housing facility during the most recent calendar year for which data are available:

- the number of supervised fire drills.

The legislation also requires that the Fire Safety Report describe:

- each on-campus student housing facility's fire safety system, including the fire sprinkler system;
- policies or rules related to portable electrical appliances, smoking, and open flames (such as candles); procedures for evacuation; and policies regarding fire safety education and training programs provided to students, faculty, and staff; and
- plans for future improvements in fire safety, if determined necessary by such institution.

STATE

California Fire Code

The 2019 California Fire Code, which is codified at Part 9 of Title 24 of the CCR, incorporates by adoption the 2018 International Fire Code and contains regulations related to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety. The California Building Standards Code, including the California Fire Code, is revised and published every 3 years by the California Building Standards Commission.

California Health and Safety Code

State fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code); fire protection and notification systems; fire protection devices, such as extinguishers, smoke alarms, high-rise building and childcare facility standards; and fire-suppression training.

California Department of Forestry and Fire Protection

Under Title 14 of the CCR, the California Department of Forestry and Fire Protection (CAL FIRE) has primary responsibility for implementing wildfire planning and protection for State Responsibility Areas (SRAs). CAL FIRE develops regulations and issues fire-safe clearances for land within a fire district of an SRA. More than 31 million acres of California's privately owned wildlands are under CAL FIRE's jurisdiction.

CAL FIRE adopted Fire Hazard Severity Zone maps for SRAs and Local Responsibility Areas in November 2007. Fire hazard is a way to measure the physical fire behavior so that people can predict the damage a fire is likely to cause. Metrics for evaluating fire hazard include the speed at which a wildfire moves, the amount of heat the fire produces, and, most importantly, the burning firebrands that the fire sends ahead of the flaming front.

In addition to wildland fires, CAL FIRE is considered an "all-risk" agency whose planning efforts involve responding to other types of incidents, including major disaster- or property-related and medical emergencies that may occur on a daily basis, including residential or commercial structure fires, automobile accidents, heart attacks, drownings, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties; this includes Humboldt County.

California Occupational Safety and Health Administration

In accordance with CCR Title 8 Section 1270, "Fire Prevention," and Section 6773, "Fire Protection and Fire Equipment," the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include guidelines on the handling of highly combustible materials; fire hose sizing requirements; restrictions on the use of compressed air; access roads; and the testing, maintenance, and use of all firefighting and emergency medical equipment.

California Fire Plan

The California Fire Plan is the State's "road map" for reducing the risk of wildfire. The overall goal of the plan is to reduce total costs and losses from wildland fire in California through focused prefire management prescriptions and increased initial attack success. The current plan was finalized in 2010. The plan provides guidance to local jurisdictions in meeting State goals.

California Building Standards Code

Energy consumption of new buildings in California is regulated by State Building Energy Efficiency Standards contained in CCR Title 24, Part 2, Chapter 2-53. Title 24 applies to all new construction of both residential and nonresidential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. The Building Energy Efficiency Standards are updated every 3 years. The 2019 Building Energy Efficiency Standards are the most current adopted standards and have improved efficiency requirements from previous codes. Further updates, including the anticipated 2022 standards, are expected to result in a statewide energy consumption reduction.

Effective January 1, 2011, CALGreen became California's first green building standards code. It is formally known as the California Green Building Standards Code, Title 24, Part 11, of the CCR. CALGreen establishes mandatory minimum green building standards and requirements for construction and demolition (C&D) material diversion. Under Section 5.408 of CALGreen, projects involving C&D activities are required to recycle and/or salvage a minimum of 65 percent of their nonhazardous C&D materials for reuse. Applicable projects, such as the Student Housing Project, are required to prepare and implement a construction waste management plan.

Quimby Act

The Quimby Act (California Government Code Section 66477) preserves open space and parkland in urbanizing areas of the State by authorizing local governments to establish ordinances requiring developers of new subdivisions to dedicate land for parks, pay an in-lieu fee, or perform a combination of the two. The Quimby Act provides two standards for the dedication of land for use as parkland. If the existing area of parkland in a community is 3 acres or more per 1,000 persons, then the community may require dedication based on a standard of 5 acres per 1,000 persons residing in the subdivision. If the existing amount of parkland in a community is less than 3 acres per 1,000 persons, then the community may require dedication based on a standard of only 3 acres per 1,000 persons residing in the subdivision. The Quimby Act requires a city or county to adopt standards for recreational facilities in its general plan recreation element if it is to adopt a parkland dedication/fee ordinance.

The amount of land dedicated or fees paid shall be based upon the residential density, which shall be determined on the basis of the approved or conditionally approved tentative map or parcel map and the average number of persons per household. There shall be a rebuttable presumption that the average number of persons per household by units in a structure is the same as that disclosed by the most recent available federal census or a census taken pursuant to Chapter 17 (commencing with Section 40200) of Part 2 of Division 3 of Title 4. Cal Poly Humboldt is not subject to Quimby Act requirements because it is not a local government entity. The Quimby Act standards are used as a guidepost but are not a requirement under the impact analysis.

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section in Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The City of Arcata General Plan contains guidelines for public services within the "Public Facilities and Infrastructure," "Public Safety," and "Open Space" sections (City of Arcata 2008a, 2008b, 2008c). The following policies from the Arcata General Plan are applicable to the proposed project:

- **Policy PF-4: Educational Facilities.** Identify student enrollment increases, based on the projected future population of the City, and coordinate with local school (public and private) districts, Cal Poly Humboldt, and other education providers to maintain and improve educational facilities and services, while preserving established community/student ratios.
- **Policy PF-5: Public Facilities.** Provide adequate facilities for services and programs administered by the City and other public service providers, including City administrative and meeting facilities (City Hall), police and fire departments, libraries, and community centers.
- **Policy PS-1: Emergency Preparedness.** Ensure that the City, its residents, businesses, agencies, and organizations are prepared for emergencies or disasters and have effective response and recovery plans in place.
- **Policy PS-5: Fire Hazards.** Minimize risk of personal injury and property damage resulting from structural (urban) and wildland fires.
- **Policy OS-4: Open Space for Outdoor Recreation and Coastal Access.** Designate and secure public access to a sufficient supply of land and water areas with recreation resource value, including parks, forests, coastal areas, Baylands, and stream corridors, to meet the outdoor recreation needs of Arcata residents and visitors.

3.10.2 Environmental Setting

FIRE PROTECTION

Arcata City Fire Department

The project site and the City of Arcata are located within the Arcata Fire District (AFD). The AFD boundaries encompass 65 square miles and extend west to the Pacific Ocean, north to the Clam Beach area, east to Essex, and south to Indianola and Manila. The AFD is an all-risk fire department responsible for protecting life, property, and the environment from the hazards of fire and hazardous materials incidents and providing emergency medical services.

The AFD is governed by a five-member, independently elected Board of Directors and has a paid staff that includes one chief, three battalion chiefs, nine captains, and 12 firefighters. In addition, the AFD relies on a volunteer fire department consisting of approximately 25 firefighters. All AFD firefighters receive training to the Firefighter I level. At a minimum, one battalion chief, three captains, and four paid firefighters are on duty at any given time (Schuette, pers. comm., 2022). In addition to providing fire protection and emergency services, the AFD works to educate the public about fire hazards and disseminate information on public safety.

The AFD responded to more than 2,500 calls for service in 2021 from three fire stations within its district (Schuette, pers. comm., 2022). Two of the stations are located in Arcata, and one is located in McKinleyville. The project site is located within in the response area for the Mad River Station, located at 3235 Janes Road in the City of Arcata, and the Main Fire Hall, located at 631 9th Street in the City of Arcata, provides backup/support to the project site. The Mad River Station is approximately 1 mile northwest of the project site, and the Main Fire Hall is approximately 1.25 miles south of the project site.

LAW ENFORCEMENT

University Police Department

As CSU property, the project site is under the primary jurisdiction of the CSU-operated University Police Department (UPD). The mission of the UPD is to promote a safe and secure learning environment by working cooperatively with the campus community to enforce the laws, preserve the peace, maintain order, and provide exceptional professional services to the campus community. The UPD is responsible for responding to and handling all calls for service, as well as processing and investigating all crimes committed on property and grounds owned, operated, and controlled or administered by the CSU. The matters the UPD investigates are referred to the appropriate prosecutorial agency (County District Attorney, State Attorney General, or US Attorney's Office) for a decision regarding whether or not to prosecute the matter.

In addition to police patrol, the UPD provides the following services:

- bicycle patrol,
- 9-1-1 communications,
- investigations,
- campus safety reports,
- escort van service and mustang patrol (safe walking escort),
- property registration, and
- special events/event security.

Cal Poly Humboldt is located in a moderately urban/suburban setting with a relatively low crime rate. Crime levels on campus tend to mimic those in the surrounding area. UPD headquarters are located on 1 Harpst Street on the Cal Poly Humboldt campus. The UPD currently staffs one acting police chief, three police sergeants, five full-time police officers, and one part-time police officer. Current response times are approximately 3-4 minutes for emergency calls and 5-8 minutes for nonemergency calls, compared to UPD's goals of 2-3 minutes for emergency calls and 3-4 minutes for nonemergency calls. Emergency response may be hindered during high periods of campus activity, especially at the top of the hour (10 before and 10 after the hour), when students are going to and from classes, due to safety precautions (Gomes, pers. Comm., 2022).

The UPD patrol officers work cooperatively with numerous agencies, including the City of Arcata Police Department, the Humboldt County Sheriff's Department, Parole Services, the California Highway Patrol (CHP), and the Narcotics and Gang Task Forces, to solve crimes and provide agency assistance (referred to as mutual aid). For example, the UPD works closely with the City of Arcata Police Department in and around the Cal Poly Humboldt campus neighborhoods and supports the City Police Department by proactively patrolling land within a 1-mile radius of campus that is technically within the City Police Department's jurisdiction to deter disorderly conduct. UPD officers may also respond to citizen calls for service within the jurisdictional responsibility of the City of Arcata Police Department, and the UPD partners with the City in enforcement efforts for major events on campus.

City of Arcata Police Department

The City of Arcata Police Department provides public safety services and 24-hour police protection within the City limits. The main station office is at City Hall, located at 736 F Street in downtown Arcata, which is approximately 1.25 miles from the project site. The City of Arcata Police Department currently employs 22 full-time police officers, one public safety officer, eight support staff (office staff, dispatchers, and lead parking officer), and one part-time officer (Brazil, pers. Comm, 2022).

Humboldt County Sheriff's Department

The Humboldt County Sheriff's Department is responsible for law enforcement in the unincorporated areas around the City and provides service from the Sheriff's Department Eureka Main Station, located at the Humboldt County Courthouse. Service is available 24 hours a day, 7 days a week to the unincorporated areas of Humboldt County. The County Sheriff's service area consists of two main beats: Central and South. The central beat covers the unincorporated areas of Arcata (Bayside, Fickle Hill) and Eureka (Myrtletown, Cutten, Pine Hill, Samoa, Fairhaven), along with the areas of Kneeland and Elk River (Humboldt County Sheriff's Office 2022). The Humboldt County Sheriff's Department may provide support service through mutual aid agreements to the project site, if necessary.

California Highway Patrol

CHP is responsible for traffic enforcement services on public streets and highways within the unincorporated area. CHP traffic enforcement service is provided from the CHP Northern Division Humboldt Area office, located in Arcata on Samoa Boulevard. CHP also provides other special law enforcement services, as well as mutual aid to the UPD, City of Arcata Police Department, and Humboldt County Sheriff's Department, upon request.

SCHOOLS

Arcata School District

The project site is located within the Arcata School District. The Arcata School District offers education services to school-age children from kindergarten through eighth grade. The Arcata School District includes Arcata Elementary School and Sunny Brae Middle School. Grades preschool through fifth are offered at Arcata Elementary School, located at 2400 Baldwin Street in the City of Arcata, and grades six through eight are offered at Sunny Brae Middle School, located at 1430 Buttermilk Lane in the City of Arcata. Enrollment in the district is currently about 545 students (Arcata School District 2016, 2022).

Northern Humboldt Union High School District

The City of Arcata and the surrounding area are within the Northern Humboldt Union High School District. Public high school students in the area attend Arcata High School, located at 1720 M Street in the City of Arcata. Enrollment at Arcata High at the beginning of the 2021-2022 school year was approximately 979 students (California School Dashboard 2022).

Other Schools and Educational Institutions

Portions of the Pacific Union Elementary School District and Jacob Creek Elementary School District are also within the City of Arcata and provide K-8 educational services prior to student enrollment within the Northern Humboldt Union High School District. In addition to the school districts described above, the following public, charter, and private schools in Arcata serve preschool through high school students:

- Arcata Christian School, 1700 Union Street;
- Gateway Community School, 1464 Spear Avenue;

- Coastal Grove Charter School, 2400 Baldwin Street;
- Jacoby Creek Charter School, 1617 Old Arcata Road, Bayside;
- Humboldt Bay Christian School, 70 Stephens Lane, Bayside;
- Mistwood Center for Education, 1928 Old Arcata Road, Bayside;
- St. Mary’s Catholic School, 1730 Janes Road;
- Fuente Nueva Charter School, 1730 Janes Road;
- Redwood Coast Montessori School, 1611 Peninsula Drive;
- Union Street Charter School and Equinox Center for Education, 470 Union Street; and
- Northcoast Preparatory and Performing Arts Academy, 285 Bayside Road.

LIBRARIES

Library services in the City of Arcata include the Arcata Library, which is located at City Hall at 736 F Street in downtown Arcata. The Arcata Library is a branch of the Humboldt County Library. Cal Poly Humboldt also provides library services in the area via the Cal Poly Humboldt Library, located south of the intersection of Sunset Court and Plaza Avenue on campus.

RECREATION AND PARKS

The City of Arcata maintains a network of parks distributed throughout the City. Arcata’s parks have varied facilities and offer many recreational and educational opportunities. The existing parks closest to the project site are Cahill Park, Janes Creek Meadows Park, Larson Park, and the Arcata Skate Park. Cahill Park, located at 1300 Stromberg Avenue in the City of Arcata, has a play structure, swing set, tire swing, benches, a grass play area, and other play apparatus. Janes Creek Meadows Park, located at 2985 Janes Creek Drive in the City of Arcata, has three play structures, a climbing structure, a picnic bench, a grass play area, and other play apparatus. Larson Park, located at 901 Grant Avenue in the City of Arcata, has three tennis courts, a handball court, three bocce ball courts, multiple play structures, benches and picnic tables, a gazebo, and a grass play area. The Arcata Skate Park, located at 900 Sunset Avenue in the City of Arcata, has a bowl, snake run, tabletop, and other skateboard play structures.

The City of Arcata, consistent with ratios established by the Quimby Act, has set a target ratio of at least 5 acres of parkland for each 1,000 residents. Arcata’s existing park system contains 3,744 acres of parkland at 41 sites. More than 97 percent (3,655.29 acres) of this acreage is provided in the form of natural areas or undeveloped park reserves. Consequently, less than 2.5 percent (88.74 acres) of the City’s park system consists of developed parks (City of Arcata 2010). Based on the City’s current population of 19,114 (DOF 2022), there is approximately 4.83 acres of developed parks and 198.94 acres of undeveloped park reserves per 1,000 residents in the City.

Public Health Services

Other public facilities in the City of Arcata include public health services. The City of Arcata does not directly provide health care programs or facilities; however, these facilities are operated in the City by a variety of health care providers and professionals, as well as nonprofits and other organizations. Public health services in the City of Arcata include Mad River Community Hospital, North Country Clinic, Humboldt Open Door Clinic, and numerous other smaller facilities throughout the City.

3.10.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Evaluation of potential public services and recreation impacts was based on a review of documents pertaining to the proposed project and consultation with public service providers, such as the Humboldt County Sheriff's Department, CHP, UPD, and County Public Library Services, and field review of the project study area and surroundings. Impacts on public services that would result from the project were identified by comparing existing service capacity and facilities against future demand associated with project implementation.

THRESHOLDS OF SIGNIFICANCE

A public services and recreation impact would be significant if implementation of the project would:

- result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
  - fire,
  - police protection,
  - schools,
  - parks, and
  - other public facilities;
- increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

ISSUES NOT DISCUSSED FURTHER

Schools

The project would provide new housing for up to 964 students within approximately 240 units. The proposed student housing project is intended for undergraduate and graduate students but is not intended to provide housing for student families, as it would most closely resemble dormitory-style accommodations. As a result, the project is not anticipated to house students seeking education for kindergarten through grade 12 who could generate demand for and therefore reduce the capacity of existing school districts in the area, nor would it necessitate the construction of additional K-8 or high school facilities. Therefore, the project would not result in significant impacts related to the construction of new school facilities. This issue is not evaluated further.

Other Public Facilities

As noted in Chapter 2, "Project Description," the project would not increase enrollment at Cal Poly Humboldt but is intended to serve the existing student enrollment and reduce the need for students to seek off-campus housing in the local community. As a result, the need for library services and other public facility needs associated with on-site residents is considered to be already addressed by the main campus of Cal Poly Humboldt. For example, the existing Cal Poly Humboldt library is located 0.5 mile from the project site and would be easily accessible to student residents either independently or as part of a student's otherwise scheduled trip to campus classes or other academic reasons (e.g., meeting with a professor). Therefore, the proposed project would not result in the need for construction of other public facilities (e.g., library facilities) that could result in substantial adverse physical impacts. This issue is not evaluated further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision of or the Need for New or Physically Altered Fire Facilities to Maintain Acceptable Service Ratios

The project would result in an increase in on-site population and the density of development on-site, which could result in additional calls for service to the project site. However, the project site is located within the current service area of the AFD and would be designed and constructed in accordance with applicable requirements, including the California Fire Code. Therefore, no additional fire protection facilities are anticipated to be necessary for AFD to adequately serve the project site, and no significant decrease in response time is expected. Impacts would be **less than significant.**

As noted above, fire protection and emergency medical services are currently provided to the project site by AFD. Under the project, the project site would be redeveloped with a new student housing community composed of approximately 240 units with up to 964 student beds in two multi-story buildings in the central portion of the project site. This increase in population could result in an increase in the number of calls for service, to which the AFD would respond from the Mad River Station, approximately 1 mile northwest of the project site. Although the project would increase the on-site population, an increase in population by itself would not increase demand for fire protection services. Typically, an expansion of geographic distribution, not simply an increase in population, impairs emergency response times and therefore potentially requires additional services and facilities. As noted above, the project would not result in an expansion of the current service area of the AFD.

All new on-site buildings would be designed to meet minimum fire and emergency safety requirements identified in the California Building Code and California Fire Code and would include appropriate fire safety measures and equipment, including the use of fire-retardant building materials, inclusion of emergency water infrastructure (fire hydrants and sprinkler systems), installation of smoke detectors and fire extinguishers, emergency response notification systems, and provision of adequate emergency access ways for emergency vehicles. Further, adequate right-of-way for emergency vehicles would be provided around the proposed on-site structure with hydrants spaced according to applicable requirements. As a result, development under the project would be adequately serviced by existing fire stations and facilities, and the project is not anticipated to result in a substantial increase in service calls that would require new or expanded fire protection employees or facilities. Additionally, due to the improvements in on-site circulation, including the provision of dedicated emergency access from the project site to Eye Street, the ability for AFD to respond to emergency calls for service to and through the project site may improve.

Therefore, although the project may result in an incremental increase in the number of service calls and place a greater demand on fire protection services, it would not result in the need for the construction of new fire protection facilities to maintain acceptable service ratios. AFD currently has sufficient facilities to adequately serve the population within its service area. Impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.10-2: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision of or the Need for New or Physically Altered Police Facilities, to Maintain Acceptable Service Ratios

The project would result in an increase in on-site population and the level of development on-site, which could result in additional calls for service to the project site. However, the project site would be served by UPD, which adaptively manages staffing based on campus population. While UPD may require additional staff to maintain adequate police response and service, the construction of new or physically altered municipal police facilities is not anticipated. Impacts would be **less than significant.**

The primary police protection services for the project site would continue to be provided by the UPD, which would have jurisdiction over the campus. The UPD would continue to be responsible for responding to and handling all calls for service, as well as processing and investigating crimes committed within the campus. With project implementation, a 240-unit, 964-bed student housing facility would be constructed on-site, which would increase on-site population. This increase in population would likely result in an increase in the annual number of calls for service relating to traffic accidents, theft, break-ins, or other incidents, to which the UPD must respond. As demand for police response services increases, Cal Poly Humboldt and UPD would continue to monitor campus growth, on-campus residential population, calls for service, response times, and reactive and proactive patrol times to assess the need for additional staff.

Additionally, the City of Arcata Police Department would be available to provide secondary support to the project site. The City of Arcata Police Department determines its level of service based upon calls for service, geographic location, and response times. As the project site is currently within the jurisdiction of the City of Arcata Police Department, adequate support is considered to be available to the project site, in the event of an increase in calls for service. Further, a review of the project by the City of Arcata Police Department determined that the department has the capacity to provide law enforcement services to the project and maintain acceptable service ratios with existing facilities and personnel (Brazil, pers. Comm., 2022). Due to the capacity of the UPD to provide service to the site, as well as potential support available through the City of Arcata Police Department (which already provides police protection services to the project site), project implementation is not anticipated to result in the need for additional police facilities (i.e., stations). As a result, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.10-3: Result in Substantial Deterioration of Neighborhood and Regional Parks, or Require Construction or Expansion of Recreational Facilities

Development of the project site would include new student housing and open/recreational space for on-site residents, including a gym/workout room and outdoor recreation space. The use of nearby City recreational facilities would be minimized due to the provision of these amenities in addition to amenities available to students at the main campus. As a result, the project would not result in the substantial deterioration of or need for additional recreational space. Impacts would be **less than significant.**

As noted in Chapter 2, “Project Description,” implementation of the project would include the provision of approximately 240 student residential units with capacity for up to 964 student beds. Additionally, open space and recreational facilities (e.g., gym facilities and outdoor pickleball/volleyball/flex courts) would be provided within the central portion of the site. While there are several existing parks within walking distance (e.g., less than a half mile) of the project site, the majority of these facilities would not be directly accessible to students who would be expected to utilize on-site amenities or on-campus facilities. As shown in Figure 2-4, “Conceptual Site Plan,” direct connection to the residential neighborhoods to the west, northwest, and south of the project site would not be provided. As a result, on-site residents associated with the project would not be expected to use these facilities, including Cahill Park and Janes Creek Meadows Park. Other facilities, such as Larson Park and the Arcata Skate Park, may experience some visitation from residents associated with the project who could access those facilities via the Annie & Mary Rail Trail, which is anticipated to be constructed in 2024. However, the majority of on-site residents are anticipated to generally use on-site or on-campus facilities.

Furthermore, as noted above, the project would provide additional student housing on property that is currently owned by the Humboldt State University Foundation and would be purchased by Cal Poly Humboldt and would not increase student enrollment at Cal Poly Humboldt or in the City/region, which is considered in the City's overall ratio of parkland to residents. As a result, it would not reduce the City's or region's ratio of parkland to residents. As a result, the project would not be anticipated to result in the substantial deterioration of neighborhood and regional parks or necessitate the construction of additional recreational facilities, beyond what is already proposed and evaluated as part of the project. Impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.11 TRANSPORTATION

This section identifies applicable regulatory requirements related to transportation and describes the existing transportation system within and in the vicinity of the project site. The transportation impact analysis presented in this chapter, identifies the environmental effects resulting from implementation of the project and, if necessary, mitigation measures are set forth to reduce significant transportation impacts. Consistent with CEQA Guidelines, impacts associated with bicycle, pedestrian, and transit facilities; the generation of vehicle miles traveled (VMT); transportation hazards; and emergency access are evaluated as part of this analysis.

The analysis within this section is based on the analysis and findings of the *Cal Poly Humboldt Craftsman Mall Student Housing Project CEQA Transportation Analysis Memorandum* (Transportation Analysis Memo) prepared by Fehr & Peers in September 2022, which evaluates the environmental effects of the proposed project based on the applicable CEQA significance thresholds. The Transportation Analysis Memo is included as Appendix E and provides additional detailed data, modeling, and information related to the transportation analysis.

Comments received regarding transportation in response to the NOP included concerns related to VMT impacts, bicycle parking, circulation, increased pedestrian travel, increased traffic and parking demand, and pedestrian and bicycle safety. Because a project's effects on automobile delay no longer constitutes a significant impact under CEQA, comments related to automobile delay (e.g., level of service [LOS], congestion) are not addressed herein.

3.11.1 Regulatory Setting

FEDERAL

There are no federal laws or regulations addressing transportation and circulation that are relevant to the project.

STATE

California Department of Transportation

The California Department of Transportation (Caltrans) is the state agency responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as the segments of the Interstate Highway System that lie within California. Caltrans District 1 is responsible for the operation and maintenance of US Highway (US) 101 in the vicinity of the project site. Caltrans requires a transportation permit for any transport of heavy construction equipment or materials that necessitates the use of oversized vehicles on state highways.

The Caltrans Transportation Impact Study Guide (TISG) was prepared to provide guidance to Caltrans Districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans review of a land use project or plan's transportation analysis using a VMT metric. This guidance is not binding on public agencies, and it is intended to be a reference and informational document. The TISG replaces the Guide for the Preparation of Traffic Impact Studies and is for use with local land use projects, not for transportation projects on the State Highway System (Caltrans 2020).

California Fire Code

The 2019 California Fire Code, which is codified at Part 9 of Title 24 of the CCR, incorporates by adoption the 2018 International Fire Code and contains regulations related to construction, maintenance, access, and use of buildings. Topics addressed in the California Fire Code include fire department access (especially circulation and width of on-site roadways), fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety. The

California Building Standards Code, including the California Fire Code, is revised and published every 3 years by the California Building Standards Commission.

California Manual on Uniform Traffic Control Devices, Part 6: Temporary Traffic Control

The California Manual on Uniform Traffic Control Devices, Part 6: Temporary Traffic Control provides principles and guidance for the implementation of temporary traffic control (TTC) to ensure the provision of reasonably safe and effective movement of all roadway users (e.g., motorists, bicyclists, pedestrians) through or around TTC zones while reasonably protecting road users, workers, responders to traffic incidents, and equipment. Additionally, this document notes TTC plans and devices shall be the responsibility of the authority of a public body or official having jurisdiction for guiding road users.

Senate Bill 743

Senate Bill (SB) 743, passed in 2013, required the California Governor's Office of Planning and Research (OPR) to develop a new guideline addressing transportation metrics under CEQA. Enacted as part of SB 743 (2013), Public Resources Code (PRC) section 21099, subdivision (b)(1), directed the OPR to prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed CEQA Guidelines addressing "criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. In developing the criteria, [OPR] shall recommend potential metrics to measure transportation impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

Subdivision (b)(2) of PRC section 21099 further provides that "[u]pon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion *shall not be considered a significant impact on the environment* pursuant to [CEQA], except in locations specifically identified in the guidelines, if any." (*emphasis* added)

OPR published its proposal for the comprehensive updates to the CEQA Guidelines in November 2017 which included proposed updates related to analyzing transportation impacts pursuant to SB 743. The updated CEQA Guidelines were adopted on December 28, 2018; and according to the new CEQA Guidelines Section 15064.3, VMT replaced congestion as the metric for determining transportation impacts. The guidelines state that "lead agencies may elect to be governed by these provisions of this section immediately. Beginning July 1, 2020, the provisions of this section shall apply statewide."

To provide guidance to agencies implementing the new CEQA requirements, OPR published the Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR Technical Advisory) in December 2018. The OPR Technical Advisory describes considerations agencies may use in selecting VMT metrics, calculation methodologies, and significance thresholds. The OPR Technical Advisory does not mandate the use of specific metrics, methodologies or significance thresholds, because agencies have discretion to select those that are appropriate for the local land use and transportation context (OPR 2018).

The OPR Technical Advisory also provides guidance on impacts to transit. Specifically, the OPR Technical Advisory suggests that lead agencies generally should not treat the addition of new transit users as an adverse impact. As an example, the OPR Technical Advisory suggests the following:

> [An] infill development may add riders to transit systems and the additional boarding and alighting may slow transit vehicles, but it also adds destinations, improving proximity and accessibility. Such development also improves regional vehicle flow by adding less vehicle travel onto the regional network.

CALIFORNIA STATE UNIVERSITY

California State University Transportation Impact Study Manual

The California State University (CSU) Transportation Impact Study Manual (TISM) (CSU 2019) provides guidance for addressing transportation-related impacts for projects on CSU campuses, including all lands owned by CSU, consistent with the SB 743 and the CEQA Guidelines update. The TISM includes guidance for analyzing transportation impacts (including VMT), applicable significance thresholds, and recommended mitigation measures. The TISM recommends the following thresholds of significance:

- Plan Conflict: The project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities.
- VMT Impacts
  - Project Level: For projects that do not meet any of the VMT screening criteria described within the CSU TISM, which includes projects that generate no or few trips and are not anticipated to increase VMT per capita, analysis is required to determine whether the project would result in VMT per resident in excess of 15 percent below the existing regional, sub-regional, or citywide VMT per resident. VMT trip purposes for student, faculty, and staff housing are defined as Home-Based Work (Production & Attraction) + Home-Based Other (Production & Attraction).
  - Cumulative: The CSU TISM also requires evaluation of whether the project would result in an increase or decrease in the regional, sub-regional, or citywide VMT per capita, to determine whether the project would result significant cumulative impacts. Accordingly, the CSU TISM recommends the evaluation of the VMT per resident under the “with project” condition to determine whether VMT would be in excess of the Citywide, regional, or sub-regional VMT/Service Population identified under the Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) condition.
- Hazard Impact: The project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Emergency Access Impact: The project would result in inadequate emergency access.

California State University Sustainability Policy

The CSU Sustainability Policy (CSU 2014) aims to reduce the CSU’s impact on the environment; educate students, faculty, and staff on sustainable practices; and incorporate sustainability principles and climate science in the CSU’s educational offerings. The policy contains the following statement related to transportation and the associated reduction of greenhouse gas (GHG) emissions:

- The CSU will encourage and promote the use of alternative transportation and/or alternative fuels to reduce GHG emissions related to university associated transportation, including commuter and business travel.

California State University Transportation Demand Management Manual

The CSU Transportation Demand Management (TDM) Manual (Nelson Nygaard 2012) addresses the unique transportation needs of different campuses and provide a system-wide framework for implementing sustainable transportation programs. The manual contains a set of goals, criteria, and best practices that encourage students, faculty, and staff to commute to and from campus via bus/rail transit, carpools, vanpools, bicycling, and walking to lessen reliance upon single-occupant vehicle (SOV) travel and reduce vehicle trips to campuses.

The manual establishes the following goals and objectives:

GOAL 1: Encourage the Use of Non-Auto Modes

- **Objective 1A:** Develop TDM programs that are effective, scalable, and sustainable over time.
- **Objective 1B:** Monitor key criteria to ensure the effectiveness of TDM programs.
- **Objective 1C:** Enhance the pedestrian, cyclist, and transit user experience.
- **Objective 1D:** Enhance safety for pedestrians and cyclists.
- **Objective 1E:** Increase dialogue and communication among campus departments and establish a forum for ongoing coordination and policy development to strengthen a campus’s capacity to design and deliver effective TDM strategies in a coordinated manner.

- **Objective 1F:** Provide effective transportation alternatives to driving alone.
- **Objective 1G:** Provide sufficient on-campus or nearby housing and basic commercial needs to encourage walking and biking.
- **Objective 1H:** Effectively market all TDM programs.

GOAL 2: Maintain Financially Sustainability

- **Objective 2A:** Develop TDM programs that are financially sustainable over time.
- **Objective 2B:** Implement the most cost-effective blend of parking & TDM investments to accommodate affiliate needs.

GOAL 3: Ensure Equitable Access

- **Objective 3A:** Provide transportation opportunities for all students.
- **Objective 3B:** Encourage the use of non-SOV modes through financial incentives.

GOAL 4: Preserve Valuable Campus Lane

- **Objective 4A:** Ensure that campus land is treated as a commodity to help meet future needs.
- **Objective 4B:** Reduce off-site infrastructure needs.

GOAL 5: Promote Environmental Sustainability

- **Objective 5A:** Support system-wide sustainability goals set forth in California State University Executive Order 987, adopted in August 2006.
- **Objective 5B:** Encourage the use of non-SOV modes for both internal and external trips to and from campus.
- **Objective 5C:** Measure the environmental impacts of transportation investments.

GOAL 6: Build Partnerships with the Local Community and Private and Institutional Actors

- **Objective 6A:** Increase the level of engagement and partnership with regional agencies and regional transit providers.
- **Objective 6B:** Enhance collaboration between the university and public and private sectors.
- **Objective 6C:** Develop and test new ways of engaging and partnering with public and private institutional actors.
- **Objective 6D:** Ensure quality multi-modal campus connections between on-campus and off-campus pedestrian, bicycle, and transit routes.

Cal Poly Humboldt Climate Action Plan 2.0

The Cal Poly Humboldt Climate Action Plan (CAP 2.0) was developed to reduce GHG emissions from Cal Poly Humboldt’s operations and to further integrate sustainability into academics, research, and campus culture (Cal Poly Humboldt 2021). The CAP 2.0 provides a roadmap to meet Cal Poly Humboldt’s goal of achieving carbon neutrality no later than 2045, in alignment with the SU Sustainability Policy and the California Governor’s Executive Order B-55-18. It combines reduction strategies with efforts to sequester carbon and offset GHG emissions, including actions to foster the integration of sustainability and climate action into all facets of Cal Poly Humboldt, including Transportation (TRA) goals and strategies. The following strategies and policies are relevant to the project:

TRA GOAL 1: Reduce commute emissions 50% below 2015 levels by 2030, and to zero by 2045

- Strategy 1.1: Develop and implement a Transportation Demand Management (TDM) Plan
- Strategy 1.3: Improve walkability and bikeability of campus and area surrounding campus

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity. As explained in the "California State University Autonomy" section in Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

Humboldt County Association of Governments Regional Transportation Plan

Humboldt County Association of Governments (HCAOG) adopted the 2022-2042 RTP, also known as Variety in Rural Options of Mobility (VROOM), in January 2022 (HCACOG 2022). The policies in the RTP VROOM serve to guide the development of a sustainable transportation landscape in the Humboldt region. The following policies are relevant to the project:

- **Policy Land-1: Reduce driving.** HCAOG encourages and supports land use planning and projects that accommodate reducing driving, such as through infill development, pedestrian friendly streets, bicycle infrastructure, and transit-oriented development. HCAOG staff will provide information on transit-oriented development, as requested. HCAOG encourages member and committee agencies to engage transit operators when planning or reviewing new developments.
- **Policy Land-8: Integrated long-range planning.** Support local communities in developing integrated transportation and land use strategies for responding resiliently to climate change, and codifying such strategies in General Plans, Regional Transportation Plans, Local Coastal Programs, and Climate Action Plans. HCAOG will review proposed development projects in member jurisdictions and provide feedback on the projects' impacts on regional efforts to meet adopted targets for greenhouse gas emission reductions, VMT, mode shift, traffic safety, and zero emission vehicles.
- **Policy Streets-1: Multi-modal safety & functionality.** HCAOG shall encourage and facilitate local jurisdictions, local Native American Tribes, Caltrans, and non-profits to individually and collaboratively plan, design, install, and maintain roads in Humboldt County to build a transportation system that emphasizes safety over speed, and emphasizes multi modal functionality over convenience for single-occupancy automobiles.
- **Policy Streets-11: Vision Zero.** HCAOG adopts the Vision Zero commitment to support policy, strategies, and roadway design standards that have been shown to be most effective in improving safety, with the goal of eliminating all traffic fatalities and severe injuries in Humboldt, while increasing safe, healthy, equitable mobility for all users.

City of Arcata General Plan

The Transportation Element of the *Arcata General Plan* (City of Arcata 2008) includes goals and policies that address the transportation and circulation system and serves as a blueprint for growth and development in the City of Arcata. The following policies from the Transportation Element are relevant to analysis of the project.

- **Policy T-2a: Land use development patterns.** The City encourages and supports travel demand management efforts. The City shall promote land use and development patterns that encourage walking, bicycling and transit use. In recognition of the link between land use and transportation, the land use plan shall discourage low density, homogenous land-use patterns that foster automobile travel and are impractical to serve with transit. Land use planning shall emphasize high density and mixed land use patterns which translate into higher transit and pedestrian travel in the downtown and neighborhood commercial areas. Infill, redevelopment, and reuse of underutilized property at higher densities shall be encouraged prior to outward expansion of City boundaries. The following land use measures are emphasized:

    1. Mixed-use neighborhood centers within transit corridors which include housing and commercial services near employment.

2. Land use patterns which maximize linking trip opportunities by assembling uses, thus allowing people to take care of a variety of daily needs with a single trip.
3. Clustering of higher density housing and incorporation of residential apartments on upper floors of buildings in the downtown area.
4. Integration of new housing into neighborhood shopping centers, including Sunny Brae, Westwood, and Valley West.
5. Pedestrian-oriented land use and urban design, including the following elements:
   a. Pedestrian-scale block patterns.
   b. Incorporate pedestrian and bicycle amenities into public and private projects.
   c. Design streets for multi-modal use.
   d. Integrate transit stop facilities into public and private projects.
   e. Orient buildings and houses to street.
   f. Provide attractively landscaped streets and buffers.
   g. Preserve existing and historic urban fabric.
   h. Eliminate blank wall facades.
   i. Incorporate bicycle routes and enhancements in public and private projects.
6. A fixed urban services boundary to reduce sprawl and infrastructure costs.
7. Focused growth along existing or planned transit corridors rather than extension of transit to serve new isolated development.
8. Prevention of large areas of single uses. Isolated single-use developments at the edge of the City could encourage automobile travel for commuting and errands.
9. Provision of convenience retail and services in ground floor space in the downtown to accommodate the needs of employees and reduce the need for mid-day automobile trips.

- **Policy T-5: Bicycle and Pedestrian Facilities.** Create a complete, interconnected bicycle and pedestrian circulation system. Increase the percentages of person trips via walking and bicycling. Provide a pedestrian and bicycle system which serves commuter as well as recreational travel.
- **Policy T-8a: Developer responsibilities and exactions.** Developers shall be required to construct transportation improvements along their property frontages. Where appropriate, a traffic impact study shall be required which identifies on-site and off-site impacts and mitigation measures.

  The developer shall be required to provide all necessary access and circulation facilities within the property and such facilities shall be designed to meet City standards. The following improvements may be required:

  - If development is located on an existing street:
  - dedication of right of way;
  - widening of street along property frontage to provide for a travel lane;
  - bicycle lane and parking lane;
  - reconstruction of curb, gutter and sidewalk;
  - transit facilities and landscaping within the right of way.

- If development is located in a new growth area not served by streets: a. dedication of right of way to construct a street to connect the project site to a public street; b. construction of the street and connecting intersection(s) to City standards; c. after the dedication is accepted, the City will maintain the street.
- In all instances, the developer shall be responsible for mitigating any off-site traffic impacts of the proposed development in a manner consistent with the policies of this plan. Measures may include a reduction in the size or density of the development; installation of pedestrian, bicycle and transit amenities to encourage alternative travel modes; or implementation of Transportation Demand Management measures.

City of Arcata Pedestrian and Bicycle Master Plan

The City of Arcata adopted the Pedestrian and Bicycle Master Plan in 2010. The Pedestrian and Bicycle Master Plan is a tool for helping the City achieve its vision of making Arcata "a place where walking and bicycling are the preferred modes of travel, where half the trips within the city are by walking or bicycling" (City of Arcata 2010). The Master Plan evaluates existing conditions and the needs of pedestrians and bicyclists in Arcata, and identifies a citywide system of improvements and implementation strategies for improving walking and bicycling facilities.

3.11.2 Environmental Setting

ROADWAY SYSTEM

Roadways classifications within the city include freeways and highways, arterials, minor arterials, collectors, local, and rural streets. The following roadways provide access to project site:

- **US 101**, also known as Redwood Highway in the vicinity of the project site, runs through the states of California, Oregon, and Washington connecting the City of Los Angeles in the south to the City of Tumwater in the north. In the vicinity of the project site, US 101 is a bidirectional north/south freeway with two lanes provided for each direction of travel. The posted speed limit is 65 miles per hour (mph).
- **L.K. Wood Boulevard** is a north/south bidirectional two-lane roadway located east of the project site and US 101. L.K. Wood Boulevard provides access to St. Louis Road via the US 101 overcrossing. Class II bicycle lanes exist on L.K. Wood Boulevard. Sidewalks are present on the east side of the roadway.
- **St. Louis Road** is a north-south local street with one travel lane in each direction, traveling from Spear Avenue/West End Road in the north to a cul-de-sac at the project site. St. Louis Road also provides access to the US 101 overcrossing to L.K. Wood Boulevard. The posted speed limit along St. Louis Road is 25 mph. Sidewalks are present on the at least one side of the roadway north of the US 101 overcrossing. Class II bike lanes are provided on both sides of the roadway from the US 101 overcrossing to Spear Avenue/West End Road.
- **Eye Street** is primarily a north-south residential roadway with one travel lane in each direction ranging from Jay Street in the south and terminating at the project site in the north. The speed limit along Eye Street is, *prima facie*, 25 mph. Sidewalks are present on a 350-foot segment starting at Jay Street. No other sidewalks are present. There are no designated bicycle facilities along Eye Street.

TRANSIT SYSTEM

The Arcata & Mad River Transit System (A&MRTS) provides fixed-route transit service within the City of Arcata. The nearest public transit stop is located approximately 0.25 mile away from the project site on L.K. Wood Boulevard, which is served by the A&MRTS Gold Route and Red Route. The Gold Route serves Downtown Arcata, Cal Poly Humboldt, Valley West Shopping Center, and Alliance Road. The Red Route serves Downtown Arcata, Greenview Market, Arcata Community Center, Sunny Brae, Cal Poly Humboldt, and L.K. Wood Blvd. The Gold and Red Routes operate Monday through Friday from 7:00 a.m. to 5:00 p.m. with 1-hour headways.

Additionally, Humboldt Dial-a-Ride paratransit service, origin-to-destination shared-ride transportation, is available for those who are unable to independently use the transit system. Humboldt Dial-a-Ride services are available on a prearranged basis for any trip purpose within the designated service areas.

BICYCLE AND PEDESTRIAN NETWORK

The bicycle and pedestrian transportation system in the City of Arcata is composed of bikeways and trails. The Pedestrian and Bicycle Master Plan classifies bicycle facilities into the following three categories:

- Class I: Class I bikeways are typically called "bike paths" or "shared-use paths." They provide a paved right-of-way completely separated from nearby streets or highways, designated for the exclusive use of bicycles and pedestrians. Minimum recommended widths range from 8′ to 12′, depending on anticipated usage. A minimum 2′-wide graded area is required adjacent to the path, clear of trees, poles, guardrails, etc.
- Class II: Often referred to as a "bike lane," a Class II bikeway is a restricted right-of-way on a street or highway that is designated for the exclusive or semi-exclusive use of bicycles. Bike lanes have pavement striping and stencils, and signage. Bike lane widths are based on parking and street conditions.
- Class III: Usually referred to as "bike routes," Class III bikeways are facilities shared with motorists or pedestrians but which provide—through signage, pavement markings, design, and/or connection to other facilities—advantages to bicyclists not available on other roadways. Bicycle boulevards are a type of Class III facility that have design features that give preference to bicyclists. There are no recommended minimum widths for Class III facilities.

As of 2010, the City of Arcata had 12 miles of designated bike lanes (Class II) along 22 percent of the City's 62 miles of roadways (City of Arcata 2010: 5-7). The following bicycle facilities are present in the vicinity of the project site:

- US 101: No bicycle or pedestrian facilities are present on US 101; however, unique to Humboldt County is bicycle access on all State Routes, including the eight-foot-wide shoulders of US 101, which is part of the Pacific Coast Bike Route (City of Arcata 2010: 5-9).
- L.K. Wood Boulevard: Class II bicycle lanes exist on both sides of L.K. Wood Boulevard. Sidewalks are present on the east side of the roadway.
- St. Louis Road: Sidewalks are present on the at least one side of the roadway north of the US 101 overcrossing. Class II bike lanes are provided on both sides of the roadway from the US 101 overcrossing to Spear Avenue/West End Road.
- Eye Street: Sidewalks are present on a 350-foot segment starting at Jay Street. No other sidewalks are present. There are no designated bicycle facilities along Eye Street.

3.11.3 Environmental Impacts and Mitigation Measures

This section describes the analysis techniques, assumptions, thresholds, and results used to identify potential significant impacts of the project on the transportation system. Transportation impacts are described and assessed, and mitigation measures are recommended for impacts identified as significant or potentially significant.

VMT METHODOLOGY

State CEQA Guidelines Section 15064.3 was added December 28, 2018, to address the determination of significance for transportation impacts. The new guideline requires that the analysis is based on VMT instead of congestion (such as LOS). The change in the focus of transportation analysis is the result of legislation (SB 743) and is intended to shift the emphasis from congestion to, among other things, reducing GHG emissions, promoting a diversity of land uses, and developing multimodal transportation networks. Pursuant to CEQA Guidelines Section

15064.3(c), this change in analysis was mandated for use beginning July 1, 2020. Therefore, VMT is the analytical methodology employed to evaluate the impacts of vehicular trip generation in this ~~Draft~~ Final EIR.

CSU has developed and adopted VMT guidelines and thresholds (i.e., CSU TISM) to meet the State requirements set by SB 743 and to address CEQA Guidelines Section 15064.3. Therefore, the VMT analysis here-in primarily relies on the guidance provided in the CSU TISM and CEQA Guidelines Section 15064.3.

As previously described, Fehr & Peers prepared the project Transportation Analysis Memo analyzing potential impacts to the transportation system. See Appendix E for a detailed description of the methodology used in the Transportation Analysis Memo. The methodology for VMT analysis uses the following thresholds to determine significance of the project's VMT per capita for residential projects:

- Project-level impacts: The project would result in a significant impact related to VMT if the project VMT per resident exceeds a threshold of 15 percent below existing regional, sub-regional, or citywide VMT per resident.
- Cumulative impacts: VMT per resident under the "with project" condition exceeds the regional, sub-regional, or citywide VMT per resident identified under the RTP/SCS condition.

The recommended VMT significance criteria included in the OPR Technical Advisory are based on statewide GHG reduction targets, which are defined at the Metropolitan Planning Organization (MPO) level. Although the Humboldt County Association of Governments is a Regional Transportation Planning Agency, and not an MPO, the entirety of Humboldt County represents a logical boundary for the evaluation of VMT impacts based on the methodology used by OPR to develop the thresholds identified in the OPR Technical Advisory. The OPR Technical Advisory also notes that the VMT calculation itself should not be arbitrarily truncated at political boundaries (i.e., an arbitrarily defined sub-area boundary), and thus using a Humboldt County-wide geography represents a good faith effort at the full accounting of the VMT effects of the project. This County-wide analysis also represents the extents of the Humboldt County travel demand model.

In addition to the methodological reasoning for the selection of a Humboldt County-wide benchmark for VMT, student housing location data from Cal Poly Humboldt, location-based services "Big Data" regarding Cal Poly Humboldt-related trips, and data from the Humboldt County Association of Governments Travel Model (HCAOG Travel Model) indicate that there is a substantial regional student housing component consisting of students living off-campus and outside of the City of Arcata. Because the project does not propose to increase student enrollment, it is reasonable to assume that the net effect of the project would be that students who would otherwise be living outside of the City of Arcata would move closer to campus. Therefore, a regional basis (i.e., a Humboldt County-wide basis) is the most reasonable for evaluating the effect of the project. Therefore, the Humboldt County-wide average was used as the basis for the assessment of project-generated VMT impacts.

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines, the CSU TISM, and the OPR Technical Advisory. A transportation-related impact would be significant if implementation of the project would:

- conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, or bicycle and pedestrian facilities;
- conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- result in inadequate emergency access.

A VMT impact would be significant if implementation of the project would:

- result in project-generated VMT per resident that exceeds 16.4 (i.e., 15 percent below countywide VMT per resident [19.3]) under existing plus project conditions.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: Conflict with a Program, Plan, Ordinance or Policy Addressing the Circulation System, Including Transit, Roadway, Bicycle and Pedestrian Facilities

The project would not interfere with the implementation of a planned facility, including transit, roadway, bicycle, and pedestrian facilities. However, due to the current lack of pedestrian facilities along the portion of St. Louis Road, the project could increase the potential for bicycle- and pedestrian-vehicle conflicts. As such, the project would conflict with CSU policies that promote the use of bicycling and walking travel to and from campus. Therefore, this impact would be **significant**.

Bicycle and Pedestrian Facilities

As detailed in Chapter 2, "Project Description," the project would include the construction of interconnected pedestrian and bicycle paths throughout the development to direct student residents to the US 101 overcrossing or the City's planned Annie & Mary Rail Trail project east of the project site. Additionally, the project would provide covered bicycle parking near building entrances. The project, as proposed, would not modify existing off-site bicycle or pedestrian facilities; and thus, would not conflict with existing bicycle or pedestrian facilities nor interfere with the implementation of any of the planned bicycle or pedestrian facilities in the vicinity of the project site.

The project may increase bicycle and pedestrian travel activity within the project site, between the project site and nearby destinations including the Cal Poly Humboldt campus. Internal bicycle and pedestrian facilities proposed by the project would accommodate increases in bicycle and pedestrian travel within the project site. However, the project would also increase vehicle travel activity on the roadway network in the vicinity of the project site, particularly on St. Louis Road, the US 101 overpass, and L.K. Wood Boulevard. Currently, the project does not include any planned pedestrian connections to the L.K. Wood Boulevard/US 101 overcrossing to the north of the project site via St. Louis Road, and thus, would not provide pedestrian facilities connecting to the area's existing circulation system. The project would connect directly to the planned Annie & Mary Rail Trail, which will be located along the project site's eastern boundary and is anticipated to be completed in 2024.

In locations with bicycle and or pedestrian network gaps, project-generated bicyclists and pedestrians would physically mix with higher speeds and volumes of vehicle traffic, including additional vehicle traffic that would be generated by the project. In such instances, the project would increase the potential for bicycle- and pedestrian-vehicle conflicts, which would conflict with CSU policies that promote the use of alternative modes of transportation for travel to and from campus, including those identified in the CSU Sustainability Policy, the CSU TDM Manual, and Cal Poly Humboldt CAP 2.0. As a result, this impact would be considered significant.

Transit Services

As discussed above in the Environmental Setting section, A&MRTS provides fixed route bus service in the project area, served by the Gold and Red Route which both have stops on L.K. Wood Boulevard and Ridge Road. Local and regional plans do not identify any future planned or programmed transit improvements in the vicinity of the project site. Although the project would be expected to generate an increase in demand for transit ridership in the area, it is anticipated that the existing transit services would adequately accommodate any increase in demand. Additionally, as detailed in the Regulatory Setting section, above, the OPR Technical Advisory suggests that lead agencies generally should not treat the addition of new transit users as an adverse impact because infill development improves proximity and accessibility as well as improves regional vehicle flow by adding less vehicle travel onto the regional network.

Cal Poly Humboldt would continue to work with the Humboldt Transit Authority to address its transit needs (Fehr & Peers 2022: 8). Furthermore, the project would not conflict with existing transit stops east of the project.

Local and regional plans do not include transit improvements in the project area, and the project is not expected to generate a substantial increase in transit ridership. Additionally, the project would not alter any existing transit stops in the vicinity of the project site. Therefore, the project would not conflict with a program, plan, ordinance, or policy addressing transit services. Thus, the impact on transit services would be less than significant.

Summary

The project would not physically disrupt an existing facility or interfere with the implementation of a planned facility, including transit, roadway, bicycle, and pedestrian facilities. However, the project would conflict with CSU and Cal Poly Humboldt policies that promote the use of bicycling and walking for travel to and from campus, including those identified in the CSU Sustainability Policy, the CSU TDM Manual, and Cal Poly Humboldt CAP 2.0. Additionally, the project does not provide pedestrian facilities connecting the project site to the area circulation system. For these reasons, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.11-1: Provide Pedestrian and Bicycle Facilities along St. Louis Road

Cal Poly Humboldt, in cooperation with the City of Arcata, shall provide a sidewalk and adequate striping for bicycles that connects the northern access road for the project to the US 101 overcrossing and the rest of the pedestrian circulation system. The sidewalk and bicycle connections shall be built on the east side of St. Louis Road with appropriate ~~pedestrian~~ crossing provided along St. Louis Road. There is adequate right-of-way available to complete the sidewalk gaps along the roadway. The design of the off-site pedestrian and bicycle improvements shall be consistent with City design standards. The sidewalk and bicycle improvements shall be completed prior to occupancy of the project.

Significance after Mitigation

Implementation of Mitigation Measure 3.11-1 would reduce impacts by reducing the potential for conflicts involving pedestrians and bicyclists in a manner consistent with CSU and Cal Poly Humboldt policies that promote the use of walking, bicycling, and transit to and from campus. Additionally, the Mitigation Measure 3.11-1 would provide pedestrian and bicycle facilities connecting the project site to the area circulation system. Consistent with the 2017 application for development of the project site, as considered by the City, the provision of additional pedestrian and bicycle facilities along St. Louis Road is considered feasible and acceptable. Therefore, implementation of this mitigation measure would reduce the significant impact to **less than significant**.

Impact 3.11-2: Conflict or Be Inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) Regarding Vehicle Miles Traveled

Construction activities would be short-term and temporary and construction worker trips are redistributed throughout the transportation network. Additionally, the average number of daily trips made by construction workers would not exceed the small project screening threshold of 110 daily trips. Based on the modeling of operational VMT the project would not exceed the CSU TISM VMT threshold of significance for residential projects. Therefore, the project’s impact to VMT would be **less than significant**.

Construction

Construction of the project would begin as early as Spring 2023 and is anticipated to be completed by Fall 2024. The number of construction workers would fluctuate based on the phase and intensity of construction.

Construction activities would be temporary and intermittent in nature; and thus, would not result in long-term increases in vehicular trips. Additionally, the VMT of construction workers is not newly generated; instead, it is redistributed throughout the regional roadway network based on the different work sites in which workers travel to each day. Therefore, construction workers would not generate new trips each day, they would only redistribute them. Further, even if the trips generated during construction were considered to be new trips, the average number of construction workers trips is estimated to be no more than 50 per day during the 18-24 months of construction. Therefore, the number of daily construction trips generated would be fewer than 110 trips per day; thus, satisfying the screening threshold established in the CSU TSIM which is consistent with OPR’s screening criteria for small projects. Therefore, construction activities are not expected to result in a significant increase to VMT.

<u>Operations</u>

As detailed in Chapter 2, "Project Description," the project would involve the development of new student housing including an exercise gym, common lounge spaces, study spaces, computer rooms, television rooms, a café/market, conference rooms, and bicycle parking. The Transportation Analysis Memo used the HCAOG Travel Model to calculate the VMT per resident anticipated to be generated by the project. The trip patterns in the HCAOG Travel Model were checked against location-based services "Big Data" to confirm that the model is reasonably replicating existing travel patterns related to Cal Poly Humboldt. For detailed information regarding trip generation, trip length, and VMT methodology and analysis see Appendix E. Table 3.11-1 presents the project-generated VMT per resident in relation to the CSU TSIM threshold of significance of 15 percent below existing regional VMT per resident.

Table 3.11-1 Cal Poly Humboldt Student Housing Project Vehicle Miles Traveled Analysis

Year	Countywide Residential VMT per Resident	Project-Generated VMT per Resident	Threshold Value	CEQA Impact?
Baseline Year 2022	18.1	14.1	16.4 (equal to 15% below VMT per Resident)	No

Source: Fehr & Peers 2022: 7-8.

As identified in Table 3.11-1, above, the project would not exceed the VMT threshold established by the CSU TISM under the existing plus project scenario. Therefore, the project would not substantially increase VMT and the impact would be less than significant.

<u>Summary</u>

Construction worker VMT is redistributed throughout the transportation network depending on worksite; thus, it is not newly generated. Additionally, the average number of daily construction worker trips does not exceed the threshold for small projects as established by the CSU TISM and OPR Technical Advisory. Furthermore, project-generated VMT falls below the 15 percent regional VMT per resident threshold established by the CSU TISM. Therefore, the project would result in a less than significant VMT impact and would not conflict or be inconsistent with CEQA Guidelines section 15064.3(b). Thus, the impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.11-3: Substantially Increase Hazards Due to a Geometric Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment)

The construction contractor would prepare a construction traffic control plan (TCP) to minimize potential hazards related to transportation and circulation during construction activities as well as obtain necessary encroachment permits from the City of Arcata. Additionally, project access at St. Louis Road would be designed in accordance with applicable site distance standards. Based on the conceptual nature of the site plan, it is not possible to conclude that pedestrian and bicycle safety in the vicinity of the project site would be sufficient. As a result, impacts would be **potentially significant**.

<u>Construction</u>

Project construction is expected to begin in 2023 and would be completed within approximately 18-24 months. Construction transportation impacts would be localized and temporary; however, during construction of the project, traffic operations could be degraded. As detailed in Chapter 2, "Project Description," Cal Poly Humboldt would prepare a construction TCP which would demonstrate appropriate traffic handling during construction activities for all work that will or may impact the traveling public. The TCP would include the following elements:

- identify the location of the proposed construction area;
- illustrate the location of areas where the public right-of-way would be closed or obstructed;
- identify the placement of traffic control devices necessary to perform the work;

- present proposed phases of traffic control;
- establish time periods when the traffic control would be in effect and, although not anticipated, identify the time periods when work may prohibit access to private property from a public right-of-way; and
- provide information on access for emergency vehicles to prevent interference with emergency response.

Additionally, the construction contractor would obtain an encroachment permit from the City of Arcata for any off-site improvements. The encroachment permit application would include the submittal of a site plan, a proposed plan for pedestrian and traffic control, the TCP, and insurance certificates and endorsements (City of Arcata 2022). Thus, any off-site improvements would be subject to review by the City's Public Works Department ensuring local standards are met. Therefore, any increased hazards related to transportation during construction would be minimized. For this reason, the impact related to transportation hazards during construction would be less than significant.

Operations

As detailed in Chapter 2, "Project Description," the project would involve the development of new student housing including an exercise gym, common lounge spaces, study spaces, computer rooms, television rooms, a café/market, conference rooms, and bicycle parking. Additionally, a concourse/promenade would be constructed within the central portion of the proposed student housing development, extending in a north-south direction connecting to bicycle and pedestrian facilities that provide access to the Cal Poly Humboldt campus. On-site circulation would provide interconnected pedestrian and bicycle paths throughout the development to promote multimodal transportation choices, all of which are intended to direct student residents to the US 101 overcrossing or the City's Annie & Mary Rail Trail project which would be located along the eastern project site boundary.

The project would be consistent with City development standards. Additionally, off-site improvements associated with the project are subject to City review processes which would ensure that these off-site improvements would comply with all applicable City and industry roadway/driveway design standards.

Vehicular site access would be provided on St. Louis Road on the north side of the project site. St. Louis Road is a local road with a posted speed limit of 25 mph. Eye Street would provide an additional emergency vehicle access and has a speed limit of 25 mph. According to Table 201.1 of the Caltrans Highway Design Manual, the stopping sight distance at 25 mph is 150 feet. The sight distance entering the project site at both entrances appears to be more than 150 feet, indicating that the sight distance would be adequate (Fehr & Peers 2022: 9).

Although the project would be consistent with local design regulations, based on the conceptual nature of the site plan it cannot be ensured that hazards related to pedestrian and bicycle travel in and around the project site would be minimized. The project would increase vehicular, bicycle, and pedestrian travel in the surrounding area which could potentially increase the risk of pedestrian- and bicycle-vehicle conflicts. For this reason, the project's impact related to transportation hazards during operations would be potentially significant.

Summary

The construction contractor would prepare a TCP and obtain encroachment permits as necessary for off-site improvements. Additionally, the project's site design would meet Caltrans standards related to site distance and would be consistent with City design standards. However, the project would increase travel in the vicinity of the project site and with limited detail regarding site design and off-site improvements, it cannot be ensured that pedestrian and bicycle conflicts would not occur. For this reason, the impact related to transportation hazards would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.11-3: Provide Pedestrian and Bicycle Safety Improvements

The contractor shall implement pedestrian and bicycle safety improvements to enhance visibility and connectivity between pedestrian and bicycle networks in the vicinity of the project site. All improvements shall be consistent with City design standards. The following facilities, as identified in the Transportation Analysis Memo, shall be incorporated into the final design of the project:

- Provide high-visibility crossings by using patterns or raised crossings at the proposed northern access road and eastern driveway (at the points of connection with the Annie & Mary Rail Trail.)
- Add pedestrian crossing signage along the eastern driveway of the project.

Significance after Mitigation
Implementation of Mitigation Measure 3.11-3 would reduce impacts to a less-than-significant level by reducing the potential for safety conflicts involving bicyclists or pedestrians. However, the City of Arcata holds jurisdictional control of the public roadway right-of-way surrounding the project site, including the roadway segments/right-of-way identified for improvement in Mitigation Measure 3.11-3 related to the implementation of high-visibility crossings at the project's access. Therefore, implementation of this mitigation measure would reduce the significant impact to **less than significant**.

Impact 3.11-4: Result in Inadequate Emergency Access

Emergency access would be provided via two roadways on the northern and southern ends of the project site (i.e., St. Louis Road and Eye Street). Additionally, the internal circulation would be designed to accommodate emergency vehicles, and the project would be consistent with the 2019 California Fire Code which establishes standards regarding emergency access. Furthermore, the project would develop a TCP to ensure sufficient emergency access is maintained during construction activities. Thus, the project would provide adequate emergency access during construction and operations. This impact would be **less than significant**.

As detailed in Impact 3.11-3, above, St. Louis Road would provide vehicular access to the project site. Additionally, the north end of Eye Street would serve as a secondary emergency access point. This access point would be controlled using removable bollards or gate, and signage would be provided to prevent pedestrian/bicyclist access from the project site to Eye Street. The internal roadway design would provide adequate emergency vehicle circulation and sufficient clearance to accommodate likely emergency vehicle movements (Fehr & Peers 2022: 10).

The project would be constructed consistent with the 2019 California Fire Code which establishes minimum width dimensions to maintain adequate access for fire apparatus roads at no less than 24 feet. Additionally, Section 3310.1 of the 2019 California Fire Code identifies minimum requirements to provide required emergency access during construction activities. As detailed in Impact 3.11-3, above, the construction contractor would prepare a TCP prior to construction which would minimize safety impacts during construction including ensuring that emergency access is maintained at all times.

Furthermore, the project applicant would collaborate with the City to integrate the design of the development into the City's emergency response and evacuation plans for wildfires, floods, and other potential emergency situations (Fehr & Peers 2022: 10). Therefore, the project would not result in inadequate emergency access; thus, the impact would be **less than significant**.

Mitigation Measures
No mitigation measures are required.

3.12 UTILITIES AND SERVICE SYSTEMS

This section evaluates the adequacy of existing and planned utilities to accommodate the demands and generation associated with implementation of the Cal Poly Humboldt Student Housing Project. Specifically, this section addresses:

- water supply, distribution, and treatment;
- wastewater treatment and disposal;
- stormwater collection and drainage;
- solid waste disposal;
- energy; and
- telecommunications facilities.

This evaluation is based on a review of the City of Arcata's current Urban Water Management Plan (UWMP) (City of Arcata 2021), publicly available information from the California Department of Resources Recycling and Recovery (CalRecycle), and project-specific water and wastewater system analyses (LACO 2022a; LACO 2022b). Refer to Section 3.5, "Energy," for an analysis of energy efficiency related to implementation of the project pursuant to State CEQA Guidelines Section 15126.2(b), as amended in December 2018.

Comments regarding the capacity of existing utility lines that would serve the project were received in response to the NOP and are addressed in this section.

3.12.1 Regulatory Setting

FEDERAL

Clean Water Act

The US Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA, as well as the states. Various elements of the CWA address water quality. These are discussed below.

CWA Water Quality Criteria/Standards

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described in the discussion of state regulations below, the State Water Resources Control Board (SWRCB) and its nine regional water quality control boards (RWQCBs) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

CWA Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still comply with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. In California, implementation of TMDLs is achieved through water quality control plans, known as Basin Plans. See "State" section, below.

Mad River is included on the 303(d) list of impaired waters. State water quality standards specify designated uses individual waters should support (e.g., recreation or water supply). Mad River, depending on the segment, is designated for agricultural supply, freshwater habitat, sport fishing, estuarine habitat, flood attenuation, freshwater replenishment, groundwater recharge, industrial service supply, migration of aquatic organisms, municipal water supply, Native American culture, navigation, rare threatened or endangered species, shellfish harvesting, spawning habitat, general wildlife habitat, water contact recreation, and noncontact recreation. Stenner Creek is listed as impaired for sediment/turbidity and high water temperatures (SWRCB 2010).

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges, including point source waste discharges and nonpoint source stormwater runoff. Each permit identifies limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits.

"Nonpoint source" pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction activities and the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable.

The RWQCBs in California are responsible for implementing the NPDES permit system (see "State" section, below).

Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary maximum contaminant levels (MCLs). MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs. EPA has delegated responsibility for California's drinking water program to the SWRCB Division of Drinking Water. SWRCB Division of Drinking Water is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

STATE

California Code of Regulations, Energy Efficiency Standards

Energy consumption in new buildings in California is regulated by the state's Building Energy Efficiency Standards, part of the California Building Standards Code (CALGreen), contained in the CCR, Title 24, Part 2, Chapter 2-53. Title 24 applies to all new construction of both residential and nonresidential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. Updated every three years, the 2019 Building Energy Efficiency Standards were most recently approved and adopted by the California Building Standards Commission in 2018 and became effective in January 2020 (with a pending update in 2022) and have improved efficiency requirements from previous codes. The 2022 updated standards will be effective in January 2023 and are expected to mandate statewide energy consumption reduction.

California Fire Code

The 2019 California Fire Code, which is codified at Part 9 of Title 24 of the CCR, incorporates by adoption the 2018 International Fire Code and contains regulations related to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety. The California Building Standards Code, including the California Fire Code, is revised and published every 3 years by the California Building Standards Commission.

California Porter-Cologne Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants SWRCB and each of the nine RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the CWA. The applicable RWQCB for the project is the North Coast RWQCB (Region 1). SWRCB and the North Coast RWQCB have the authority and responsibility to adopt plans and policies, regulate discharges to surface water and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Under the Porter-Cologne Act, each RWQCB must formulate and adopt a water quality control plan (known as a "Basin Plan") for its region. The Water Quality Control Plan for the North Coast Region (Basin Plan) includes beneficial uses for inland surface waters, detailed Water Quality Objectives (WQOs), and an Implementation Plan to achieve WQOs. In addition to the Implementation Plan, the Basin Plan includes brief descriptions of SWRCB plans and policies and numerous RWQCB plans and policies that direct SWRCB and RWQCB actions and clarify the RWQCB's intent. The objective of the Basin Plan is to show how the quality of surface water and groundwater in the North Coast Region should be managed and to provide the highest water quality reasonably possible. It designates beneficial uses and water quality objectives for waters of the state, including surface waters and groundwater and includes programs of implementation to achieve water quality objectives.

The North Coast RWQCB also administers the adoption of waste discharge requirements (WDRs), manages groundwater quality, and adopts projects within its boundaries under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit).

NPDES General Permit for Stormwater Discharges Associated with Construction Activity

SWRCB adopted the statewide NPDES General Permit for stormwater discharges associated with construction activity in August 1999. The state requires that projects disturbing more than 1 acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Cal Poly Humboldt is subject to the SWRCB's Water Quality Order No. 2009-0009-DWQ, NPDES General Permit No. CAS000002 for Storm Water Discharges Associated with Construction and Land Disturbance Activities (2009 General Permit; SWRCB 2012), which requires the preparation of a storm water pollution prevention plan (SWPPP) for discharges regulated under the SWRCB program and applies to construction activities resulting in a land disturbance of 1 acre or more, or less than 1 acre but part of a larger common plan of development. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. As part of a SWPPP, best management practices (BMPs) are required to reduce impacts to the maximum extent practicable to prevent or reduce stormwater pollution through treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

NPDES Municipal Stormwater Permitting Program

The Municipal Stormwater Permitting Program regulates stormwater discharges from municipal separate storm sewer systems. Storm water is runoff from rain or snowmelt that runs off surfaces such as rooftops, paved streets, highways or parking lots and can carry with it pollutants such as oil, pesticides, herbicides, sediment, trash, bacteria, and metals. The runoff can then drain directly into a local stream, lake, or bay. Often, the runoff drains into storm drains that eventually drain untreated runoff into a local water body. Under this program, the North Coast RWQCB regulates urban runoff discharges under the NPDES permit regulations, including from point discharge sources (i.e., industrial outfall discharges) and non-point discharge sources (i.e., stormwater runoff) sources.

California Water Code, Water Supply

According to California Water Code (CWC) Section 10910 (referenced in State CEQA Guidelines Section 15155), lead agencies are required to identify the public water system(s) that would serve a project and assess whether the water supply is sufficient to provide for projected water demand associated with a project when existing and future uses are also considered (CWC Section 10910[c][3]). The definition of a water-demand project is the same as State CEQA Guidelines Section 15155.

California Water Code, Water Supply Wells and Groundwater Management

The CWC is enforced by the California Department of Water Resources (DWR). DWR's mission is "to manage the water resources of California in cooperation with other agencies, to benefit the state's people, and to protect, restore, and enhance the natural and human environments." DWR is responsible for promoting California's general welfare by ensuring beneficial water use and development statewide. The laws regarding groundwater wells are described in CWC Division 1, Article 2 and Articles 4.300 to 4.311; and Division 7, Articles 1-4. Further guidance is provided by bulletins published by DWR, such as Bulletins 74-81 and 74-90 related to groundwater well construction and abandonment standards.

Groundwater Management is outlined in the CWC, Division 6, Part 2.75, Chapters 1-5, Sections 10750 through 10755.4. The Groundwater Management Act was first introduced in 1992 as Assembly Bill (AB) 3030 and has since been modified by Senate Bill (SB) 1938 in 2002, AB 359 in 2011, and AB 1739 in 2014. The intent of the Groundwater Management Act is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing a Groundwater Management Plan. More information related to groundwater is provided in Section 3.9, "Hydrology and Water Quality."

Water Conservation Act of 2009

Requirements regarding per capita water use targets are defined in the Water Conservation Act of 2009 that was signed into law in November 2009 as part of a comprehensive water legislation package. Known as SB X7-7, the legislation sets a goal of achieving a 20-percent reduction in urban per capita water use statewide by 2020. SB X7-7 requires that retail water suppliers define in their 2010 urban water management plans the gallons-per-capita-per-day targets for 2020, with an interim 2015 target.

California's Integrated Waste Management Act of 1989

The California Integrated Waste Management Act (CIWMA) of 1989 created the California Integrated Waste Management Board, now known as CalRecycle. CalRecycle is the agency designated to oversee, manage, and track California's 92 million tons of waste generated each year. CalRecycle provides grants and loans to help cities, counties, businesses, and organizations meet the state's waste reduction, reuse, and recycling goals. CalRecycle promotes a sustainable environment in which these resources are not wasted but can be reused or recycled. In addition to many programs and incentives, CalRecycle promotes the use of new technologies to divert resources away from landfills. CalRecycle is responsible for ensuring that waste management programs are carried out primarily through local enforcement agencies.

The CIWMA is the result of two pieces of legislation: AB 939 and SB 1322. The CIWMA was intended to minimize the amount of solid waste that must be disposed of through transformation and land disposal by requiring all cities and counties to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000.

The 50 percent diversion requirement is measured in terms of per capita disposal expressed as pounds per day per resident and per employee. The per capita disposal and goal measurement system uses an actual disposal measurement based on population and disposal rates reported by disposal facilities, and it evaluates program implementation efforts.

Mandatory Recycling Requirements

AB 341 requires CalRecycle to issue a report to the legislature that includes strategies and recommendations that would enable the state to recycle 75 percent of the solid waste generated in the state by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by July 1, 2012, and also streamlines various regulatory processes.

Mandatory Commercial Organics Recycling Requirements

In October 2014, AB 1826 Chesbro (Chapter 727, Statutes of 2014) was signed into law, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings of five or more units (multifamily dwellings are not required to have a food waste diversion program, however). Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Senate Bill 1374

SB 1374, Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required CalRecycle to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

Short-Lived Climate Pollutant Reduction Strategy

In September 2016, SB 1383 (Lara, Chapter 395, Statutes of 2016) was signed into law, establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants in various sectors of California's economy. Actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

As it pertains to solid waste, SB 1383 establishes targets to achieve a 50-percent reduction in the volume of statewide disposal of organic waste from 2014 levels by 2020 and a 75-percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. To meet these goals, universities would be required to divert organic waste, including edible food, from disposal at landfills. Rulemaking activities associated with SB 1383 are currently in process.

CALIFORNIA STATE UNIVERSITY

California State University Sustainability Policy

In the Spring of 2022, The California State University (CSU) Board of Trustees adopted an update to the CSU system-wide Sustainability Policy, which was first adopted in 2014 with subsequent updates in 2019 and 2020. The current update became effected March 23, 2022. The Sustainability Policy aims to reduce the environmental impact of construction and operation of buildings and to integrate sustainability across the curriculum and includes updates to previously adopted policies. These include the CSU energy policy that was established in 1978 and sustainable building and design practices that were adopted in 2004 to promote efficient buildings with a reduced environmental impact, while serving the campus.

The CSU Sustainability Policy established the following goals related to utilities that are applicable to the project:

Water Conservation

- Water resource conservation to reduce water consumption by 10 percent by 2030 including such steps to develop sustainable landscaping, install controls to optimize irrigation water use, reduce water usage in restrooms and showers, and promote use of reclaimed/recycled water. In the event of a declaration of drought, the CSU will cooperate with the state, city, and county governments to the greatest extent possible to reduce water consumption.

Waste Management

- Reduce the solid waste disposal rate by 50 percent (PRC Section 42921) by 2030, by 80 percent by 2040, and move to zero waste.

- To move to zero waste: (1) encourage use of products that minimize the volume of trash sent to landfill or incinerators; (2) participate in the CalRecycle Buy-Recycled program or equivalent; and (3) increase recycled content purchases in all Buy Recycled program product categories.
- Report on all recycled content product categories, consistent with Public Contract Code Sections 12153–12217.

Cal Poly Humboldt Climate Action Plan

The Cal Poly Humboldt Climate Action Plan 2.0 outlines strategies to achieve carbon neutrality by 2045, as well as to incorporate sustainability and climate action into the campus' research and academic operations through a variety of actions and strategies, including solid waste reduction. The following goals and strategies of the CAP 2.0 are relevant to solid waste as follows:

- **Solid Waste & Purchasing (SWP) Goal 1:** Humboldt is a zero waste campus by 2045
  - Strategy 1.1 Develop and implement a Zero Waste Action Plan to achieve 50% below 2015 levels by 2030 and 80% below 2015 levels by 2040 for residential and commercial waste (measured in pounds per person per day, or PPD)
  - Strategy 1.2 Reduce waste associated with campus resident move-out by 25% below 2019 levels by 2025
- **SWP Goal 2:** Reduce non-hazardous construction and demolition waste going to the landfill
  - Strategy 2.1 Divert a minimum of 65% of non-hazardous construction and demolition waste; by 2030 increase diversion rate to 75%.
- **SWP Goal 3:** By 2030 prioritize the procurement and use of materials, goods, and supplies that are recycled, reused, repurposed or returned at the end of life.
  - Strategy 3.1 Implement policies and procedures to maximize the use of suppliers and vendors with sustainable practices in campus contracting activities.
- **SWP Goal 4:** Reduce the embodied carbon of specified construction materials by 50% of 2022 levels by 2030
  - Strategy 4.1 Reduce Scope 4 emissions by only purchasing specified building materials with a global warming potential below the industry average.

LOCAL

Cal Poly Humboldt is part of the CSU, which is a statutorily and legislatively created, constitutionally authorized State entity, and the project site is owned by the CSU. As explained in the "California State University Autonomy" section in Chapter 3 of this EIR, the CSU is not subject to local government planning and land use plans, policies, or regulations. Nevertheless, in the exercise of its discretion, Cal Poly Humboldt does reference, describe, and address local plans, policies, and regulations where appropriate and for informational purposes. This evaluation is also intended to be used by local agencies for determining, as part of their permit processes, the project's consistency with local plans, policies, and regulations.

City of Arcata General Plan

The City of Arcata General Plan contains the following goals and policies pertaining to utilities:

- **Policy PF-2: Wastewater Collection, Treatment, and Disposal.** Collect and treat wastewater to achieve safe water quality standards, utilizing the City's internationally renowned marsh treatment facility.
- **Policy PF-3: Stormwater Management.** Implement the City's drainage master plan to utilize natural drainage systems; minimize increases in stormwater runoff, flooding, and erosion; maintain the integrity of stream hydrology; reduce pollutant loads; and acquire easements and properties for effective drainage management.

- **Policy PF-6: Integrated Waste Management.** Reduce solid waste generation at the source; maximize re-use and repair of appropriate items and material; promote composting and recycling; and properly transport non-recyclable solid waste to disposal sites.

City of Arcata Urban Water Management Plan

As a public water supplier, the City of Arcata is required under State law to prepare and adopt an UWMP and to update it every 5 years. The 2020 plan was adopted by City Council in June 2021. The 2020 UWMP covers:

- A description of the City's water service area, including current and projected population through the year 2040 and other factors affecting water management planning,
- Existing and planned sources of water supply,
- Past, current, and projected water use,
- An assessment of forecasted water supplies and demands during normal, dry, and multiple dry water years to ensure water supply reliability,
- A description of measures to promote water conservation and efficient water use, and
- A summary of the City's water shortage contingency plan.

Data and analyses from the UWMP are included in the discussion below.

City of Arcata Drainage Master Plan

In 1997, the City prepared and adopted a drainage master plan that is intended to guide stormwater management within the City. The plan includes a hydrological analysis, drainage management alternatives, an operational plan, a needs assessment, and a capital improvement program. At the time that the plan was completed, there were 900 acres of impervious surface, including buildings and paved areas, within the City), 40 percent of which was the public street system. The Master Plan projected that, at buildout of the City of Arcata General Plan, there would be 1,582 acres of impervious surfaces across the city.

City of Arcata Stormwater Management Program

In response to SWRCB Water Quality Draft Order No. 2003–0005–DWQ1 (General Permit No. CAS000004) for NPDES Phase II, the City of Arcata prepared a storm water management program (SWMP) (City of Arcata 2005). The SWMP applies to the 11-square-mile area of the City and is intended to protect the health of the recreational public and the environment, meet CWA mandates through compliance with Phase II NPDES Permit requirements and applicable regulations, and foster heightened public involvement and awareness. Although none of the small urban streams in or near the City have been identified as "impaired," by the 303(d) list, the Mad River is listed as impaired due to temperature, sediment, turbidity and siltation. Humboldt Bay, which receives runoff from the City, is listed as "impaired" by the State of California for polychlorinated biphenyls (PCBs). Neither of these water bodies are located adjacent to the site, but the project site is located within the SWMP area.

3.12.2 Environmental Setting

WATER

Water Supply

Potable water is provided within the City by Humboldt Bay Municipal Water District (HBMWD) through surface water rights to Mad River via Ruth Lake Reservoir. HBMWD water supplies enter the City's water delivery infrastructure system at the Alliance Road Transfer Station, Aldergrove Intertie Station, and the Wymore Road Intertie. Additionally, the City has access to a secondary source of potable water, via a groundwater well (referred to as the Heindon Well). Historically, the well has been used to diversify the City's water supplies and is primarily used as a backup to surface water supplies provided by HBMWD. Use of the well was discontinued in 2015 due to concerns of sustainable groundwater yields, but use of the groundwater well is intended to resume in 2022 using the calculated safe yield of 500,000 gallons per day (gpd) or 183 gallons per year (City of Arcata 2021).

Through agreements with HBMWD, the City has rights to 1,186 million gallons per year (MGY) of surface water supplies via Ruth Lake Reservoir, which does not exceed the sustainable yield for the reservoir (City of Arcata 2020). In 2020, the City used approximately 50 percent of this volume and is projected to use up to 63 percent of its 1,186 MGY allotment by 2045. This calculation does not include the re-initiation of groundwater pumping via Heindon Well that would offset the demand for surface water supplies from HBMWD, which would increase the level of available water supplies to the City to 1,369 MGY (City of Arcata 2021). Table 3.12-1 shows the City's existing and projected water supplies by supply source.

Table 3.12-1 City of Arcata Existing and Projected Normal Year Water Supplies, MGY

Supply Source	2020	2025	2030	2035	2040
Surface Water (HBMWD)	1,186	1,186	1,186	1,186	1,186
Groundwater (Heindon Well)	183	183	183	183	183
Total	**1,369**	**1,369**	**1,369**	**1,369**	**1,369**

Notes: MGY = million gallons per year

Source: City of Arcata 2021.

Based on information provided in the City of Arcata UWMP, the water supplies identified above are anticipated to be available under normal, single-dry-year, and multiple-dry-year conditions. Table 3.12-2 identifies the projected demands compared to available supplies under all three conditions.

Table 3.12-2 City of Arcata Water Supply and Demand in Normal Years, Single Dry Years and Multiple Dry Years, MGY

	2025	2030	2035	2040	2045
Normal Year					
Supply Totals	1,369	1,369	1,369	1,369	1,369
Demand Totals	651	685	721	759	800
Difference	718	684	648	610	569
Demand Served, %	100%	100%	100%	100%	100%
Single Dry Year					
Supply Totals	1,369	1,369	1,369	1,369	1,369
Demand Totals	651	685	721	759	800
Difference	718	684	648	610	569
Demand Served, %	100%	100%	100%	100%	100%
Multiple Dry Year					
First Year					
Supply Totals	1,369	1,369	1,369	1,369	1,369
Demand Totals	651	685	721	759	800
Difference	718	684	648	610	569
Demand Served, %	100%	100%	100%	100%	100%
Second Year					
Supply Totals	1,369	1,369	1,369	1,369	1,369
Demand Totals	651	685	721	759	800
Difference	718	684	648	610	569

	2025	2030	2035	2040	2045
Demand Served, %	100%	100%	100%	100%	100%
Third Year					
Supply Totals	1,369	1,369	1,369	1,369	1,369
Demand Totals	651	685	721	759	800
Difference	718	684	648	610	569
Demand Served, %	100%	100%	100%	100%	100%
Fourth Year					
Supply Totals	1,369	1,369	1,369	1,369	1,369
Demand Totals	651	685	721	759	800
Difference	718	684	648	610	569
Demand Served, %	100%	100%	100%	100%	100%
Fifth Year					
Supply Totals	1,369	1,369	1,369	1,369	1,369
Demand Totals	651	685	721	759	800
Difference	718	684	648	610	569
Demand Served, %	100%	100%	100%	100%	100%

Notes: MGY = million gallons per year

Source: City of Arcata 2021.

The project site is currently served by existing City water distribution infrastructure and is located within Zone 1 of the City's network. Eight-inch water lines are located to the north, south, and east of the project site and are connected to a well-developed and looped pipe network through the zone (LACO 2022a). Existing water demand for the site, based on the existing Craftsman's Mall and other uses including three single-family residences, is estimated to be approximately 19,200 gpd or 7 MGY (LACO 2022a). Further, under post-project conditions, taking into consideration documented student resident water demand at Cal Poly Humboldt's main campus currently, each student resident is projected to consume/use up to 50 gpd of potable water, resulting in a total demand at the project site of 48,200 gpd or 17.6 MGY.

WASTEWATER

The project site is located within the northern central portion of the City and is currently connected to the City's municipal wastewater treatment system. Arcata's wastewater collection system consists of pipes, manholes, and lift stations. The collection system drains via gravity, to eight lift stations. Wastewater is pumped from the lift stations to the City's wastewater treatment plant (WWTP).

There is an existing 8-inch sewer line serving the site that enters the northeast corner of the site from St. Louis Road, traverses the central portion of the site, and exits through Eye Street. As the gravity-fed system south, the sewer line connects to a 10-inch line at Janes Creek and Acheson Way, an 18-inch line in Wyatt Lane, and then a 21-inch line before connecting to the WWTP.

The City's WWTP is located within the southern portion of the City on 130 acres of City-owned land at the northeast edge of Humboldt Bay. First constructed in 1949, the WWTP has undergone various upgrades over the years and the City is current implementing Phase 1 of the WWTP Facility Plan and Plant Improvement Project, which would update aging infrastructure in compliance with RWQCB Order No. 1-2019-0006. The WWTP is designed for an average dry weather flow of 2.3 million gallons per day (mgd) and a peak dry weather flow of 5.0 mgd (City of Arcata 2020). Currently, the City's WWTP is receiving an average dry weather flow of 1.1 mgd and a peak dry weather flow of 1.8 mgd.

It should be noted that these values reflect recent efforts by the City to address inflow and infiltration issues within its existing collection system. For example, the City replaced 9.65 miles of piping, including cured-in-place pipe and PVC piping, which result in an 80 million gallon decrease in inflow to the WWTP. Based on a 20 percent growth factor, as outlined in the City's General Plan through 2045, flows are anticipated to increase to an average dry weather flow of 1.3 mgd and a peak dry weather flow of 2.2 mgd (City of Arcata 2020).

STORMWATER

The City operates a stormwater drainage system that includes gutters and drop inlets associated with streets, as well as ditches, culverts, basins, creeks, and the Arcata Marsh. There are eight creeks traversing the City's urban area that accept stormwater runoff. As noted above, the City maintains and implements both a citywide Drainage Master Plan and SWMP to ensure that stormwater runoff is collected, treated, and conveyed appropriately and in accordance with CWA and NPDES requirements.

The majority of the project site is located on an elevated terrace that is at similar elevation as US 101 and has a gentle slope downwards towards the west. The western edge of the project site is undeveloped and located at an elevation approximately 15-20 feet lower than the majority of the site. Along the western boundary of the project site is an approximately 350-foot-long stormwater pipe that is shared with the residential neighborhood to the west and located within the backyards of the residences located immediately to the west of the project site. The site's connection to this stormwater pipe is provided via a drainage inlet and culvert along the western edge of the project site that drains limited surface runoff from the elevated developed portion of the site. The existing stormwater pipe has been identified by the City as having structural issues that have contributed to localized flooding within the adjacent backyards. No other stormwater collection system or connections to off-site facilities are present on the project site. The aforementioned pipe to the west of the project site extends in a north-south direction within the backyards of the single-family residences along the western edge of the project site before connecting to an 18-inch concrete pipe that heads west toward Maple Lane. The 18-inch concrete pipe then connects to the broader City stormwater system and ultimately flows into Janes Creek (west of the single-family residential neighborhood) and Arcata Bay. Additionally, a 36-inch storm drain is located within Eye Street approximately 300 feet to the south of the project site. The 36-inch storm drain has an existing outfall to Janes Creek, as part of the broader City stormwater system.

SOLID WASTE

Residences within the City receive curbside solid waste collection services from the City's franchise contractor, Recology Arcata. Solid waste was previously transported to the Humboldt Waste Management Authority's (HWMA) Hawthorne Street Transfer Station in Eureka. Solid waste is then shipped to the Dry Creek Landfill, in Medford, Oregon, and the Anderson Landfill, in Anderson, California. There are also recycling drop off centers at Humboldt Sanitation in McKinleyville and Eel River Resource Recovery in Samoa. HWMA previously operated a recycling center in Eureka, however, this facility was closed on August 1, 2022. HWMA intends to offer recycling services again in 2023, however, further information regarding the extend and location of HWMA recycling services was not available as of the writing of this EIR.

The Dry Creek Landfill is located in Jackson County, Oregon and receives approximately 2,000 tons of solid waste per day. Expanded in 1999 to a regional facility, the landfill is anticipated to have available capacity (based on current projected disposal rates) for more than 100 years from the date of its expansion. (Rogue Disposal & Recycling 2022). The Anderson Landfill is located in Shasta County, California and is currently permitted to receive 1,850 tons per day. The Anderson Landfill has a maximum permitted capacity of 16,353,000 cubic yards and a remaining capacity of 10,409,132 cubic yards. The Anderson Landfill is projected to close in 2093 (CalRecycle 2022a).

ENERGY FACILITIES

The Pacific Gas and Electric Company (PG&E) provides both natural gas and electricity to customers in the City and to Cal Poly Humboldt. PG&E generates electricity at hydroelectric (27 percent), nuclear (44 percent), and renewable (29 percent) facilities (PG&E 2020). PG&E owns and operates overhead electric transmission and electric distribution facilities as well as gas transmission facilities throughout the City. Overhead electric distribution lines extend along the northern edge St. Louis Road as it borders the project site, as well as along the eastern boundary of the project site. There are also current connections to natural gas pipelines within St. Louis Road that extend to the residential uses at the project site.

TELECOMMUNICATIONS

Telecommunications service is available from a variety of providers in the Arcata area, including HughesNet, AT&T, and Earthlink. In addition, Cal Poly Humboldt's Information Technology Services designs, installs, and maintains the wired network infrastructure on campus, including academic and administrative facilities. WiFi connections are also available on campus to students, staff, and visitors while on campus and are similarly managed by Cal Poly Humboldt's Information Technology Services.

3.12.3 Environmental Impacts and Mitigation Measures

ANALYSIS METHODOLOGY

Impacts on utilities that would result from implementation of the project were identified by comparing existing and projected service capacity against future demand associated with project implementation. When possible, a quantitative comparison was used to determine impacts of the project on future demands. Details related to methodology are provided below.

Water and Wastewater Infrastructure

Impacts related to water demand and wastewater generated and on associated infrastructure that would result from the project were identified by determining adequacy of existing infrastructure and comparing existing service capacity against future demand associated with project implementation. When possible, a quantitative comparison was used to determine impacts of the project on future demands, as indicated in the project-specific water and sewer system analyses (LACO 2022a; 2022b). Evaluations of potential utilities impacts are based on preliminary engineering evaluations, as well as personal communications and information pertaining to the project with Cal Poly Humboldt and the City. Additional information was obtained through consultation with appropriate agencies and review of letters received during the scoping period.

Stormwater

Evaluation of potential impacts to stormwater facilities is based on a review of existing documents and engineering evaluations that address the level of permeable and impermeable surfaces occurring at the project site, before and after project implementation. Information obtained from these sources was reviewed and summarized to describe existing stormwater conditions and to identify potential environmental effects. In determining the level of significance, the analysis assumes that the project would comply with relevant required federal, state, and local laws, ordinances, and regulations.

Solid Waste

The solid waste analysis evaluates the potential increased waste generation from project implementation, based on the average disposal rate for residents in 2020 of 2.7 pounds per day (lb/day) within the City as determined by CalRecycle (CalRecycle 2022b). In addition, Cal Poly Humboldt policies and procedures were evaluated for consistency with attainment of solid waste reduction goals, and other statutes and regulations associated with solid waste. Estimated waste generation for the project was evaluated against remaining capacity for local/regional landfills that may serve the project to determine whether additional solid waste disposal capacity would be necessary as a result of project implementation.

Energy

Electricity

Impacts related to electricity were evaluated by determining whether PG&E would be able to serve the projected energy demands from the project, whether any new facilities would need to be constructed to serve the project, and if construction of electrical improvements would be required, whether it would adversely affect PG&E electrical capacity or infrastructure, or interrupt utility service during construction.

Natural Gas

Consistent with CSU Sustainability Policy, the project would not include the provision of natural gas, and as such impacts related to the increase in demand for natural gas infrastructure are not considered. Impacts were evaluated by determining whether any utility services would be interrupted during construction.

Telecommunications

Impacts related to telecommunications were evaluated by determining whether existing telecommunication facilities in the area would be removed or otherwise interrupted as a result of project implementation.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, a utilities and service systems impact would be significant if implementation of the Student Housing Project would:

- require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand, in addition to the provider's existing commitments;
- generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

ISSUES NOT DISCUSSED FURTHER

Increases in Demand for Groundwater

As described above, the City has historically augmented its water supplies via the Heindon Well, which is currently not being used, but re-initiation of pumping is anticipated in 2022. Upon re-initiation, the City would not exceed the identified sustainable yield for the well of 500,000 mgd to ensure that groundwater remains a reliable part of the City's water supply portfolio. The demand for groundwater would not change with implementation of the proposed project (refer to Impact 3.12-1 for further clarification). Therefore, groundwater demand is not evaluated further in terms of water supply availability.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: Have Insufficient Water Supplies Available to Serve the Project and Reasonably Foreseeable Future Development during Normal, Dry and Multiple Dry Years

The estimated water demand under post-project conditions is 48,200 gpd or 17.6 MGY, a projected net increase of 10.6 MGY above existing conditions for the project site. This increase in potable water demand would not exceed available supplies during normal, single-dry, and multiple-dry year conditions. Consequently, the City would have adequate water supply to serve the project under all scenarios. Further, the project would also reduce its gross projected water demand through project design and implementation of water conservation measures that would meet or exceed CALGreen Water Efficiency measures, as required for Leadership in Energy and Environmental Design version 4 (LEED v4) certification. This impact would be **less than significant**.

As noted above, existing uses at the project site include the Craftsman's Mall and three residential buildings. Existing water demand for these uses at the site is estimated to be 19,200 gpd or 7 MGY (LACO 2022a). Implementation of the project would result in 964 new student residents on-site, which would increase potable water demand at the site. Taking into consideration documented student resident water demand at Cal Poly Humboldt's main campus currently, each student resident is projected to consume/use up to 50 gpd of potable water, resulting in a total demand at the project site of 48,200 gpd or 17.6 MGY. Compared to existing conditions, this would correlate to a net increase in potable water demands at the site of 29,000 gpd or 10.6 MGY.

As stated above, the Board of Trustees of the CSU, as lead agency under CEQA for the project, is required to identify the public water system that would serve the project and assess whether the water supply is sufficient to provide for projected water demand associated with a project when existing and future uses are also considered. Also explained above, the City is the water purveyor for the project site. The project-related additional water demand of 10.6 MGY would represent approximately 1.6 percent of the City's overall system demand of 651 MGY in 2025 (LACO 2022a). The City is projected to have surplus water supplies ranging from 718 MGY in 2025 to 569 MGY in 2045 during normal, single-dry, and multiple-dry years (see Table 3.12-2) (City of Arcata 2021). As a result, the surplus potable water supplies available to the City would accommodate the additional demand associated with the project.

Additionally, implementation of the project would include water conservation measures that aim to meet or exceed current CALGreen Water Efficiency measures and as required for LEED v4 Certification. The landscaping irrigation system within the project site would be designed to utilize rainwater captured on-site and would comply with the State's Model Water Efficient Landscape Ordinance. Because the project would implement water efficiency measures, the project-related estimated water demand identified above is considered a reasonably conservative estimate. The City would have adequate water supplies to serve the project during operation. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.12-2: Require or Result in the Relocation or Construction of New or Expanded Water Infrastructure

Development of the project site would increase demands on water infrastructure in the vicinity of the project site. Based on modeling conducted of potential fire flow requirements, which would result in the greatest hydraulic demand on local infrastructure, existing water pipelines in the area are anticipated to provide adequate fire flow and daily water supplies to accommodate the demands generated at the project site. As a result, impacts would be **less than significant**.

As noted in Impact 3.14-1, maximum daily demand for potable water by development within the project site would be approximately 48,200 gpd. Estimate fire flow needs of the project are 6,000 gallons per minute based on California Fire Code (LACO 2022a). Taking into account existing uses at the project site, the total net increase in water demand is anticipated to be 29,000 gpd as a result of the project. The project would require the expansion of water conveyance facilities within the site, including new looped water lines and tie-ins to the existing water lines in St. Louis Road to serve the proposed residential structure. As noted above, the project site is currently served by existing City water distribution infrastructure within Zone 1 of the City's network. More specifically, 8-inch water lines are located to the north, south, and east of the project site (LACO 2022a). Based on preliminary engineering analysis, adequate capacity is available within the existing City infrastructure to which the project would connect for both daily demand and fire flow requirements (LACO 2022a). Prior to construction, project plans, including on-site water meter and hydrant placement and other requirements, will be reviewed by the Office of the State Fire Marshall, in accordance with California Fire Code requirements to insure adequate fire flow to the proposed development. As a result, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.12-3: Require or Result in the Relocation or Construction of New or Expanded Wastewater Collection and Treatment Infrastructure

Development of the project would increase wastewater generation and demands on wastewater infrastructure in the vicinity of the project site and in the City. Based on sewer generation rates for student housing at Cal Poly Humboldt, existing sewer pipelines in the area appear to have adequate capacity to accommodate peak wet weather flows with operation of the project. However, due to historic inflow and infiltration issues within the City's wastewater collection system, capacity will need to be verified prior to construction. As a result, this impact is **significant**.

The project would be served by the City's existing sewer collection and treatment infrastructure, including the City WWTP and the 8-inch sewer line that traverses the project site. As noted in Chapter 2, "Project Description," a portion of this line would be relocated within the project site in order to provide adequate clearance and ease of access in light of the proposed structure placement on-site. Buildout of the project site would generate up to 0.05 mgd of wastewater on average with an average daily flow rate of 0.07 cubic feet per second (cfs), as shown in Table 3.12-3. peak flows, assuming a peaking factor of 2.5, would be 0.12 mgd with a peak flow rate of 0.18 cfs.

Table 3.12-3 Estimated Wastewater Generation

Category	Wastewater Flows
Project Wastewater Generation	
Average dry weather flow, mgd	0.05
Average daily flow rate, cfs	0.07
Peak wet weather flow, mgd	0.12
Peak wet weather flow rate, cfs	0.18
Existing average flow rate within 8-inch sewer line, cfs[a]	0.37
Existing peak flow rate within 8-inch sewer line, cfs[a]	0.92
Average flow rate with project, cfs	0.40
Peak flow rate with project, cfs	1.07
Flow capacity of pipe, cfs	1.64
Would flows within pipe exceed 75% of capacity with project?	No

[a] Includes 800 gal/acre/day of inflow and infiltration for existing uses.

Source: LACO 2022b.

Based on a review of City GIS data, the City's existing 8-inch sewer line within Olive Drive has a pipe slope of 1.84 percent, which corresponds to a full-pipe capacity of 1.64 cfs (LACO 2020b). As a result, peak wet weather flows as a result of development within the project site are not anticipated to exceed 75 percent of the capacity of the existing infrastructure in the immediate vicinity of the project site. However, due to historic inflow and infiltration issues within the City's wastewater collection system, the potential exists for flows within existing sewer lines serving the project site to exceed available capacity.

With respect to the City's WWTP capacity, existing capacity (based on average dry weather flows) is approximately 2.3 mgd, with a peak dry weather flow capacity of 5.0 mgd (City of Arcata 2020). Taking into account the potential for buildout of the City's General Plan, as stated above, 1.0 mgd of average dry weather flow surplus capacity would remain. As shown above in Table 3.12-3, the project's anticipated wastewater generation would be approximately 0.06 mgd. As a result, adequate capacity is available at the City's WWTP under existing and future (General Plan buildout) conditions to handle the wastewater generated by the project.

Therefore, although adequate capacity is considered available both within sewer lines serving the project site and at the City's WWTP to handle the wastewater generated at the project site, the potential exists for inflow and infiltration to contribute additional flows within sewer lines connecting to the project site and result in inadequate capacity. As a result, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.12-3: Verification and Potential Upsizing of Sewer Connection

Prior to initiation of construction, Cal Poly Humboldt shall coordinate with the City of Arcata and conduct a refined engineering analysis, including flow monitoring, of the existing sewer lines between the project site and the existing 10-inch sewer line located at Janes Creek and Acheson Way to confirm adequate flow capacity. If determined necessary, Cal Poly Humboldt shall replace the existing 8-inch sewer line that extends from the project site with a 10-inch pipe. Should additional sewer pipe upsizing be deemed necessary through coordination with the City, Cal Poly Humboldt shall replace those pipes before occupancy of on-site uses.

Significance after Mitigation

With implementation of Mitigation Measure 3.12-3, the impact on sewer facilities would be **less than significant**. It should be noted that the impacts associated with replacement of the 10-inch sewer line are addressed as part of this EIR.

Impact 3.12-4: Require or Result in the Relocation or Construction of New or Expanded Stormwater Drainage Facilities

Development of the project site would increase the level of impervious surfaces due to the additional structures and paved areas (e.g., parking lots, walkways, etc.), which could increase the level of stormwater runoff generated at the project site. This impact would be **significant**.

The project site is currently developed with the existing Craftsman's Mall and several residential structures. However, the majority of the project is unpaved. The northwestern portion of the project site is located at a lower elevation than the remainder of the project site and drains to an existing culvert along the site's western boundary and to Janes Creek. Development of the project would provide a student housing complex, surface parking, and recreational amenities at the project site, which would result in an increase in impervious surfaces. However, no development is proposed within the northwestern corner of the site. The project would also provide a connection to existing City stormwater infrastructure either to the west of the project site or to an existing 36-inch storm drain located within Eye Street (see Chapter 2, "Project Description.")

The increase in impervious land that would occur with development of the project site with the proposed student housing complex could increase runoff to the west and other areas of the site, including Eye Street. Furthermore, increased impervious areas that may drain directly into Janes Creek via overland flow would also be susceptible to increased erosion and gullying, as well as localized erosion along Janes Creek from the sudden and concentrated increase in runoff. To reduce the impact of increased runoff, Cal Poly Humboldt would adhere to applicable requirements related to retention of stormwater flows on-site. The project would include on-site detention, which would allow sediment particles and certain pollutants to settle before entering the watershed. On-site stormwater facilities and drains would be constructed to direct runoff to on-site detention areas. These areas, which may include the greenscaped portions of the project immediately adjacent to the proposed student housing complex, would be designed to retain flows for up to 24 hours.

Other LID methods would be implemented to maintain pre-project runoff levels, including design considerations when planning roads, parking lots, buildings, or landscaping, would be incorporated. Additional information about the drainage characteristics (including runoff volume, time of concentration, and detention volume) and information on proposed detention basins (such as capacity, design, and detention times) would need to be available to further evaluate compliance with the appropriate flood control requirements. Because final drainage design specifications have not been completed, including stormwater flow paths and magnitudes based on a finalized site plan, development of the project site has the potential to cause an increase in surface runoff that would exceed the capacity of the stormwater drainage system, resulting in on-site and off-site flooding and erosion. As a result, this impact would be considered **significant**.

Mitigation Measures

Mitigation Measure 3.12-4: Verification and Design of Stormwater Infrastructure

Before any construction-related ground disturbance, Cal Poly Humboldt shall complete final drainage plans, which shall be reviewed with the City with respect to the potential connection to City stormwater infrastructure. Plans shall demonstrate that all runoff shall be appropriately conveyed through the project site and not leave the site at rates exceeding pre-project runoff conditions. The drainage design for the contemplated development shall limit the 10-year and 100-year peak runoff from the project site to no more than pre-project conditions. The plan shall include, but not be limited to, the following items:

- An accurate calculation of pre-project and post-project runoff scenarios, obtained using appropriate engineering methods, that accurately evaluates potential changes to runoff, including increased surface runoff;
- A description of the proposed maintenance program for the on-site drainage system; project-specific standards for installing drainage systems; and
- The final drainage plan shall meet the necessary requirements, which requires that 100-year flood flows be appropriately channeled and contained, such that the risk to people or damage to structures within or down gradient of the project site do not occur.

New storm drainage facilities shall be constructed in accordance with the final drainage plans, and existing facilities reconfigured in order to accommodate increased surface flows associated with the project's increase in impervious surfaces. Final project design shall incorporate design features that shall minimize flood risk by controlling the anticipated increase in flow and stormwater runoff and reduce off-site runoff to rates not exceeding pre-project conditions.

New detention basins or ponds shall temporarily detain stormwater runoff to allow sediment and other pollutants to settle and prevent them from flowing directly into receiving water bodies. The facilities shall adhere to the requirements of the existing NPDES permit, including the associated monitoring and reporting program. However, expanded or entirely new detention basins may need to be constructed. The final drainage plan shall also specify any treatments necessary to protect earthen channels from erosion, and modifications that may be needed to existing underground pipe and culvert capacities.

Other LID methods shall be used to maintain pre-project runoff levels, including planning and design considerations for buildings, landscaping, parking lots, and roads that maximize runoff infiltration into the ground and reduce the peaks of stormwater hydrographs. All North Coast RWQCB requirements shall be followed in the development of the final drainage plan.

Significance after Mitigation

Implementation of the Mitigation Measure 3.12-4 would reduce the potential impact associated with increased surface runoff that could exceed the capacity of the stormwater drainage system, thereby resulting in potential on-site and off-site flooding and water quality pollutants to a **less-than-significant** level by providing adequate on-site storm drainage retention/detention facilities to accommodate the potential stormwater demands and runoff from the project site to rates not exceeding pre-development conditions.

Impact 3.12-5: Generate Solid Waste in Excess of State or Local Standards or in Excess of the Capacity of Local Infrastructure or Otherwise Impair the Attainment of Solid Waste Reduction Goals or Requirements

Implementation of the project would increase solid waste generation at the project site. However, adequate landfill capacity is available at local and regional landfills to accommodate additional solid waste generated by the project. Compliance with the CSU Sustainability Policy would continue to reduce landfill contributions, consistent with CIWMA, AB 341, AB 1826, SB 1374, and SB 1383. This impact would therefore be **less than significant**.

The project is estimated to generate up to 2,000 cubic yards of debris during construction and site clearing activities. In accordance with Section 5.408 of the CALGreen Code, the project would implement a Construction Waste Management Plan for recycling and/or salvaging for reuse of a minimum of 65 percent of nonhazardous construction and demolition debris generated during project construction. Additionally, the project would also be required to meet LEED v4 requirements for waste reduction during construction.

At buildout, the project would accommodate up to 964 student residents. Based on average waste generation rates in 2020 for the City of Arcata for residents (2.7 lb/day/resident), operation of the project is estimated to generate approximately 2,860 pounds (1.43 tons or 1.9 cubic yards) per day of solid waste or approximately 520 tons (700 cubic yards) of waste annually. Cal Poly Humboldt would be required to recycle a minimum of 50 percent of the waste generated on the project site, per requirements for State agencies and entities under AB 75 and AB 939. As noted above, Recology provides solid waste collection services in the project area and would be expected to serve the project site. As a commercial solid waste hauler, Recology can dispose of the collected waste at any landfill facility or transfer station they select.

As noted above, two landfills (Anderson Landfill and Dry Creek Landfill) and recycling and transfer stations are located throughout the region and would be available to serve the project. For the purposes of this analysis, it is conservatively assumed that all waste associated with the project would be routed to one location (i.e., Anderson Landfill). As noted above, Anderson Landfill is currently permitted to receive 1,850 tons per day and has a total remaining capacity of 10,409,132 cubic yards. Waste generated by the project would represent 0.07 percent of the Anderson Landfill's daily capacity and 0.006 percent (using the projected annual solid waste generated by the project) of the landfill's remaining capacity. As such and considering the expected closure dates of both landfills that may serve the project, there is adequate capacity at landfills in the region for disposal of solid waste generated by this project. Additionally, the project would comply with applicable State and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. Thus, project would not generate solid waste in excess of State standards, substantially affect landfill capacity such that additional waste disposal facilities would be required, or otherwise impair the attainment of solid waste reduction requirements. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 3.12-6: Require or Result in the Relocation or Construction of New or Expanded Electricity, Natural Gas, or Telecommunications Facilities

As part of the project, Cal Poly Humboldt would extend electrical and telecommunications connections to proposed uses on-site that border the project site. However, the construction or relocation of existing infrastructure is not anticipated. No natural gas connection to the project site would be provided. This impact would be **less than significant**.

Implementation of the project would increase demand for electricity and telecommunications and would require connections to existing utility lines in the area. Electrical power would be provided to the project site via existing power lines located along the northern and western boundaries of the project site. Telecommunications services are available from a variety of service providers and would be extended from existing facilities to the on-site uses. No natural gas connection to the site would be necessary as on-site uses would not require natural gas. As development of the project site was included as part of previous and current local and regional planning efforts (albeit with industrial uses, which can have higher electricity demands) and as PG&E incorporates those planning efforts and associated growth projections as part of its assessment of infrastructure, no off-site infrastructure is anticipated to be required.

Because minor electrical and telecommunications infrastructure improvements/connections related to the project would be constructed within the project site and connect to existing infrastructure, and no off-site improvements are anticipated to accommodate the electricity and telecommunications demands of the project, impacts associated with the construction of such facilities would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

4 CUMULATIVE IMPACTS

4.1 INTRODUCTION TO THE CUMULATIVE ANALYSIS

This EIR provides an analysis of cumulative impacts of the Student Housing Project considered together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines. The goal of such an exercise is twofold: first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant, and second, to determine whether the incremental contribution to any such cumulatively significant impacts by the project would be "cumulatively considerable" and thus significant. (See State CEQA Guidelines Sections 15130[a]–[b], Section 15355[b], Section 15064[h], and Section 15065[c] and *Communities for a Better Environment v. California Resources Agency* [2002] 103 Cal. App. 4th 98, 120.) In other words, the required analysis intends first to create a broad context in which to assess cumulative impacts, viewed on a geographic scale beyond the project site itself, and then to determine whether the project's incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., "cumulatively considerable").

Cumulative impacts are defined in State CEQA Guidelines Section 15355 as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative impact occurs from "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (State CEQA Guidelines Section 15355[b]).

Consistent with State CEQA Guidelines Section 15130, the discussion of cumulative impacts in this ~~Draft~~ Final EIR focuses on significant and potentially significant cumulative impacts. Section 15130(b) of the State CEQA Guidelines provides, in part, the following:

> The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

A proposed project is considered to have a significant cumulative effect if:

- the cumulative effects of development without the project are not significant and the project's additional impact is substantial enough, when added to the cumulative effects, to result in a significant impact, or
- the cumulative effects of development without the project are already significant and the project contributes measurably to the effect.

The term "measurably" is subject to interpretation. The standards used herein to determine measurability are that the impact must be noticeable to a reasonable person or must exceed an established threshold of significance (defined throughout the resource sections in Chapter 3 of this EIR).

4.2 CUMULATIVE SETTING

4.2.1 Geographic Scope

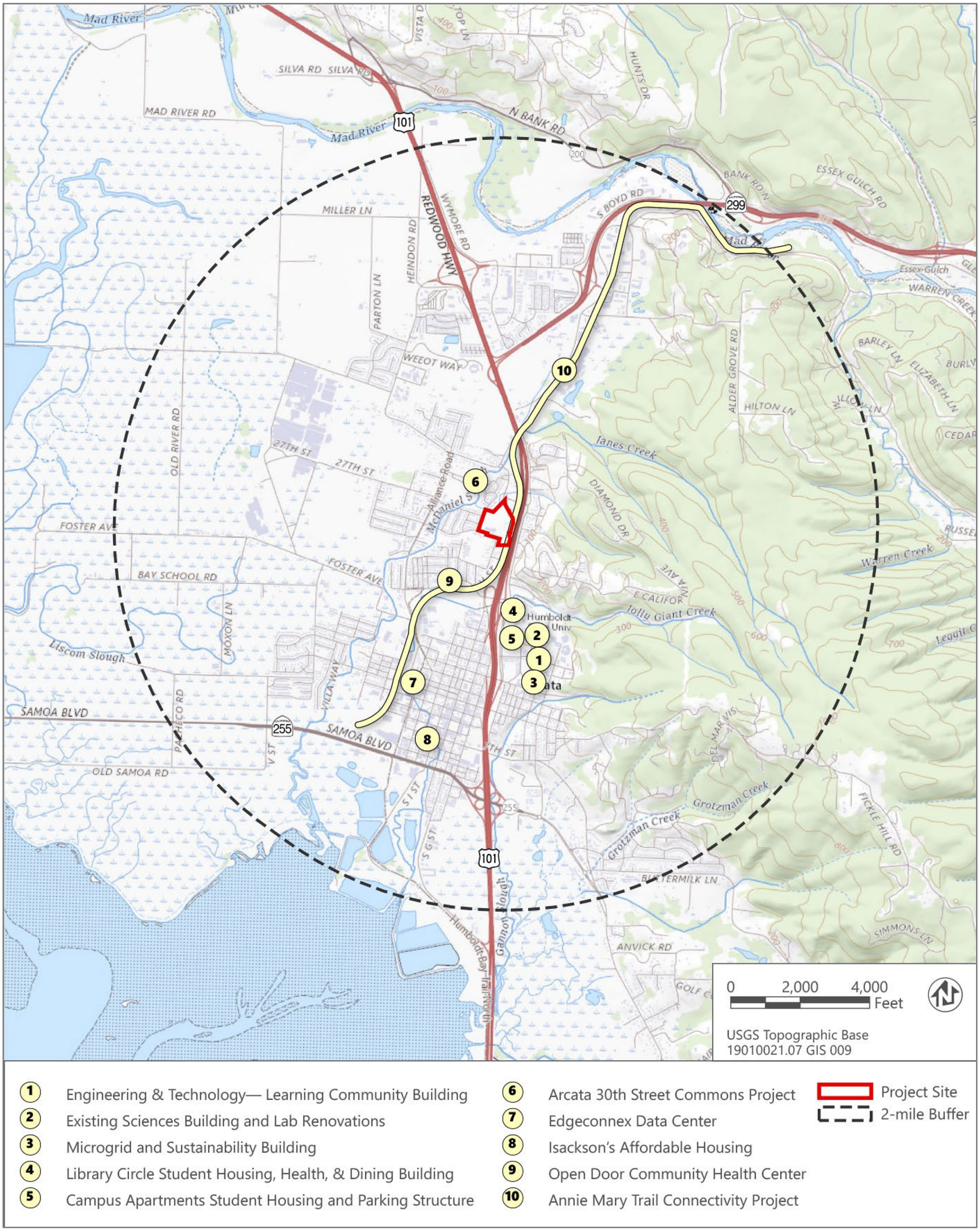
The geographic area that could be affected by the project and that is appropriate for a cumulative impact analysis varies depending on the environmental resource topic, as presented in Table 4-1. In general, the local geographic area referred to in the table is the immediate project vicinity (e.g., the project site and surrounding public viewpoints with respect to aesthetics). The regional geographic area, within the context of this EIR, is the County but could refer to an applicable habitat conservation plan area or other regional plan area.

Table 4-1 Geographic Scope of Cumulative Impacts

Resource Topic	Geographic Area
Aesthetics	Local (project area and surrounding public viewpoints)
Air Quality	Regional (North Coast Unified Air Quality Management District—pollutant emissions that have regional effects) Local (immediate vicinity—pollutant emissions that are highly localized)
Archaeological, Historical, and Tribal Cultural Resources	Local (project area and surrounding communities)
Biological Resources	Regional (County) and Local (City of Arcata)
Energy	Regional (Pacific Gas and Electric Company energy grid within City of Arcata and Humboldt County)
Greenhouse Gas Emissions	Global
Land Use and Planning	Local (City of Arcata)
Noise	Local (immediate project vicinity)
Population and Housing	Regional and local (Cal Poly Humboldt and surrounding communities within County, including City of Arcata)
Public Services and Recreation	Local (Cal Poly Humboldt and City of Arcata)
Transportation	Regional and local (Cal Poly Humboldt and surrounding communities within County, including City of Arcata)
Utilities and Service Systems	Local (utility service areas, primarily City of Arcata)

Source: Compiled by Ascent Environmental in 2022.

As noted in Table 4-1, the potential geographic scope of some cumulative effects is more localized than others. To account for both regional and localized cumulative impacts, this EIR uses regional growth projections to assess regionally cumulative impacts and the list method to assess more localized cumulative impacts. Table 4-2 lists past, present, and probable future development projects in the vicinity of the project site. This list is not intended to be an all-inclusive list of projects in the region but rather an identification of projects constructed, approved, or under review in the vicinity of the project area that have some relation to the environmental impacts of construction and operation of the proposed project. The list of projects is based on information obtained from the City of Arcata and includes projects within approximately 2 miles of the project site. Approved and pending Cal Poly Humboldt projects that were considered part of the current (2004) Master Plan but are currently in design or under construction are also listed in Table 4-2. Figure 4-1 identifies the location of each of the cumulative projects, according to their identification number, as shown in Table 4-2 and the legend of Figure 4-1.



Source: Adapted by Ascent Environmental in 2022.

Figure 4-1 Cumulative Projects

Table 4-2 Cumulative Projects List

ID No.	Project Name	Size (Acreage and/or Number of Dwelling Units)	Status
Cal Poly Humboldt			
1	Engineering & Technology – Learning Community Building	90,000-square-foot, five-story academic building and 250-student-bed, three-story residential building in the center of the main campus. This project will replace an existing campus events field.	Approved
2	Existing Sciences Building and Lab Renovations	Modernization and interior modifications to Alistair McCrone Hall and Science A and C buildings.	Proposed
3	Microgrid and Sustainability Building	25,000-square-foot building with academic, research, and administrative space. The structure will primarily serve as a testing facility for energy systems.	Approved
4	Library Circle Student Housing, Health, & Dining Building	200,000-square-foot facility with 650 student beds and a five-story parking structure along Granite Avenue.	Proposed
5	Campus Apartments Student Housing and Parking Structure	New on-campus housing facility with up to 700 new student beds in two five-story structures and a 650-stall, five-story parking structure.	Proposed
City of Arcata			
6	Arcata 30th Street Commons Project	36 affordable housing units with a 1-mile multiuse trail and pedestrian bridge.	Approved
7	Edgeconnex Data Center	Former feed center (10,000 square feet) in Arcata to be converted and redeveloped as a data center connecting two underground fiber optic lines, including one that extends to Singapore.	Proposed
8	Isackson's Affordable Housing	The project will retain existing commercial uses within a portion of the site and redevelop the remainder with a four-story, multifamily residential building, providing 43 affordable housing units and a manager's unit.	Approved
9	Open Door Community Health Center	Development of a health center with associated parking, lighting, signs, sidewalks, and utility infrastructure on a vacant 1.8-acre parcel.	Approved
10	Annie & Mary Rail Trail Project	3.3-mile Class I trail between the Arcata Skate Park, northern Arcata neighborhoods, and the Mad River.	Proposed

Sources: Cal Poly Humboldt 2022; City of Arcata 2022.

4.3 ANALYSIS OF CUMULATIVE IMPACTS

The following sections contain a discussion of the cumulative effects anticipated from implementation of the Student Housing Project, together with related projects and planned development in the City of Arcata and on campus, for each of the 12 environmental issue areas evaluated in this EIR. The analysis conforms with Section 15130(b) of the State CEQA Guidelines, which specifies that the "discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

When considered in relation to other reasonably foreseeable projects, cumulative impacts on some resources would be significant and more severe than those caused by the proposed project alone.

For purposes of this EIR, the project would result in a significant cumulative effect if:

- the cumulative effects of related projects (past, present, and probable future projects) are not significant and the incremental impact of implementing the Student Housing Project would be substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact, or
- the cumulative effects of related projects (past, present, and probable future projects) are already significant and implementation of the Student Housing Project would make a considerable contribution to the effect; The standards used herein to determine a considerable contribution are that either the impact must be substantial or it must exceed an established threshold of significance.

This cumulative analysis assumes that all mitigation measures identified in Chapter 3 to mitigate project impacts are adopted and implemented and that all elements of the design-build performance criteria that would minimize environmental effects are implemented. The analysis herein analyzes whether, after implementation of project-specific mitigation and performance criteria that minimize environmental effects, the residual impacts of the project would cause a cumulatively significant impact or would contribute considerably to existing/anticipated (without the project) cumulatively significant effects. Where the project would so contribute, additional mitigation is recommended where feasible.

4.3.1 Aesthetics

The cumulative context for the assessment of impacts on aesthetics and visual resources is limited to publicly accessible viewpoints in and around the project site. Viewer groups in the project vicinity consist of motorists, residents, recreationists, workers, and customers. The project vicinity has a low-density urban/suburban and forest character, given the presence of trees and scattered development surrounding a four-lane highway corridor. The growth, development, infrastructure, and lighting in the cumulative study area has resulted in a cumulative impact on the aesthetics of the project area. As shown in Table 4-2, "Cumulative Projects List," present and future development projects in the vicinity of the project site include new academic facilities and housing on the Cal Poly Humboldt campus, in addition to a new data center, a health center, and housing in the City of Arcata. These development projects would introduce additional, encroaching human-made elements that could further contribute to the urbanization of the existing natural landscape, degrade scenic views, and increase nighttime lighting in the cumulative study area.

As discussed in Section 3.1, "Aesthetics," the project would introduce a new student housing complex (two seven-story buildings) to the project site. The project would include design features to provide visual continuity with the existing Cal Poly Humboldt campus and surrounding environment, screen the proposed development from off-site viewpoints, minimize the perceived scale of the development from adjacent residential neighborhoods, and shield and direct lighting away from off-site properties. Despite these design features, views of the buildings would still be prominent from off-site viewpoints because of its massing and height. The project would change the visual character of the project site and surroundings by introducing an encroaching human-made element that would diminish the natural feeling of the existing landscape because it would block views of the wooded hillside, would be substantially taller, and would have a different massing and architectural style than existing buildings within the landscape. Furthermore, the project would introduce substantial new sources of nighttime lighting in proximity to light-sensitive residential land uses. The project is anticipated to be larger in terms of mass and height than any of the projects identified in Table 4-2. Therefore, the project would be cumulatively considerable with respect to cumulative impacts on scenic vistas, the visual character and quality of public views, scenic resources within a State scenic highway, and lighting within the context identified above.

Based on the above discussion, the project, in combination with past, present, and probable future development projects, would have a substantial adverse effect on scenic vistas, diminish views from a State scenic highway, degrade the visual character and quality of public views, and create substantial new light sources. Therefore, the project would result in a **significant** cumulative impact on aesthetics.

4.3.2 Air Quality

The cumulative context for air quality is both regional (North Coast Unified Air Quality Management District [NCUAQMD]) for criteria pollutants and local for carbon monoxide, toxic air contaminants (TAC), and odors. The land uses proposed under the project would result in an increase of emissions from area sources, energy sources, stationary sources, and mobile sources. Cumulative development in the region will continue to increase the concentration of pollutants from traffic, natural gas combustion in buildings, area sources, and stationary sources, but the future concentration of pollution will be partially reduced by State and federal policies that set emissions standards for mobile and nonmobile sources.

Further, as noted in Section 3.2, "Air Quality," the project was evaluated qualitatively for consistency with the most recently adopted air quality plan in the region. Specifically, the land uses of the project were compared to the current Master Plan for Cal Poly Humboldt (and the growth projections associated with it), which informs the growth projections of regional vehicle miles traveled (VMT) modeling and the North Coast Air Basin's (NCAB's) ability to attain ambient air quality standards. Because the Student Housing Project is consistent with growth projections of the Master Plan and the intent of the Master Plan to provide greater resources to students on Cal Poly Humboldt property, the project is consistent with applicable air quality plans and would not result in cumulatively considerable contribution to significant cumulative impacts. As a result, impacts would be **less than significant**.

In addition, the significance thresholds used to assess the project's significance in Section 3.2, "Air Quality," are cumulative in nature; that is, they identify the level of project-generated emissions above which impacts would be cumulatively considerable. Thus, they represent the level at which emissions of a given project would impede the ability of the air basin to achieve ambient air quality standards, considering anticipated growth and associated emissions in that region. A quantitative emission analysis was conducted to determine cumulative impacts from short-term construction and long-term operational emissions associated with the project.

SHORT-TERM CONSTRUCTION

NCAB is in nonattainment for particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) with respect to the California ambient air quality standards. Construction activities in the region would emit additional particulate matter and ozone precursors that may conflict with attainment efforts in the County. Because the region is in nonattainment, the existing cumulative condition is adverse and any additional emissions would exacerbate that condition. However, based on NCUAQMD's thresholds established in Rule 110 for new or modified stationary sources, exceedance of these thresholds would determine whether that particular project's emissions would be cumulatively considerable. As detailed in Section 3.2, "Air Quality," construction emissions of volatile organic compounds (VOCs) could exceed the applicable mass emission thresholds. However, Mitigation Measure 3.2-2 requires the use of low-VOC coatings (i.e., paint) during construction and would reduce construction-related VOC emissions to less than the thresholds. All other emissions would not exceed the thresholds identified for construction. Therefore, project construction emissions would not be cumulatively considerable, and the cumulative impact would be **less than significant**.

LONG-TERM OPERATION

Similar to the analysis of construction impacts, thresholds established in NCUAQMD Rule 110 were used to determine operational emissions impacts. Project-specific emissions exceeding the emission criteria thresholds stated in Section 3.2, "Air Quality," are also considered an indication of whether a particular project's emissions would be cumulatively considerable. In general, a project that operates below the threshold levels would not result in a cumulatively significant air quality impact, and one that operates above the threshold levels would result in a cumulative impact.

Implementation of the project would result in the generation of long-term operational emissions of criteria pollutants because of mobile, energy, stationary, and areawide emissions associated with project land uses. Mobile-source emissions of criteria air pollutants and precursors would result from vehicle trips generated by employee commute trips and other associated vehicle trips (e.g., delivery of supplies, maintenance vehicles for commercial and retail land uses). Stationary and areawide sources would include the combustion of natural gas for appliances, electronics, and other miscellaneous plug-in uses; the use of landscaping equipment and other small equipment; the periodic application of architectural coatings; and VOCs from the use of consumer products. As discussed for Impact 3.2-2, the project would not result in operational activity that would generate emissions that would exceed the thresholds for any criteria pollutants. Projects that emit criteria air pollutants in exceedance of the NCUAQMD thresholds would contribute to the regional degradation of air quality within the NCAB and would make a cumulatively considerable contribution. Because the contribution of the project's operational emissions to the nonattainment status of NCAB would not be cumulatively considerable, the cumulative impact would be **less than significant**.

EXPOSURE TO POLLUTANT CONCENTRATIONS

TACs, which are examined in the discussion of Impact 3.2-3, are also pollutants of localized concern. High concentrations of TACs within urban areas may result from heavy vehicle traffic, industrial sources, or other sources that, when close to one another, could result in unhealthy air quality conditions for nearby receptors, which would be considered a significant cumulative impact. However, because of the highly dispersive properties of the TACs evaluated, emissions from construction or new stationary sources typically do not combine with the emissions of other adjacent sources to result in a cumulative impact. Because of the localized nature of TACs and because project-generated TAC emissions would not be substantial, project-generated increases in TAC emissions would not be cumulatively considerable. The impact would be **less than significant**.

ODORS

The potential creation of objectionable odors affecting a substantial number of people, is also an impact of localized concern. Construction and operation of land uses under the project would not result in the development of new odor sources atypical of developed urban/suburban areas, and odor-generating construction activity would be temporary. As a result, the project's potential in contributing to cumulative odor impacts would not be cumulatively considerable. The impact would be **less than significant**.

4.3.3 Archaeological, Historical, and Tribal Cultural Resources

Because all significant cultural resources are unique and nonrenewable members of finite classes, meaning there are a limited number of significant cultural resources, all adverse effects erode a dwindling resource base. The loss of any one archaeological site could affect the scientific value of others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. The cultural system is represented archaeologically by the total inventory of all sites and other cultural remains in the region. As a result, a meaningful approach to preserving and managing cultural resources must focus on the likely distribution of cultural resources rather than on a single project or parcel boundary.

The cumulative context for historical resources is the City of Arcata, where similar patterns of development have occurred for almost two centuries. No known unique archaeological resources, tribal cultural resources (TCRs), or human remains are located within the boundaries of the project site; nonetheless, project-related earth-disturbing activities could damage undiscovered archaeological resources, TCRs, or human remains. The proposed project, in combination with other development in the region, could contribute to ongoing substantial adverse changes in the significance of unique archaeological resources resulting from further development and conversion of natural lands.

Implementing Mitigation Measure 3.3-1 would ensure that the project's contribution to cumulatively significant archaeological resource and TCR impacts would not be considerable with the requirement for preservation options and proper care of significant artifacts if they are recovered. Further, cumulative development would be required to implement similar mitigation to avoid/reduce impacts on archaeological resources and TCRs. Compliance with California Health and Safety Code Sections 7050.5 and 7052 and PRC Section 5097 would ensure that treatment and disposition of the remains occurs in a manner consistent with State guidelines and California Native American Heritage Commission guidance. Therefore, the project would not make a considerable contribution to any significant cumulative impact related to archaeological resources and TCRs, and this cumulative impact would be **less than significant**.

4.3.4 Biological Resources

Sensitive habitats for biological resources in the vicinity of the project site and in the region have been modified over time as land has been developed and converted to more urban/suburban uses. Future projects in the region, including projects described in Table 4-2, could continue to result in losses of sensitive habitats and sensitive species. Although individual projects would be required to mitigate for significant impacts on a project-by-project basis, they may result in residual impacts that combine with the existing adverse condition to create a significant cumulative condition related to special-status species and sensitive habitats.

The project site and vicinity are located in an area of the City of Arcata characterized by urban/suburban and industrial development. No special-status plants have potential to occur within the proposed area of development on the project site, and there are no State or federally protected wetlands, sensitive natural communities, wildlife movement corridors, or wildlife nursery sites within the disturbance area of the project site. The existing wetlands located in the northwest portion of the site would be avoided during construction. However, project construction may result in potentially significant impacts on special-status amphibians, white-tailed kite, other nesting raptors, and other nesting native birds. Implementing Mitigation Measures 3.4-1 and 3.4-2 would minimize potential adverse effects on these species and would reduce impacts to a less-than-significant level. By mitigating project-specific impacts to less than significant, the project would reduce its overall contribution to potential biological resource impacts such that it would not result in a substantial adverse effect on resources in the area. Therefore, the project would not make a cumulatively considerable contribution with respect to biological resources, and the impact would be **less than significant**.

4.3.5 Energy

The geographic area considered for cumulative impacts related to energy use includes the City of Arcata, as part of the Pacific Gas and Electric Company (PG&E) service area. PG&E employs various programs and mechanisms to support the provision of gas and electricity services to new development; to recoup costs of new infrastructure, connection fees are typically charged through standard billings for services. As noted in Chapter 2, "Project Description," and Section 3.5, "Energy," the project would not require natural gas service.

Several other currently planned and approved projects identified in Table 4-2, in addition to the Student Housing Project, would receive electricity service provided by PG&E. These projects would also consume energy related to transportation (i.e., gasoline and diesel consumption for passenger vehicles, trucks, buses, and other vehicles) and construction. These projects would be required to implement energy efficiency measures in accordance with the California Energy Code (i.e., Title 24), which includes the California Green Building Standards Code (i.e., CALGreen), to reduce energy demand from buildings and would likely implement transportation demand management strategies to reduce the number of vehicle trips and VMT, which would reduce fuel consumption. There is no evidence to suggest that implementation of cumulative development would result in wasteful or inefficient use of energy; therefore, the cumulative energy impact would be **less than significant**.

According to Appendix F of the State CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. The discussion of Impact 3.5-1 concludes that the project would not result in the wasteful or inefficient use of energy or transportation-related fuel. The project would increase energy demand during temporary construction activities for new buildings and facilities; however, construction activities would not increase long-term, ongoing demand for energy or fuel because project construction is anticipated to last 5 years and would be temporary. The project would comply with applicable energy efficiency requirements and would implement design features that meet or exceed current requirements per Title 24 and CalGreen. Because the project would not result in the wasteful or inefficient use of energy and would not contribute to a significant cumulative impact, the project would not result in a considerable contribution to a significant cumulative impact. This impact would be **less than significant**.

4.3.6 Greenhouse Gas Emissions

The impact of greenhouse gas (GHG) emissions generated by project construction and operation, discussed in Section 3.6, "Greenhouse Gas Emissions," is inherently cumulative. GHG emissions from one project cannot, on their own, result in changes in climatic conditions; therefore, the emissions from any project must be considered in the context of their contribution to cumulative global emissions, which is the basis for determining a significant cumulative impact, as noted in Section 3.6. As a result, the analysis of GHG emissions and climate change provided in this EIR is considered to address both project-specific and cumulative impacts. As noted in Section 3.6, this impact would be **less than significant**.

4.3.7 Land Use and Planning

The cumulative context for land use impacts includes the existing and planned land uses at and surrounding the project site. As noted previously, Table 4-2 describes planned or approved projects anticipated for both the City of Arcata and Cal Poly Humboldt. Generally, the types of uses identified in Table 4-2 represent a continuation of existing land use types and/or redevelopment of similar land use types. However, none of the projects listed in Table 4-2 or shown in Figure 4-1 are located adjacent to or could be reasonably assumed to have a cumulatively considerable impact with the Student Housing Project and contribute to cumulative land use impacts (e.g., division of an established community). Therefore, the development of the project would not contribute to any significant cumulative land use impacts. This impact would be **less than significant**.

4.3.8 Noise

CONSTRUCTION-GENERATED NOISE

Construction-related noise and vibration are typically considered localized impacts that affect only receptors close to construction activities. Therefore, unless construction of cumulative projects, including construction associated with the project, occurs on sites close to one another (i.e., less than 500 feet apart) and at the same time, noise and vibration from individual construction projects have little chance of combining to create cumulative impacts. For these reasons, cumulative noise and vibration impacts from construction are generally less than significant.

Noise and vibration associated with construction of the Student Housing Project would be intermittent and temporary and would fluctuate over the duration of construction. In addition, construction would be implemented during daytime hours, in compliance with the City's restriction that allows construction noise only during the less noise-sensitive times of the day.

Although the Annie & Mary Rail Trail would likely overlap construction of the project and would occur along the eastern boundary of the project site, the level of construction associated with the future City trail would not be dissimilar to the project's construction noise levels. Further, based on the limited amount of time that construction would occur along this segment of the trail, noise levels are not considered cumulatively considerable between the two projects (Annie & Mary Rail Trail and the project). Given that none of the other projects listed in Table 4-2 are located within 500 feet of the project site, construction activities for the project would not readily combine with construction noise and vibration from other construction activities in the area to result in a substantial increase in cumulative noise and vibration levels. Furthermore, the projects listed in Table 4-2 may not be in construction concurrently with the project. Therefore, the potential construction-generated noise and vibration impacts of those projects are not cumulatively considerable, in combination with the proposed project. Therefore, construction noise and vibration would not be cumulatively considerable, and impacts would be **less than significant**.

OPERATIONAL NOISE

Similar to construction-related noise impacts, stationary source noise impacts are generally localized. As a result, the context for cumulative stationary noise sources is within 500 feet of the project site. The proposed project would include new stationary heating, ventilation, and air conditioning equipment and surface parking lots. However, noise from these sources would be localized and would not combine with noise from other projects. As discussed for Impact 3.8-3, noise from these sources is a consideration only within the immediate vicinity of the project site, at distances less than 100 feet from the sources. Operational noise sources at the project site would not combine with noise from other area sources to result in a substantial increase in ambient noise. As a result, the project's stationary source noise would not be cumulatively considerable.

With respect to mobile source noise levels, the cumulative context includes local roadways likely to be affected by project-related vehicles. As discussed in Section 3.8, "Noise," project-related traffic increases would not result in a substantial noise increase on affected roadways. Refer to Table 3.8-11 for further information. Based on the project list provided in Table 4-2, vehicle roadway volumes are not anticipated to double, and a doubling of roadway volumes would be required to cause a potential cumulative roadway noise impact. Cumulative traffic noise increases were modeled based on an anticipated cumulative increase in traffic on local roads, and based on the modeling, the greatest increase in noise (i.e., 2.7 A-weighted decibels [dBA]) would occur along the US 101 overcrossing between St. Louis Road and L.K. Wood Boulevard. Applying the incremental increase standards established by the City of Arcata for this segment, where cumulative no-project conditions would result in traffic noise levels of 63.6 dBA Community Noise Equivalent Level at 50 feet from the centerline of the road, the increase of 2.7 dBA would not exceed the allowable increase of 3 dB for this segment. It should further be noted that no sensitive receptors are located near this roadway segment, because it is an overpass that crosses US 101. Therefore, even though traffic in the project vicinity is expected to increase under cumulative conditions, the project's contribution to roadway noise during operation would not be cumulatively considerable. This impact would be **less than significant**.

4.3.9 Population and Housing

As described in Section 3.9, "Population and Housing," population within the City has increased by 4.79 percent since 2010 (refer to Table 3.9-1). In addition, the County's housing vacancy rate has been consistently higher than the State's vacancy rate, while the City's housing vacancy rate has generally remained at just over 6 percent. Implementation of the project would not increase student enrollment at Cal Poly Humboldt, nor would it exceed growth projections for the campus as established in the current Master Plan for Cal Poly Humboldt. Rather, the project would provide additional student housing on Cal Poly Humboldt property and accommodate an anticipated increase in student enrollment within campus housing. The project would not represent a substantial contribution to potential housing demand or consume a substantial portion of the available housing stock; rather, it would reduce stresses on the local and regional housing market related to students living off-campus. For these reasons, the population and housing impacts related to implementation of the project would not result in a considerable contribution to cumulative population and housing impacts, and the impact would be **less than significant**.

4.3.10 Public Services and Recreation

PUBLIC SERVICES

Under existing conditions, public services are provided in the project area and surrounding area by multiple agencies, including the City of Arcata Fire Department (AFD), University Police Department (UPD), City of Arcata Police Department, Humboldt County Sheriff's Department, Arcata School District, and Northern Humboldt Union High School District. As described in Section 3.10, "Public Services and Recreation," fire services are provided by AFD, whereas police services are provided by the City, County, and UPD through mutual-aid agreement. As shown in Table 4-2, cumulative development in the region continues to increase the concentration of people and structures within these local public service jurisdictions, which in turn increases demand for such services.

The increase in population under the project would continue the trend of increasing the demand for public services and could combine with other development projects in the City listed in Table 4-2 to result in a cumulative increase in demand for public services such that new or physically altered governmental facilities would be required to maintain acceptable service ratios, response times, or other performance objectives, the construction of which could cause significant environmental impacts. As noted in Section 3.10, "Public Services and Recreation," it is not anticipated that new or expanded public facilities would be required to accommodate development under the project. Further, the new development and growth listed in Table 4-2 would occur within existing developed areas where adequate public services currently exist. To the extent that any potential expansion of public facilities is required to accommodate new development and growth in the area, it is reasonable to assume that these would be expansions of existing facilities or new facilities in already developed areas, which would typically be exempt from CEQA review as infill development. The other development projects within the City's jurisdiction that are listed in Table 4-2 would be required to pay impact fees consistent with local jurisdiction requirements, including those of the City and local school districts, to ensure the adequate provision of public services, including schools, in the future. Nonetheless, implementing the Student Housing Project would not require the expansion of service areas, nor is it anticipated to require additional facilities/services; therefore, the impact of the project on public services would not be cumulatively considerable. Cumulative impacts to public services would be **less than significant**.

RECREATION

The cumulative context for recreation impacts encompasses the City of Arcata and Cal Poly Humboldt campus. Past and present development has resulted in an increase in demand for recreation resources and a subsequent dedication of parklands and open space consistent with State and local plans and policies. This has increased the number of developed parklands, trails, and recreation facilities, and the amount of preserved open space within the City and Cal Poly Humboldt campus.

As noted in Section 3.10, "Public Services and Recreation," the project would increase the on-site population but would not result in an overall increase in campus population (i.e., student enrollment or faculty/staff) and therefore would not increase demand for on-campus recreation facilities. Student residents of the project site would be expected to use existing on-campus recreational opportunities, as well as on-site amenities and opportunities that would be provided as part of the project. Student residents associated with the project would be expected to come from housing elsewhere within the local community or as anticipated by City and Cal Poly Humboldt growth projections. As a result, the project would not result in significant increases in demand for or the substantial deterioration of existing recreational opportunities. With respect to the City of Arcata projects listed in Table 4-2, further development of parklands and trails and preservation of open space would occur as planned development proceeds, consistent with the City requirements. Therefore, the amount of parkland is expected to increase within the City over time, consistent with the City's parkland dedication standards. In addition, new developments within the City would be required to pay fees to mitigate for increased park demands in accordance with the Quimby Act and locally adopted regulation to offset maintenance and construction of recreation facilities in response to increases in population, thereby reducing the potential contribution of off-campus development to less than cumulatively considerable. Therefore, the project would not result in a cumulatively considerable contribution to recreation, and this impact would be **less than significant**.

4.3.11 Transportation

The geographic context for cumulative impacts related to transportation is the City of Arcata and Cal Poly Humboldt.

VEHICLE MILES TRAVELED

As detailed in the discussion of Impact 3.11-2, the Transportation Analysis Memo used the Humboldt County Association of Governments (HCAOG) Travel Model to calculate the VMT per capita anticipated to be generated by the project. The trip patterns in the HCAOG Travel Model were checked against location-based services (i.e., "Big Data") to confirm that the model is reasonably replicating existing travel patterns related to Cal Poly Humboldt. For detailed information regarding trip generation, trip length, and VMT methodology and analysis, refer to Appendix B. As identified by the CSU Transportation Impact Study Manual (TISM), the project's VMT impact would be cumulatively considerable if the VMT per resident under the "with project" condition exceeds the regional VMT per resident identified under the Regional Transportation Plan/Sustainable Communities Strategy condition. As determined by the Transportation Analysis Memo, the project-generated VMT under the cumulative condition would be 15.2 VMT per resident. In comparison, the region's VMT per resident under cumulative conditions is estimated to be 23.2 (Fehr & Peers 2022); thus, the project's VMT would not exceed the CSU TISM threshold under cumulative conditions. Therefore, the project's impacts related to VMT would not be cumulatively considerable. This impact would be **less than significant**.

IMPACTS ON TRANSIT, BICYCLE, AND PEDESTRIAN FACILITIES

As described in the discussion of Impact 3.11-1, implementation of the project would not create demand for public transit services above the crush load capacity of the transit system and would not disrupt existing or planned transit facilities and services. Additionally, as described for Impact 3.11-1, implementation of the project would not disrupt any existing or planned bicycle or pedestrian facilities. Thus, the project's impacts related to transit, bicycle, and pedestrian facilities would not be cumulatively considerable, and this impact would be **less than significant**.

CONSTRUCTION-RELATED TRANSPORTATION IMPACTS

Cumulative impacts from project-generated construction effects on transportation may result if other future planned construction activities were to take place close to the project site and cumulatively combine to exacerbate the construction-related transportation impacts of the project. As noted in Chapter 2, "Project Description," the planned Annie & Mary Rail Trail project (a 3.3-mile Class I trail) would occur along the railroad corridor, immediately east of the project site. As discussed for Impact 3.11-3, project construction activities and staging would occur on-site. The hauling of heavy machinery (e.g., bulldozers, excavators) and operation of large trucks associated with construction-related activities may result in conflicts with pedestrians, bicyclists, and vehicles navigating the area. Therefore, if construction of the project were to occur simultaneously with construction of the Annie & Mary Rail Trail project, the construction-related transportation impacts of the two projects may combine to exacerbate construction-related transportation impacts from the project and create a significant cumulative impact. However, the construction of the Annie & Mary Rail Trail in this location and the project would be separated from nearby neighborhoods and other development such that any cumulative increase in construction traffic would not result beyond St. Louis Road and along the project site's northern boundary. Further, as detailed in the discussion of Impact 3.11-3, a temporary traffic control plan (TCP) would be completed and implemented to be consistent with industry standards. Under the TCP, project construction-related transportation impacts would be offset through the management of construction activities that would allow emergency vehicle access and delineate construction zones in a manner that protects vehicles, bicyclists, and pedestrians. Thus, the project would not be cumulatively considerable with respect to construction-related transportation impacts, and this impact would be **less than significant**.

4.3.12 Utilities and Service Systems

The cumulative context for utility-related impacts is the service area for each utility (water, wastewater, stormwater, solid waste). Future projects in the region, including projects described in Table 4-2, would result in increased utility service demands, but they are assumed to comply with current building codes and efficiency requirements. Given that the cumulative projects listed in Table 4-2 are located within developed areas in the City of Arcata, including Cal Poly Humboldt projects, that are served by existing utility infrastructure, it is expected that cumulative projects may need specific service connections but that no new or expanded infrastructure would be required. Therefore, impacts associated with the need for new or expanded utility infrastructure would not be cumulatively considerable.

As noted in Section 3.12, "Utilities and Service Systems," water would be supplied to the project site by the City of Arcata. The projected long-term water supplies (normal, single, and multiple dry weather years) available to the City and its customers would be sufficient to serve the City's projected future demands (i.e., potential cumulative demand) through 2045. The Student Housing Project and the cumulative projects listed in Table 4-2 would not be constructed without demonstration of adequate water supplies. Furthermore, the project, consistent with CSU Sustainability Policy requirements, would include responsible conservation strategies for reduced potable water consumption in the buildings. Ultra-low flow fixtures, automatic sensor controls, and reduced flow aerators would be used to meet or exceed current CALGreen water efficiency standards and to achieve Leadership in Energy and Environmental Design version 4 (LEED v4) certification. As a result, the project would not have a cumulatively considerable impact with respect to water supply.

As discussed in Section 3.12, "Utilities and Service Systems," the City's wastewater treatment plant is anticipated to have adequate capacity to serve the project-generated increase in wastewater flows. As a result, the project contribution would not be cumulatively considerable, because it would not add flows to the City's existing wastewater collection and treatment system in excess of existing contractual rights or peak wet weather conditions.

Generally, the capacity of solid waste facilities available to the project site and the region are continually declining as cumulative development and ongoing disposal reduce remaining capacity. However, the project's solid waste generation could be served by multiple landfills in the region, including Anderson Landfill and Dry Creek Landfill. The landfills that receive waste generated at the project site are projected to have adequate capacity for the next 30 years and beyond (refer to the discussion of Impact 3.12-5 in Section 3.12, "Utilities and Service Systems"). Given the landfills' available capacity to serve the project site and development in the area over the long term, the project would not have a cumulatively considerable impact. In addition, as discussed in Section 3.12, "Utilities and Service Systems," in accordance with Section 5.408 of CALGreen, the Cal Poly Humboldt would implement a construction waste management plan for recycling and/or salvaging for reuse of a minimum of 65 percent of nonhazardous construction/demolition debris for the project. Additionally, Cal Poly Humboldt would be required to recycle a minimum of 50 percent of the waste generated by the buildings, per requirements for State agencies and entities by Assembly Bills 75 and 939. Therefore, solid waste from the project would be minimized to the maximum degree feasible, and the contribution to the cumulative impacts on capacity of solid waste facilities would not be cumulatively considerable.

Because future utility demands include development within the cumulative context, the analysis provided in Section 3.12, "Utilities and Service Systems," is considered inherently cumulative. As a result and based on the analysis provided above and in Section 3.12, the project would not make a cumulatively considerable contribution, and impacts would be **less than significant** with respect to utilities and service systems.

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5 ALTERNATIVES

5.1 INTRODUCTION

Section 15126.6(a) of the State CEQA Guidelines requires EIRs to describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project, and foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

This section of the State CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states that the purpose of the alternatives analysis is as follows:

> Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The State CEQA Guidelines require that the EIR include information about each alternative sufficient to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (Section 15126.6[d]).

The State CEQA Guidelines further require that the "no project" alternative be considered (Section 15126.6[e]). The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed project. If the no project alternative is the environmentally superior alternative, CEQA requires that the EIR "shall also identify an environmentally superior alternative among the other alternatives." (Section 15126[e][2]).

In defining "feasibility" (e.g., "feasibly attain most of the basic objectives of the project"), Section 15126.6(f)(1) states, in part:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, here the Board of Trustees. (See CEQA Sections 21081.5, 21081[a][3].)

5.1 CONSIDERATIONS FOR SELECTION OF ALTERNATIVES

5.1.1 Attainment of Project Objectives

In determining what alternatives should be considered in the EIR, the objectives of the project must be considered because attainment of most of the basic objectives forms one of the tests of whether an alternative is feasible (see discussion above). Cal Poly Humboldt identified the following project objectives, as previously described (see Chapter 2, "Project Description"):

1. provide additional housing near existing and planned mobility infrastructure (i.e., pedestrian and bicycle facilities and transit) to reduce vehicle trips, vehicle miles travelled, and parking demand;
2. provide student housing opportunities within Cal Poly Humboldt property to promote student enrollment and address current housing needs. In addition, provide housing opportunities and complementary services that may be offered to nontraditional students such as graduate students and veterans;
3. support and advance Cal Poly Humboldt's educational mission by guiding the physical development of housing proximate to campus to accommodate gradual student enrollment growth up to a future enrollment of 12,000 full-time-equivalent students per the 2004 Master Plan while preserving and enhancing the quality of campus life;
4. optimize an underutilized infill location within the City of Arcata and proximate to Cal Poly Humboldt;
5. provide housing density adjacent to Cal Poly Humboldt and the downtown area of the City of Arcata to reduce vehicle trips, vehicle miles traveled, and parking demand within campus and the downtown area;
6. minimize building footprints to preserve as much of the site as possible for the creation of open space and landscaped setbacks from surrounding roadways and residential uses;
7. contribute to the overall character and livability of the surrounding neighborhood and Cal Poly Humboldt by facilitating the reuse of property in a manner that enhances the visibility and aesthetic appeal of the city from US 101 and surrounding local roadways and that enhances circulation within the city and to Cal Poly Humboldt;
8. minimize impacts to on-site vegetation and potentially sensitive biological resources;
9. provide energy-efficient building design, low-water use indoor and outdoor design, and high-quality construction by incorporating national, state, and/or local sustainable design practices; and
10. advance campus-wide environmental sustainability and make progress toward goals of carbon neutrality and climate resilience.

5.1.2 Summary of Significant Impacts

The Executive Summary of this EIR presents a detailed summary of the potential environmental impacts of implementation of the Student Housing Project. Overall, the project would result in less-than-significant impacts with respect to air quality; archaeological, historical, and tribal cultural resources; biological resources; energy; greenhouse gas (GHG) emissions; land use and planning; noise; population and housing; public services; transportation; and utilities and service systems. However, the project would result in significant and unavoidable impacts with respect to aesthetics and noise (construction).

5.2 ALTERNATIVES CONSIDERED BUT NOT EVALUATED FURTHER

As described above, State CEQA Guidelines Section 15126.6(a) provides that the range of potential alternatives for the project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. Alternatives that fail to meet the fundamental project purpose need not be addressed in detail in an EIR. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* [2008] 43 Cal.4th 1143, 1165-1167.)

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by lead agency decision maker(s) (See CEQA Section 21081[a][3].) At the time of action on the project, the decision maker(s) may consider evidence beyond that found in this EIR in addressing such determinations. The decision maker(s), for example, may conclude that a particular alternative is infeasible (i.e., undesirable) from a policy standpoint and may reject an alternative on that basis provided that the decision maker(s) adopts a finding, supported by substantial evidence, to that effect and provided that such a finding reflects a reasonable balancing of the relevant economic, environmental, social, and other considerations supported by substantial evidence. (*City of Del Mar v. City of San Diego* [1982] 133 Cal.App.3d 401, 417; *California Native Plant Society v. City of Santa Cruz* [2009] 177 Cal.App.4th 957, 998.)

The EIR should also identify any alternatives that were considered by the lead agency but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination. The following alternatives were considered by Cal Poly Humboldt but are not evaluated further in this ~~Draft~~ Final EIR.

5.2.1 Alternative Site Configuration

Cal Poly Humboldt initially considered a modified configuration (i.e., site layout) of the proposed student housing complex that would nonetheless include the same primary components (i.e., apartment-style units with up to 964 beds for undergraduate and graduate student and on-site amenities) as the project. More specifically, Cal Poly Humboldt explored providing four four-story housing buildings along the perimeter of the site, resulting in on-site buildings being located closer to single-family homes located along the southern and western edges of the site. In contrast, the project would consolidate two seven-story buildings in the center of the site that would increase in height as they trend to the east, and includes deep landscape setbacks from surrounding roadways (e.g., Maple Lane and Eye Street). Because of the existing single-family residential neighborhood to the south and west, as well as US 101 to the east, this alternative would potentially increase visual impacts on the nearby residential neighborhood and/or along US 101 if the reconfiguration necessitated increased building height or massing along the perimeter of the site. Additionally, this alternative could expose on-site residences to additional noise associated with vehicles along US 101 or the existing lumber mill (Mad River Lumber) to the north.

While this alternative would achieve the project objectives and would support Cal Poly Humboldt's desire to provide additional student housing proximate to campus, it would also alter the internal circulation of the site and could require more substantial relocation of existing City utility infrastructure in the area (including water, sewer, and stormwater facilities located within the project site). As currently proposed, the project would include development of a roundabout in the northeast corner and driveways and parking would occur along the perimeter of the site, which allows for consistent emergency vehicle access to and through the site. However, internal circulation under this alternative would provide limited access for fire protection personnel during potential emergency situations, as well as potential conflicts with pedestrian circulation. Furthermore, because this alternative would not alter the amount of development (in terms of acreage and square footage of on-site buildings), nature of the proposed uses, or number of on-site residents, this alternative would not reduce or eliminate environmental impacts resulting from the project. Therefore, this alternative is not considered in further detail.

5.2.2 Academic/Administrative Development

Cal Poly Humboldt considered the development of academic or administrative buildings/facilities instead of student housing. Because of its distance from the main campus, this alternative could create a greater number of vehicle trips, as a result of academic administrative or academic trips to other on-campus uses during the academic calendar year.

It would also not provide additional student housing proximate to campus that is intended to accommodate projected growth of Cal Poly Humboldt, consistent with campus master planning efforts, Additionally, this alternative would not be consistent with the City of Arcata's adopted planning documents or current planning efforts, which have identified the project site for redevelopment with higher density residential uses. Although, as noted throughout this EIR, the CSU is not subject to local regulations, development within the local context/community is considered where appropriate, and this alternative would not be consistent with the City's General Plan update designation and vision for the site. Because this alternative would not meet many of the project objectives and would not reduce or eliminate environmental impacts resulting from the project, this alternative is not considered in further detail.

5.2.3 Development Per Existing Zoning

The City has identified the project site for redevelopment with high-density, multifamily residential development (City of Arcata 2022); however, the current City zoning and land use designations for the project site are Limited Industrial, which could allow for development/redevelopment with a mix of light industrial and/or warehouse-related uses. Nonetheless, because the project site is currently owned by the Humboldt State University Foundation, would be transferred to Cal Poly Humboldt as part of the project, and Cal Poly Humboldt (as part of the CSU) is not subject to local plans, policies, and regulations, redevelopment of the site with industrial uses consistent with existing zoning is not considered feasible. It would also not provide additional student housing proximate to campus that is intended to accommodate existing demand and projected growth in student enrollment at Cal Poly Humboldt, consistent with campus master planning efforts. Because this alternative would not meet any of the project objectives and would not reduce or eliminate environmental impacts resulting from the project, this alternative is not considered in further detail.

5.3 ALTERNATIVES SELECTED FOR DETAILED ANALYSIS

The following alternatives are evaluated in this ~~Draft~~ Final EIR:

- **Alternative 1: No Project–No Development Alternative.** This alternative would involve no alteration of the project site. No development would occur, and the project site would remain in its current condition, providing leasable workspace and storage opportunities for the local community and businesses.
- **Alternative 2: Lower-Density Student Housing Development.** Under this alternative, the project site would be developed with a less intense housing development, consistent with the previously proposed development at the project site. Under this alternative, up to 800 student beds would be provided within four 4-story structures with internal courtyards located within the central portion of the site. This alternative was previously considered by the City as part of an application for a private development on the same site, but was never approved.
- **Alternative 3: On-Campus Student Housing.** Under this alternative, the upper playfield of the main campus, approximately 2.3 acres in size, would be developed with student housing. In terms of housing density, this alternative would be similar in size and scale (~500 student beds per acre within 2 multi-story buildings) to existing Redwood and Sunset Halls, which provide on-campus housing for first-year students. This alternative would require the removal of the university's upper playfield, which is used as a multipurpose field for softball and baseball, and conversion of other on-campus recreational areas (e.g., Redwood Bowl or College Creek Soccer Field) to multipurpose facilities to replace the loss of the upper playfield and its functions.
- **Alternative 4: Faculty and Staff Housing.** Under this alternative, the project site would be developed to include a series of townhomes and apartments for faculty and staff and their families. Assuming that 0.1 acre would be required per townhome/residence, including amenities (e.g., internal circulation and open space), and allowing for appropriate setbacks from the existing lumber mill and US 101, it is anticipated that approximately 150 units could be developed on-site. Assuming 2.12 persons per household (DOF 2021), this would equate to 318 on-site residents.

For purposes of comparison with the action alternatives, conclusions for each technical area are characterized as "impacts" that are comparatively greater than, similar to, or reduced compared to those of the proposed project. Further details on these alternatives and an evaluation of environmental effects relative to the project are provided below.

5.3.1 Alternative 1: No Project-No Development Alternative

CEQA Guidelines Section 15126.6(e)(1) requires that the "no project" alternative be described and analyzed "to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project." The no project analysis is required to discuss "the existing conditions at the time the notice of preparation is published…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (Section 15126.6[e][2]). Further,

> [i]f the project is…a development project on identifiable property, the no project alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment. (Section 15126[e][3][B])

Under Alternative 1, the No Project–No Development Alternative, no actions would be taken by Cal Poly Humboldt and the project site would remain unchanged from current conditions and underutilized. The property would remain in operation as a light industrial use with rental space for small businesses in the area, and the existing single-family residences on the project site would remain.

AESTHETICS

Under the No Project–No Development Alternative, there would be no alteration of the visual character of the project site, and views of the area from surrounding vantage points would not change as a result of construction activities or project operation. In comparison, project would result in the development of new buildings on-site ranging from five to seven stories in height (up to approximately 75 feet above ground surface), as well as site improvements including roads, paths, parking, and landscaping. Because the project site is currently underutilized and characterized by primarily light industrial uses (including the Craftsman's Mall main building), the local visual character after project development, as experienced by viewer groups in the area, would be altered by the project. The project would partially obstruct long-distance views of and through the site and would result in significant impacts related to scenic vistas, existing visual character, and scenic resources along a State scenic highway. Comparatively, the No Project–No Development Alternative would involve no change in existing conditions and, as a result, would avoid all significant impacts of the project.

Although the No Project–No Development Alternative would avoid both short-term and long-term visual changes, the proposed development of the project site may be considered an improvement to the visual quality of the area, as it would remove containers, debris, and materials stored outside with no visual screening and introduce new aesthetic elements through the construction of new buildings, green spaces, and landscaping. At the same time, the No Project–No Development Alternative would not introduce new lighting or development of the site, resulting in no alteration to the visual character or lighting at the site. Therefore, the No Project–No Development Alternative would result in reduced impacts with respect to aesthetics, compared to the project. *(Less impact; significant and unavoidable aesthetics impacts avoided)*

AIR QUALITY

Because the project site is currently underutilized and because the No Project–No Development Alternative would involve no construction disturbance and no new vehicular trip generation, this alternative would not generate construction- or operations-related air emissions. By comparison, with implementation of mitigation measures, the project would result in less-than-significant impacts pertaining to operational emissions, odors, and substantial pollutant concentrations. Further, with mitigation, the project's air quality impacts during construction would be less than significant. Implementation of the No Project–No Development Alternative would not result in these air quality impacts; therefore, this alternative would result in reduced impacts with respect to air quality, compared to the project. *(Less impact; significant but mitigable air quality impacts avoided)*

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

The No Project–No Development Alternative would not involve on-site construction activities, thereby avoiding impacts related to the disturbance, destruction, or alteration of any known or as-yet-undiscovered/unrecorded prehistoric or historic archaeological resources, tribal cultural resources, human remains, or historic architectural resources. In comparison, implementation of the project would result in ground-disturbing activities that could cause potentially significant impacts related to disturbance of undiscovered/unrecorded subsurface archaeological and tribal cultural resources. These impacts would be reduced to less-than-significant levels with implementation of mitigation measures. Because the No Project–No Development Alternative would not include any ground disturbance, it has a lesser potential to result in the disturbance of as-yet-undiscovered subsurface tribal cultural resources. Therefore, the cultural resource impacts under the No Project–No Development Alternative would result in reduced impacts, compared to the project. *(Less impact; significant but mitigable archaeological and tribal cultural resources impacts avoided)*

BIOLOGICAL RESOURCES

The No Project–No Development Alternative would not include any development activities and would not disturb any existing on-site biological resources. Construction of the project may result in some on-site tree removal and the potential disturbance of certain amphibians, nesting raptors, and/or other birds, which would be mitigated to avoid disturbance to these resources, resulting in less than significant impacts. The project site is located within a disturbed area of a generally densely developed environment, and the proposed project would entirely avoid the riparian wetlands and grasslands in the western portion of the project site and along its western and northwestern perimeters, and would not result in any significant biological resources impacts after mitigation. However, the No Project–No Development Alternative would avoid disturbance to the project site and would therefore result in reduced potential biological resource impacts, compared to the project. *(Less impact; significant but mitigable biological resources impacts avoided)*

ENERGY

Under the No Project–No Development Alternative, no development would occur. The project site would remain in its currently underutilized condition, has and would continue to have minimal energy needs limited to security lighting and operation of the on-site Craftsman's Mall and three residences. Retention of the project site in its current condition would result in no change in energy use compared to existing conditions. While the project would not result in the wasteful, inefficient, or unnecessary consumption of energy during construction and would involve the operation of energy-efficient structures on-site, the No Project–No Development Alternative would avoid all energy use related to construction and operation of the project, thereby resulting in reduced energy use, compared to the project. *(Less impact)*

GREENHOUSE GAS EMISSIONS

Because the No Project–No Development Alternative would involve no construction disturbances and no new vehicular trip generation, this alternative would not generate new construction- or operations-related GHG emissions. By comparison, with implementation of mitigation measures, the project would result in less-than-significant impacts with respect to GHG emissions and would assist Cal Poly Humboldt in providing student housing proximate to campus, which would reduce regional GHG emissions. However, the No Project–No Development Alternative would not result any new construction-, transportation-, or operational-related GHG emissions and therefore would result in reduced impacts with regard to climate change, compared to the project. *(Less impact)*

LAND USE AND PLANNING

This alternative would not result in redevelopment of the site. As a result, this alternative would result in no additional changes to the existing site. However, its continued use as storage and light industrial and low-density residential uses would not implement the City's General Plan Update (pending approval by the City) and would conflict with the City's contemplated land use and zoning designations for the site. Under the currently adopted General Plan, Alternative 1 would not conflict with land use designation and zoning, and therefore would have no impact, which would be reduced compared to the project's less than significant impact associated with consistency with land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect, and physical division of an existing community. *(Less impact)*

NOISE

Under the No Project–No Development Alternative, no development activities would occur, and no additional traffic would be generated. Therefore, there would be no increase in potential noise conflicts under the No Project–No Development Alternative. By comparison, the project would result in less-than-significant construction-generated noise and vibration levels and a less-than-significant operation-related noise impact. Although the project would not have significant and unavoidable noise impacts, the No Project–No Development Alternative would not generate noise as a result of on-site construction or additional operation activities beyond existing conditions; therefore, noise impacts associated with this alternative would be reduced, in comparison to the impacts of the project. *(Less impact; significant and unavoidable construction noise impact avoided)*

POPULATION AND HOUSING

Under this alternative, no student housing would be provided at the site. As a result, the additional housing for existing and projected enrollment (under the 2004 Master Plan) within Cal Poly Humboldt property and proximate to the main campus would not be provided. As student enrollment at Cal Poly Humboldt increases, as anticipated in the 2004 Master Plan and associated EIR, the additional students may seek housing within the nearby community, which could induce the construction of additional housing within the City of Arcata and Humboldt County. However, this demand for housing would not be entirely directly attributable to this alternative, as demonstrated by the provision of additional alternatives to the project within this chapter (e.g., Alternative 3). As a result and for the purposes of this analysis, this alternative would not necessitate the provision of housing elsewhere because of increased activity at the site, nor would it displace substantial numbers of existing people or homes. Accordingly, this alternative would result in reduced population and housing impacts compared to the project. *(Less impact)*

PUBLIC SERVICES

Under this alternative, no development would occur at the project site, and existing uses would continue to operate as they do under existing conditions. As a result, this alternative would not result in an increase in demand for public services. With project implementation, impacts were determined to be less than significant because the proposed development would be adequately served by local public service providers. However, this alternative would result in no impact altogether because there would be no change in demand, and as a result, public services impacts would be reduced under this alternative. *(Less impact)*

TRANSPORTATION

Under the No Project–No Development Alternative, no vehicular trips would be generated as a result of on-site construction or operation of new facilities, and there would be no change to local vehicular trips because the project site would remain vacant and unused. In comparison, the project would add new trips to the local roadway network; however, vehicle miles traveled (VMT) as a result of project implementation would not exceed appropriate standards. Construction of the project may temporarily disrupt parking and pedestrian and bike access in the vicinity of the project site, but these localized and temporary impacts would be minimized through implementation of a construction traffic management plan. However, the project would require implementation of mitigation to reduce impacts related to the provision of appropriate bicycle and pedestrian facilities to and from the project site because of the current lack sufficient bicycle and pedestrian facilities between the Cal Poly Humboldt main campus and the project site. The No Project–No Development Alternative would avoid the potential hazards related to bicycle and pedestrian facilities associated to the project. Additionally, under this alternative, no new vehicular or bicycle facilities would be introduced; therefore, no connectivity improvements would be implemented. Further, the No Project–No Development Alternative would result in no additional trips; no vehicular transportation impacts; and no transit, bicycle, or pedestrian impacts. Therefore, the No Project–No Development Alternative would result in reduced transportation and circulation impacts, compared to the project. *(Less impact; significant but mitigable transportation impacts avoided)*

UTILITIES AND SERVICE SYSTEMS

The No Project–No Development Alternative would not result in additional demand for water, wastewater treatment, stormwater conveyance, electricity, or natural gas; nor would it result in the need for new infrastructure. By comparison, the project would result in largely less-than-significant impacts on utility demand and infrastructure but would require potential improvement of an off-site sewer pipe (pending verification through mitigation implementation). Comparatively, the No Project–No Development Alternative would not result in any significant impacts because the site would remain in its current underutilized condition and would have no additional demand for potable water, stormwater/surface-runoff management, wastewater treatment, and stormwater and wastewater conveyance infrastructure. With respect to utilities and service systems, the No Project–No Development Alternative would have reduced utilities impacts, in comparison to the project. *(Less impact; significant but mitigable sewer line impacts avoided)*

ACHIEVEMENT OF PROJECT OBJECTIVES

The No Project–No Development Alternative would not support Cal Poly Humboldt's academic mission by accommodating increases in student enrollment proximate to campus and within Cal Poly Humboldt property (Project Objectives 1, 2, and 3). In addition, it would not optimize an underutilized location or contribute to the overall livability of the area (Project Objective 4). In general, Alternative 1 would not meet any of the project objectives and would not achieve the underlying project purpose of the project.

5.3.2 Alternative 2: Lower-Density Student Housing Development

Under this alternative, the project site would be developed with a smaller housing development, consistent with the previously proposed development at the project site. Under this alternative, up to 800 student beds would be provided within four 4-story buildings surrounding internal courtyards located within the central portion of the site. This alternative was previously considered by the City as part of an application for a private development on the same site, but was never approved. As noted in Chapter 2, "Project Description," the application was rescinded in 2019.

AESTHETICS

Both Alternative 2 and the project would redevelop the project site with new buildings, parking, open space and landscaping, and utility infrastructure. While this alternative would include less development at the project site, because the project site is within an urban/suburban area of the city, surrounded by developed uses, the local visual character as experienced by viewer groups in the area would be similarly altered under this alternative. Because of the reduced height of on-site buildings under this alternative, in comparison to the project, impacts would be less; however, views from Viewpoints 1, 3, and 4 (refer to Section 3.1, "Aesthetics"), which includes residents to the west and south, as well as motorists along an eligible State scenic highway segment, would experience a substantial adverse change in visual character. Similar mitigation to that of the project with respect to light and glare impacts would also be required under this alternative. *(Similar impact)*

AIR QUALITY

Similar to the project, Alternative 2 would include construction of new student housing, internal roadways, and landscaping that would generate less than significant construction-related air emissions with implementation of identified mitigation measures. However, implementation of this alternative would reduce ground disturbance, which would result in incrementally reduced construction-related emissions. In addition, the elimination of approximately 100 student beds would reduce site-generated operational and vehicular air emissions. The project would not result in significant and unavoidable air quality impacts; therefore, Alternative 2 would not avoid any significant impacts. However, this alternative would reduce construction-related air emissions and could reduce operational-related air emissions relative to the proposed project, resulting in reduced air quality impacts, in comparison to the project. *(Less impact)*

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Alternative 2 would still require excavation, removal of existing on-site structures, and disturbance of site soils during construction, which could result in the potential to disturb undiscovered/unrecorded subsurface archaeological and tribal cultural resources. Both Alternative 2 and the project would reduce significant impacts related to these resources to less-than-significant levels with mitigation. Therefore, Alternative 2 would result in similar impacts related to the potential to disturb as-yet-undiscovered subsurface archaeological and tribal cultural resources. *(Similar impact)*

BIOLOGICAL RESOURCES

With respect to biological resources, Alternative 2 would develop the same site as the project and with multiple housing structures. Although the massing and scale of development at the site would be less under this alternative, the disturbance area and potential for impacts to biological resources would be the same. Therefore, similar to the project, this alternative would require mitigation for potential impacts related to special status wildlife, which would then be mitigated to less than significant. Therefore, this alternative would have biological resource impacts similar to those of the project. *(Similar impact)*

ENERGY

Similar to the project, Alternative 2 would include development of the project site with student housing, which would increase electricity consumption compared to existing conditions. Also similar to the proposed project, Alternative 2 would be designed to meet current building standards and would implement energy efficiency measures to achieve Leadership in Energy and Environmental Design (LEED) v4 Silver certification (consistent with Executive Order B-18-12). Therefore, neither the project nor this alternative would result in the wasteful, inefficient, or unnecessary consumption of energy during construction or operation. However, this alternative would result in less construction activities and operation of fewer student residences, which would further reduce fuel consumption and energy use. This alternative would result in reduced energy impact, compared to the project. *(Less impact)*

GREENHOUSE GAS EMISSIONS

Similar to the project, Alternative 2 would include construction of student residences at the project site. As with the project, Alternative 2 would provide EV-ready parking spaces equivalent to 10 percent of the total number of on-site parking spaces and other sustainability features consistent with current building efficiency standards. As under the project, the GHG emissions related to construction, vehicle trips, area sources, electricity and natural gas consumption, water use, and waste generation would not be considered significant, due in large part to the VMT efficiency that would be achieved by the provision of high-density housing on-site. However, implementation of this alternative would reduce construction-related emissions because of the reduced level of development. Because up to 800 student beds would be provided upon buildout of the project site, this alternative would also result in a reduction of site occupants on the site, which would reduce operational GHG emissions. The reduction in the number of site occupants associated with buildout may also reduce vehicle trips and VMT. Overall, Alternative 2 would reduce GHG emissions, resulting in reduced GHG-related impacts in comparison to the project. *(Less impact)*

LAND USE AND PLANNING

Development of the project site under Alternative 2 would involve the provision of high-density student housing proximate to the Cal Poly Humboldt campus. Although the level of development under this alternative would be approximately 15 percent less than under the project, the type of development and land use would remain the same. As a result, potential land use impacts associated with division of an established community and conflicts with applicable plans and policies would be less than significant, as under the project. *(Similar impact)*

NOISE

Similar to the project, Alternative 2 would involve the construction of on-site residential structures, internal roadways, common areas, and site landscaping. This alternative would reduce construction activities and construction-related noise compared to the project because it would involve the construction of structures of lower height and with less square footage. Nonetheless, construction activities would occur within the same developable areas as the project; therefore, potential impacts on off-site receptors during construction would be similar to those under the project. With respect to operational noise, this alternative would generally reduce the level of activity at the site (i.e., reduced operational uses, fewer occupants, less parking, and less mechanical equipment compared to the proposed project). Therefore, while the overall construction and operational noise impacts of this alternative would be reduced in comparison to the noise impacts of the project, impacts would be expected to remain significant with implementation of this alternative. *(Less impact)*

POPULATION AND HOUSING

Under Alternative 2, a reduced number of student beds (i.e., housing capacity) would be provided at the site. As a result, the additional housing for existing/projected enrollment (under the 2004 Master Plan) within the Cal Poly Humboldt property and proximate to the main campus would not be provided to the extent that it would be provided under the project. Nonetheless, this alternative would provide some additional student housing which would reduce competition for the limited amount of available housing elsewhere in the community by both students and local residents. As this alternative would result in a net increase in the number of student housing opportunities in the area, the removal of the three residences on-site would not be considered substantial or necessitate replacement housing elsewhere. As a result, this alternative would result in a population and housing impact similar to that of the project. *(Similar impact)*

PUBLIC SERVICES AND RECREATION

Alternative 2 would result in an increase in demand for public services similar to that of the project. Under the project, impacts were determined to be less than significant because development of the project site would be adequately served by local public service providers and project-related demand for service would not require new or modified facilities, the development of which could result in significant environmental impacts. Alternative 2 would also result in less-than-significant public service impacts because this alternative would also not require new or modified public service facilities, the development of which could result in significant environmental effects. *(Similar Impact)*

TRANSPORTATION

Because Alternative 2 would involve less overall development of the project site (in terms of structural square footage), it would reduce the construction effort and would generate less short-term construction traffic. The localized and temporary impacts would continue to be minimized through implementation of a construction traffic management plan. Because Alternative 2 would accommodate fewer site occupants than the project, overall VMT associated with on-site uses would also be reduced. However, as noted in Section 3.11, "Transportation," no significant and unavoidable transportation impacts are anticipated. Because residential uses would be developed on-site, the need for mitigation related to the provision/consideration of pedestrian/bicycle facilities on- and off-site would remain under this alternative. Although Alternative 2 would not avoid the need for the aforementioned mitigation, the transportation-related impacts under this alternative would be reduced when compared to those of the project because of the reduced level of development at the project site. *(Less impact)*

UTILITIES AND SERVICE SYSTEMS

Alternative 2 would reduce the intensity of on-site land uses (i.e., fewer site occupants and reduced building square footage) at the project site. Therefore, this alternative could result in an incrementally lower demand for water, wastewater collection and treatment, and electricity. The project would not result in significant utilities impacts; therefore, this alternative would not avoid any significant impacts. Similar mitigation related to sewer lines in the area would also be required as part of this alternative. However, Alternative 2 would reduce utility demands. Therefore, this alternative would result in reduced utilities impacts compared to the project. *(Less impact)*

ACHIEVEMENT OF PROJECT OBJECTIVES

Alternative 2 would achieve most of the stated project objectives, similar to the proposed project. However, Alternative 2 would provide less opportunity for students to reside in Cal Poly Humboldt housing and reduce off-campus housing demands (Project Objectives 1 and 2). This alternative would also not achieve the level of optimization of the project site (Project Objective 4) that the project would achieve, nor would it (in doing so) eliminate the significant and unavoidable impacts associated with the project. Thus, Alternative 2 would not provide the same level of achievement of the project objectives and would be less effective in supporting the underlying purpose of Cal Poly Humboldt.

5.3.3 Alternative 3: On-Campus Student Housing

Under this alternative, development of the project site would not occur. Instead, the upper playfield of the Cal Poly Humboldt main campus, approximately 2.3 acres in size (in contrast to the 12.8-acre project site), would be developed with student housing. In terms of housing density, this alternative would be similar in size and scale (approximately 500 student beds per acre within 2 multistory buildings) to Redwood and Sunset Halls, which provide on-campus housing for first-year students. In order to be consistent with other typical campus housing, this alternative would not provide apartment-style housing and would more closely resemble traditional residence halls (i.e., without kitchens and other amenities such as dining). Based on similarly sized on-campus housing, under this alternative, the buildings would likely be 5-7 stories in height with reduced communal meeting and study space compared to the project.

As part of ongoing campus planning efforts, other developable areas of campus are also being preliminarily considered for additional student housing or essential academic/administrative programming space in the future. This alternative would require the removal of the university's upper playfield, which currently supports softball and other track and field activities. It is also the only multipurpose, natural grass field on campus. Consequently, this alternative would also require the conversion of other on-campus recreational areas (e.g., Redwood Bowl or College Creek Soccer Field) to multipurpose facilities to supplant the loss of the upper playfield and its functions. It would also result in an overall reduction in recreational opportunities on campus.

AESTHETICS

Under this alternative, the changes in visual character as a result of student housing development would be similar to those under the project; however, the degree of visual change in the area as a result of development of the on-campus location would be less than under the project. Compared to the project site, the on-campus location has limited visibility from publicly accessible vantagepoints and none from US 101. While the size (up to seven stories) and design of the student housing under Alternative 3 would be similar to those under the project, the change in visual character would be less under Alternative 3. For example, whereas the project site is visible from US 101, the existing residential neighborhoods to the west and south, the L.K. Wood Boulevard/US 101 overpass, and certain nearby parks/open space, the upper playfield site has limited visibility from off-site locations because of intervening topography and vegetation. Some visibility of the student housing identified in this alternative would occur from locations like the 14th Street overcrossing of US 101 because of the potential structures' height; however, existing campus development (e.g., the Behavioral and Social Science Building) is already visible from such locations. At the project site, this alternative would involve no change from existing conditions. Therefore, the potential impacts of this alternative with respect to affecting long-distance views, resulting in a substantial adverse effect on existing visual character, and affecting scenic resources along a State scenic highway would be reduced in comparison to the project. *(Less impact)*

AIR QUALITY

Alternative 3 would include the same type and amount of development, albeit at a different location and within the Cal Poly Humboldt main campus, as the project. As a result, and similar to the project, this alternative would be consistent with applicable air quality plans by locating more students and faculty/staff on campus, proximate to their likely destinations, and in a manner consistent with existing regional air quality planning efforts. Because of the similar level of projected development, Alternative 3 would emit the same overall air emissions (associated with on-site structures) during construction and operation. During operations, Alternative 3 would provide the same number of on-campus housing opportunities for students as the project. However, because of the location of this alternative within the main campus, the amount of operation-related emissions of criteria air pollutants from sources such as vehicle trips to and from the main campus would be incrementally less than under the project. Generally, air quality impacts under Alternative 3 would be less than significant with mitigation (as a result of construction-related emissions), and the operation-related air quality impact would be reduced in comparison to the project. *(Less impact)*

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Earth-moving activities have the potential to disturb archaeological resources or result in accidental discovery of human remains. Under the project, there would be ground-disturbing activities (e.g., grading, excavation) that could result in the accidental discovery of archaeological and tribal cultural resources; however, feasible mitigation measures would reduce these impacts to a less-than-significant level. The potential to encounter these types of cultural resources would be similar under Alternative 3 because ground-disturbing activities would occur during construction. *(Similar impact)*

BIOLOGICAL RESOURCES

The upper playfield is a turf playfield located against the wooded eastern edge of the Cal Poly Humboldt main campus. Compared to the project site, the upper playfield has a greater potential for sensitive biological resource, along its northern and eastern edges. Due to the small size of the upper playfield, this alternative would likely require the removal of existing trees and vegetation along the northern and eastern boundaries of the site, whereas the project would avoid sensitive biological resources located in the northern and western portions of the site (e.g., Janes Creek and a small wetland) because of the larger size of the site. As a result, Alternative 3 could result in adverse effects on additional special-status species, associated with the habitat type (i.e., redwood forest) and potential wildlife corridors located adjacent to this alternative site. Depending on the species that may occur at or be near this alternative's site, these potential impacts could be mitigated through implementation of mitigation measures discussed in Section 3.4, "Biological Resources," or additional mitigation may be necessary. Because the size of this alternative location is relatively small compared to that of the project, avoidance of sensitive biological resources may not be feasible. As a result, impacts related to disturbance of biological resources would be greater under this alternative. (*Greater impact)*

ENERGY

Under Alternative 3, the same amount of development would occur as under the project, which would result in the same amount of construction activities and thus the same energy impacts during construction. Although development proposed under Alternative 3 and the project would be similar in terms of efficiency and structural energy consumption during operations, the number of vehicle trips to and from the rest of the main campus could be incrementally less under this alternative. Therefore, the impact would be less than significant under this alternative and reduced in comparison to the impacts of the project. *(Less impact)*

GREENHOUSE GAS EMISSIONS

Because the level of on-campus development under Alternative 3 would be similar to that under the project, including the need for the development of new connections to existing utilities, there would be similar construction- and operation-related GHG emissions compared to the 2035 Master Plan. However, because of the location of this alternative within the main campus, the corresponding amount of operational GHG emissions from sources such as vehicle trips to and from the main campus would be incrementally less than under the project. Generally, GHG impacts under Alternative 3 would be less than significant and, during operation, reduced in comparison to those of the project. *(Less impact)*

LAND USE AND PLANNING

Alternative 3 would not result in development of the project site, which would remain in its current underutilized condition. However, with respect to the threshold regarding physical division of an established community, this alternative would also not develop the project site in a manner consistent with current planning efforts by the City.

While development of the upper playfield would not result in the division of an established community, this alternative would result in the removal of an existing essential recreational facility at the main campus. The removal of the upper playfield could necessitate the construction of new facilities which may be inconsistent with ongoing planning efforts by the university. Construction at this location would conflict with the designated use of the alternative site under the current Master Plan for Cal Poly Humboldt. Impacts would be incrementally greater than under the project because of the inconsistency with the mix of land uses per the City's General Plan Update (pending City approval), inconsistency with the current 2004 Master Plan and ongoing planning efforts by the campus, and the further urbanization of the campus's eastern edge. *(Greater impact)*

NOISE

Because Alternative 3 and the project would result in the same level of development, earth-moving activities (e.g., grading, excavation) and noise and vibration impacts associated with development would be similar. However, receptors subject to those impacts would be different. Because no new development would occur within 500 feet of on-campus or off-campus residences under Alternative 3, impacts on receptors would be reduced. During operation, this alternative would likely result in fewer vehicle trips to, from, and within the campus, resulting in less roadway noise. As under the project, this impact would be less than significant. Because of the lack of receptors at the Alternative 3 site and fewer vehicle trips during operation, noise impacts associated with this alternative would be reduced in comparison to the impacts of the project. *(Less impact; significant and unavoidable noise impact avoided)*

POPULATION AND HOUSING

Alternative 3 would allow development of the same number of student beds as the project, but would not allow for the development of apartment-style housing and amenities. Alternative 3 would not induce unplanned population growth or displace existing residents. Because the number of student beds to be provided under this alternative would be the same under the project and would likewise accommodate the campus's existing and planned student population, impacts related to unplanned population growth and displacement of substantial numbers of existing people or homes would be similar and remain less than significant. *(Similar impact)*

PUBLIC SERVICES AND RECREATION

Compared to the project, Alternative 3 would result in the same level of development at an on-campus location (i.e., the upper playfield). For this reason, the increase in demand for public services by the student housing development would be the same as under the project. Under the project, impacts on fire service, police service, schools, and libraries, and recreation were determined to be less than significant. Based on the size (964 student beds), location (on university property), and type (student housing), public services impacts to fire and police services, schools, and libraries under Alternative 3 would be similar in type and magnitude to those associated with the project. However, this alternative would require the removal of the existing upper playfield, which is the only turf field within the Cal Poly Humboldt main campus and is considered a unique recreational feature of the campus. The upper playfield also provides program space for certain classes and camps provided by Cal Poly Humboldt. As a result of its removal, the use of other on-campus field/recreational space would increase, and the development of additional field space within the main campus or off-campus may be required, which could result in environmental impacts. As a result, impacts on public services and recreation under Alternative 3 would be potentially significant and greater than under the project. *(Greater impact; potentially significant impact related to recreation)*

TRANSPORTATION

Under Alternative 3, VMT associated with on-campus student housing would be less than under the project because students would be on the campus and therefore that much closer to on-campus destinations. Because of the proximity of the Alternative 3 site to campus academic and other uses, development under this alternative would reduce overall VMT and be considered more consistent with bicycle and pedestrian policies because it would locate students closer to their destination and further promote alternative transportation. For this reason, the transportation impacts under Alternative 3 would be reduced in comparison to the impacts of the project. *(Less impact)*

UTILITIES AND SERVICE SYSTEMS

Under Alternative 3, development of the upper playfield with student housing would place greater demand on utilities and service system than under existing conditions. The overall demand for utilities would be the same as under the project because the same amount of development and number of student residents would occur under this alternative. As with the project, development under this alternative would connect to the same municipal utility infrastructure systems, which would be generally sufficient to meet the additional demands associated with this alternative. The potential need to modify nearby utility lines would be similar to that under the project, and mitigation similar to that identified for the project in Section 3.12, "Utilities and Service Systems," may be required. Further, similar stormwater management features and procedures would be required. As a result, impacts would be similar to those under the project. *(Similar Impact)*

ACHIEVEMENT OF PROJECT OBJECTIVES

Alternative 3 would achieve most of the stated project objectives, similar to the proposed project. However, Alternative 3 would not involve the optimization of an underutilized site (Project Objective 4), because the upper playfield is considered an essential recreational amenity to the Cal Poly Humboldt main campus and the students, faculty, and staff. As part of that, it would also detract from overall campus life/experience (Project Objective 3) by removing an essential recreational amenity of the existing campus. Additionally, this alternative would have secondary effects such as the net permanent loss of a unique recreational facility and the need to redevelop or intensify the use of other campus recreational facilities. As noted above, this alternative may result in greater impacts on biological resources, which would be less consistent with Project Objective 8, as stated above. Thus, Alternative 3 would not achieve the project objectives to the same extent as the project and would be less effective in supporting the overall educational mission of Cal Poly Humboldt, which includes consideration, maintenance, and provision of a certain level of recreational amenities for its students.

5.3.4 Alternative 4: Faculty and Staff Housing

Under Alternative 4, the project site would be developed with a series of townhomes and apartments for faculty and staff and their families. Assuming that 0.1 acre would be required per townhome/residence, including amenities (e.g., internal circulation and open space), and allowing for appropriate setbacks from the existing lumber mill to the northeast and US 101, it is anticipated that approximately 150 units could be developed on-site. On-site structures would be up to two stories in height and would resemble the Janes Creek Meadows residential community. Assuming 2.12 persons per household (DOF 2021), this would equate to 318 on-site residents.

AESTHETICS

Both Alternative 4 and the project would redevelop the project site with new buildings, parking, open space and landscaping, and utility infrastructure. While this alternative would include less development at the project site, because the project site is within a densely developed area of the city, surrounded by developed uses, the local visual character as experienced by viewer groups in the area would be altered under this alternative, albeit to a lesser degree. Because of the lesser height of on-site structures under this alternative, impacts would be reduced; however, residents to the west and south, as well as motorists along an eligible State scenic highway segment, would potentially experience a substantial adverse change in visual character. This could likely be mitigated through the provision of on-site landscaping (including trees similar in height and scale to those in the adjacent hillsides), and this alternative could eliminate a significant and unavoidable impact of the project. Mitigation to address light and glare impacts would be required and would be similar to that identified for the project. *(Less impact; significant and unavoidable impacts avoided with mitigation)*

AIR QUALITY

Similar to the project, Alternative 4 would include construction of new housing, internal roadways, and landscaping, which would generate less-than-significant construction-related air emissions with implementation of identified mitigation measures. However, implementation of this alternative would reduce overall construction as a result of lesser anticipated square footage (i.e., 150 units with an average square footage of 1,500 square feet), which would result in incrementally reduced construction-related emissions. In addition, the reduction in overall site population would reduce site-generated operational and vehicular air emissions. As noted in Section 3.2, “Air Quality,” the project would not result in significant and unavoidable air quality impacts; therefore, Alternative 4 would not avoid any significant impacts. However, this alternative would reduce construction-related air emissions and could reduce operational-related air emissions relative to the proposed project, resulting in reduced air quality impacts in comparison to those of the project. *(Less impact)*

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Alternative 4 would still require excavation, removal of existing on-site structures, and disturbance of site soils during construction, which could result in the potential to disturb undiscovered/unrecorded subsurface archaeological and tribal cultural resources. Both Alternative 4 and the project would reduce significant impacts related to these resources to less-than-significant levels with mitigation. Therefore, Alternative 4 would result in similar impacts related to the potential to disturb as-yet-undiscovered subsurface archaeological and tribal cultural resources. *(Similar impact)*

BIOLOGICAL RESOURCES

With respect to biological resources, Alternative 4 would develop the same site as the project and with multiple housing structures. Although the massing and scale of development at the site would be less under this alternative, the disturbance area and potential for impacts on biological resources would be the same. Therefore, similar to the project, this alternative would require mitigation for potential impacts related to special-status wildlife, which would then be mitigated to less than significant. Therefore, this alternative would have biological resource impacts similar to those of the project. *(Similar impact)*

ENERGY

Similar to the project, Alternative 4 would include development of the project site with housing (albeit faculty/staff housing versus student housing), which would result in an increase in electricity consumption relative to existing conditions. Also similar to the project, Alternative 4 would be designed to meet current building standards and would implement energy efficiency measures to achieve LEED v4 Silver certification (consistent with Executive Order B-18-12). Therefore, neither the project nor this alternative would result in the wasteful, inefficient, or unnecessary consumption of energy during construction or operation. However, Alternative 4 would result in less construction activity and operation of fewer student residences, which would further reduce fuel consumption and energy use. Therefore, this alternative would result in reduced impacts related to energy use and efficiency compared to the project. *(Less impact)*

GREENHOUSE GAS EMISSIONS

Alternative 4 would include construction of faculty/staff residences at the project site. As with the project, Alternative 4 would involve the incorporation of site sustainability features consistent with current building efficiency standards and the CSU Sustainability Policy. As under the project, the GHG emissions of this alternative related to construction, vehicle trips, area sources, electricity and natural gas consumption, water use, and waste generation, would not be considered significant. However, implementation of this alternative would reduce construction-related emissions because of the reduced level of development. Because up to 318 people would reside at the project site upon buildout, compared to the 964 for the project, this alternative would also result in a reduction of operational GHG emissions. The reduction in site occupants associated with buildout may also reduce vehicle trips and VMT. Overall, Alternative 4 would reduce GHG emissions, resulting in reduced impacts compared to the project. *(Less impact)*

LAND USE AND PLANNING

Development of the project site under Alternative 4 would involve the provision of faculty/staff housing proximate to the Cal Poly Humboldt campus. Although the level of development under this alternative would be approximately one-third that of the project, the type of development and land use (i.e., high-density residential) would remain the same. As a result, potential land use impacts associated with division of an established community and conflicts with applicable plans and policies would be less than significant, as under the project. *(Similar impact)*

NOISE

Similar to the project, Alternative 4 would involve the construction of on-site residential structures, internal roadways, common areas, and site landscaping. This alternative would reduce construction activities and construction-related noise compared to the project because it would involve the construction of structures of lower height and with less square footage. Nonetheless, construction activities would occur within the same developable areas as the project; therefore, potential impacts on off-site receptors during construction would be similar to those under the project. With respect to operational noise, this alternative would generally reduce the level of activity at the site (i.e., reduced operational uses, fewer occupants, less parking, and less mechanical equipment compared to the proposed project). Therefore, while the overall construction and operational noise impacts of this alternative would be reduced in comparison to the project, impacts would be expected to remain significant with implementation of this alternative. *(Less impact)*

POPULATION AND HOUSING

Under Alternative 4, faculty/staff housing would be provided at the site rather than student housing. As a result, the additional housing for existing/projected student enrollment (under the 2004 Master Plan) within Cal Poly Humboldt property and proximate to the main campus would not be provided. Nonetheless, because this alternative would provide additional Cal Poly Humboldt-related housing proximate to the main campus, it would likely reduce the level of Cal Poly Humboldt faculty/staff living in the local community. This alternative would not necessitate the provision of housing elsewhere, nor would it displace existing people or homes beyond the three residential structures on-site that would be removed under both this alternative and the project. As a result, this alternative would result in a population and housing impact similar to that of the project. *(Similar impact)*

PUBLIC SERVICES AND RECREATION

Alternative 4 would result in an increase in demand for public services similar to that of the project. Under the project, impacts were determined to be less than significant because development of the project site would be adequately served by local public service providers and project-related demand for service would not require new or modified facilities, the development of which could result in significant environmental impacts. Under Alternative 4, the project would potentially result in greater public services impacts, primarily related to potential new, school-age children who would seek enrollment in the Arcata School District and Northern Humboldt Union High School District. For the most part, this alternative, like the project, would result in less-than-significant public service impacts; however, potential impacts on local schools would be greater under this alternative. *(Greater Impact)*

TRANSPORTATION

Because Alternative 4 would involve less overall development of the project site (in terms of structural square footage), it would reduce the construction effort and would generate less short-term construction traffic. The localized and temporary impacts would continue to be minimized through implementation of a construction traffic management plan. Because Alternative 4 would accommodate fewer site occupants than the project (318 rather than 964), overall VMT associated with on-site uses would also be reduced. However, as noted in Section 3.11, "Transportation," no significant and unavoidable transportation impacts are anticipated. Because residential uses would be developed on-site, the need for mitigation related to the provision/consideration of pedestrian/bicycle facilities on- and off-site would remain under this alternative. Although Alternative 4 would not avoid the need for the aforementioned mitigation, the transportation-related impacts under this alternative would be reduced in comparison to the transportation impacts of the project because of the reduced level of development at the project site. *(Less impact)*

UTILITIES AND SERVICE SYSTEMS

Alternative 4 would reduce the intensity of on-site land uses (i.e., fewer site occupants and reduced building square footage) at the project site. Therefore, this alternative could result in an incrementally lower demand for water, wastewater collection and treatment, and electricity. The project would not result in significant utilities impacts; therefore, this alternative would not avoid any significant and unavoidable impacts. Similar mitigation related to sewer lines in the area would also be required as part of this alternative. However, Alternative 4 would reduce utility demands. Therefore, this alternative would result in reduced impacts compared to the project. *(Less impact)*

ACHIEVEMENT OF PROJECT OBJECTIVES

Alternative 4 would achieve most of the stated project objectives, similar to the proposed project. However, Alternative 4 would not provide opportunities for students to reside in Cal Poly Humboldt housing and reduce off-campus housing demand (Project Objective 2). Alternative 4 would result in fewer housing options and resources available to students compared to faculty and staff, thereby not achieving Project Objectives 1 and 5 to the extent of the project. The lack of available on-campus student housing has deterred prospective students from accepting enrollment, which has caused the university to suffer from reduced yield. This alternative would also not achieve the level of optimization of the project site (Project Objective 4) that the project would achieve, and would not minimize building footprints on-site (Project Objective 5) to the extent of the project. Thus, Alternative 4 would not provide the same level of achievement of the project objectives and would be less effective in supporting the underlying purpose of Cal Poly Humboldt.

5.4 COMPARISON OF ALTERNATIVES

Table 5-1 summarizes the environmental analysis provided above for the Student Housing Project alternatives.

Table 5-1 Summary of Environmental Effects of the Alternatives Relative to the Student Housing Project

Environmental Topic	Project	Alternative 1: No Project– No Development Alternative	Alternative 2: Lower Density Student Housing Development	Alternative 3: On-Campus Student Housing	Alternative 4: Faculty and Staff Housing
Aesthetics	SU	-	-	-	-
Air Quality	LTS/M	-	=	-	=
Archaeological, Historical, and Tribal Cultural Resources	LTS/M	-	=	=	=
Biological Resources	LTS/M	-	=	+	=
Energy	LTS	-	-	-	-
Greenhouse Gas Emissions	LTS	-	-	-	-
Land Use and Planning	LTS	-	=	+	=
Noise	SU	-	-	-	-
Population and Housing	LTS	-	=	=	=
Public Services and Recreation	LTS	-	=	+	+
Transportation	LTS/M	-	-	-	-
Utilities and Service Systems	LTS/M	-	-	=	-

Notes:

Impact Status:

LTS = less-than-significant impact.

LTS/M = LTS with mitigation.

SU = Significant and unavoidable.

= - Impacts would be similar to those of the project.

- - Impacts would be less than those of the project.

+ - Impacts would be greater than those of the project.

Source: Data compiled by Ascent Environmental in 2022.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines Section 15126.6 states that an EIR should identify the “environmentally superior” alternative. It further states, “If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” As shown in the Executive Summary of this EIR, there would be significant and unavoidable impacts associated with the project. These impacts are related to aesthetics. Additionally, significant but mitigable impacts would occur with respect to air quality; archaeological, historical, and tribal cultural resources; biological resources; noise; transportation; and utilities and service systems.

Because Alternative 1 (No Project–No Development), which would represent the least amount of development compared to existing conditions, would have the fewest and least substantial potential physical environmental impacts. Because the No Project–No Development Alternative (described above in Section 5.4.1) and would avoid the significant adverse impacts resulting from the construction and operation of the project, it is the environmentally superior alternative. As required by State CEQA Guidelines Section 15126.6(e)(2), because the No Project–No Development Alternative was identified as the environmentally superior alternative, another environmentally superior alternative must be identified among the other alternatives considered.

When considering objectives, the project would best meet the purpose and need. In contrast, Alternative 1 would not provide additional housing to accommodate projected student enrollment growth under the current 2004 Master Plan. Alternative 2 would generally result in impacts that are less than or equal to those of the project but would not provide the extent of student housing afforded by the project to meet existing and projected housing demand, as anticipated in the 2004 Master Plan and as a result of Cal Poly Humboldt’s designation as a polytechnic university within the CSU system. It would also not eliminate the significant and unavoidable impacts of the project, although it would lessen them. Alternative 3 would reduce some impacts as a result of development of student housing on-campus but would result in some greater impacts because it would replace existing campus uses. While Alternative 4 would generally meet the objectives of the project, it would provide a different housing type than is considered necessary and would be less consistent with the overall educational mission of Cal Poly Humboldt. Further, it would have additional impacts on local schools that would not occur with the project.

Alternatives 2, 3, and 4 would result in various environmental effects, some of which would be greater than with implementation of the project, some less than, and some the same. Nonetheless, each of the alternatives considered would result in significant and unavoidable environmental impacts for a variety of issue areas depending on the alternative, ranging from aesthetics and noise (similar to the project) to biological resources and public services/recreation, as illustrated in Table 5-1. However, on balance, the environmentally superior alternative would be Alternative 2: Lower Density Student Housing Development, considering the reduced size of development compared to the project, as it would reduce the degree of impact but not the overall significance conclusions for aesthetics and noise impacts. However, Alternative 2 would not meet the existing and projected housing demand needed to accommodate projected growth in student enrollment, nor would it support the underlying purpose of the project to provide additional student housing and reduce the student housing burden on the local community to the extent of the project.

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6 OTHER CEQA SECTIONS

6.1 GROWTH INDUCEMENT

CEQA Section 21100(b)(5) specifies that the growth-inducing impacts of a project must be addressed in an EIR. Section 15126.2(e) of the State CEQA Guidelines provides the following guidance for assessing growth-inducing impacts of a project:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can induce growth directly, indirectly, or both. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; or
- removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may foreseeably lead to environmental effects. If substantial growth inducement occurs, it can result in secondary environmental effects, such as increased demand for housing, demand for other community and public services and infrastructure capacity, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, conversion of agricultural and open space land to urban/suburban uses, and other effects.

6.1.1 Summary of Growth-Inducing Impacts

The State CEQA Guidelines require discussion in an EIR of the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. It is not assumed that growth in any area is beneficial or detrimental, consistent with the State CEQA Guidelines (CCR Section 15126.2[e]).

Environmental effects resulting from induced growth fit the CEQA definition of "indirect" effects in the State CEQA Guidelines (CCR Section 15358[a][2]). These indirect or secondary effects of growth may result in significant environmental impacts. CEQA does not require that the EIR speculate unduly about the precise location and site-specific characteristics of significant, indirect effects caused by induced growth, but a good-faith effort is required to disclose what is feasible to assess. Potential secondary effects of growth could include consequences—such as conversion of open space to developed uses, increased demand on community and public services and infrastructure, increased traffic and noise, degradation of air and water quality, or degradation or loss of plant and wildlife habitat—that are the result of growth fostered by the project.

6.1.2 Growth-Inducing Impacts of the Project

This analysis examines the following potential growth-inducing impacts related to implementation of the project and assesses whether these effects are significant and adverse:

- foster population growth and construction of housing;
- eliminate obstacles to population growth;
- foster economic growth;
- affect service levels, facility capacity, or infrastructure demand; and
- encourage or facilitate other activities that could significantly affect the environment.

Implementation of the project would foster short-term and long-term economic growth within the City of Arcata as a result of new construction and operation of residences. Construction would likely begin in 2023 and extend for approximately 18–24 months. During construction, the estimated peak level of construction workers at any given time is estimated to be no more than 50 workers. As described in Section 3.9, “Population and Housing,” a large number of people are employed in the construction industry in the region, and it would not be reasonable to expect that any construction workers would relocate to the City for a temporary job. During operation, up to 964 new student residents would occupy the on-site units. On-site employment opportunities for retail and other on-site services are anticipated to be absorbed by student residents and existing campus staff. As a result, it is considered unlikely that on-site employment opportunities would be fulfilled by residents outside of the City.

The project would not remove barriers to population growth insofar as the project would involve the accommodation of anticipated growth under Cal Poly Humboldt’s current 2004 Master Plan and as a result of the recent designation of the campus as the third California State Polytechnic University. Further, because of the physical constraints imposed by US 101, existing residential development to the northwest, west, and south, and industrial uses to the north, implementing the project would not remove additional barriers to population growth, because no new or expanded (beyond what is currently planned by local and State jurisdictions) public infrastructure facilities would be installed. The project would directly connect to existing utility infrastructure (water, wastewater, natural gas, and electricity) already existing in the project vicinity and serves the surrounding residential and industrial land uses and would not facilitate additional development. Further, the project site is enclosed on all sides by existing development, natural barriers (i.e., Janes Creek), and transportation facilities that present barriers to further growth. Although Cal Poly Humboldt and CSU, in general, are not subject to local regulations, it is worth noting that the project site, which is located within the governmental boundaries of the City of Arcata, is designated as an infill opportunity zone for residential development in the City’s 2019 Housing Element (City of Arcata 2019) and in updates to the City’s General Plan that are currently in preparation (City of Arcata 2022). Therefore, the type of development anticipated with project implementation is considered to be already incorporated into the City’s planning efforts. As a result, the project would not remove a barrier to future growth within the City or region.

Although the project would foster some economic and population growth associated with new employment and housing opportunities within the project site, this growth would not substantially affect the ability of public service providers to serve their existing customers, as shown in Section 3.10, “Public Services and Recreation.” The project would increase access to the project site for local service providers and provide greater capacity on local roadway infrastructure. The population and employment growth expected with project implementation would be minor and would not exceed the enrollment projections of Cal Poly Humboldt nor what is considered in regional and local growth projections for communities. Additionally, the project would not extend infrastructure and public services to serve areas outside of the project site. In conclusion, the project has the potential to stimulate the economy both directly (by providing jobs and housing) and indirectly (by creating a demand for local goods and services) in the region. However, the project would address anticipated housing needs. Therefore, the project would not contribute to population growth beyond that anticipated as a direct result of the project, and there is no need to analyze impacts of growth beyond those included and evaluated in Chapter 4, “Cumulative Impacts.”

6.2 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

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

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

Implementation of the proposed development of the project site would result in the following significant and unavoidable environmental impacts, following implementation of feasible mitigation measures:

- Impact 3.1-1: Result in a Substantial Adverse Effect on a Scenic Vista
- Impact 3.1-2: Damage Scenic Resources within a State Scenic Highway
- Impact 3.1-3: Substantially Degrade the Existing Visual Character or Quality of Public Views of the Site and Its Surroundings
- Impact 3.8-1: Generate Substantial Temporary (Construction) Noise

Cumulative impacts on aesthetics (effects on a scenic vistas, existing visual character or quality of public views of the site and its surroundings, and scenic resources within a State scenic highway corridor) would also be significant and unavoidable as a result of implementation of the Student Housing Project.

6.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines require a discussion of any significant irreversible environmental changes that would be caused by the project. Specifically, the State CEQA Guidelines Section 15126.2(d) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generation to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if:

- the primary and secondary impacts would generally commit future generations to similar uses;
- the project would involve uses during which irreversible damage could result from potential environmental accidents associated with the project;
- the project would involve a large commitment of nonrenewable resources; or
- the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

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Appendix A

Notice of Preparation, Revised Notice of Preparation, and Scoping Comments Received

CAL POLY HUMBOLDT
Facilities Management

707 826-3646 PHONE
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NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT
Student Housing Project
California State Polytechnic University, Humboldt

Date: March 1, 2021

To: State Clearinghouse, Responsible Agencies, Trustee Agencies, Interested Parties and Individuals

Lead Agency: California State Polytechnic University, Humboldt

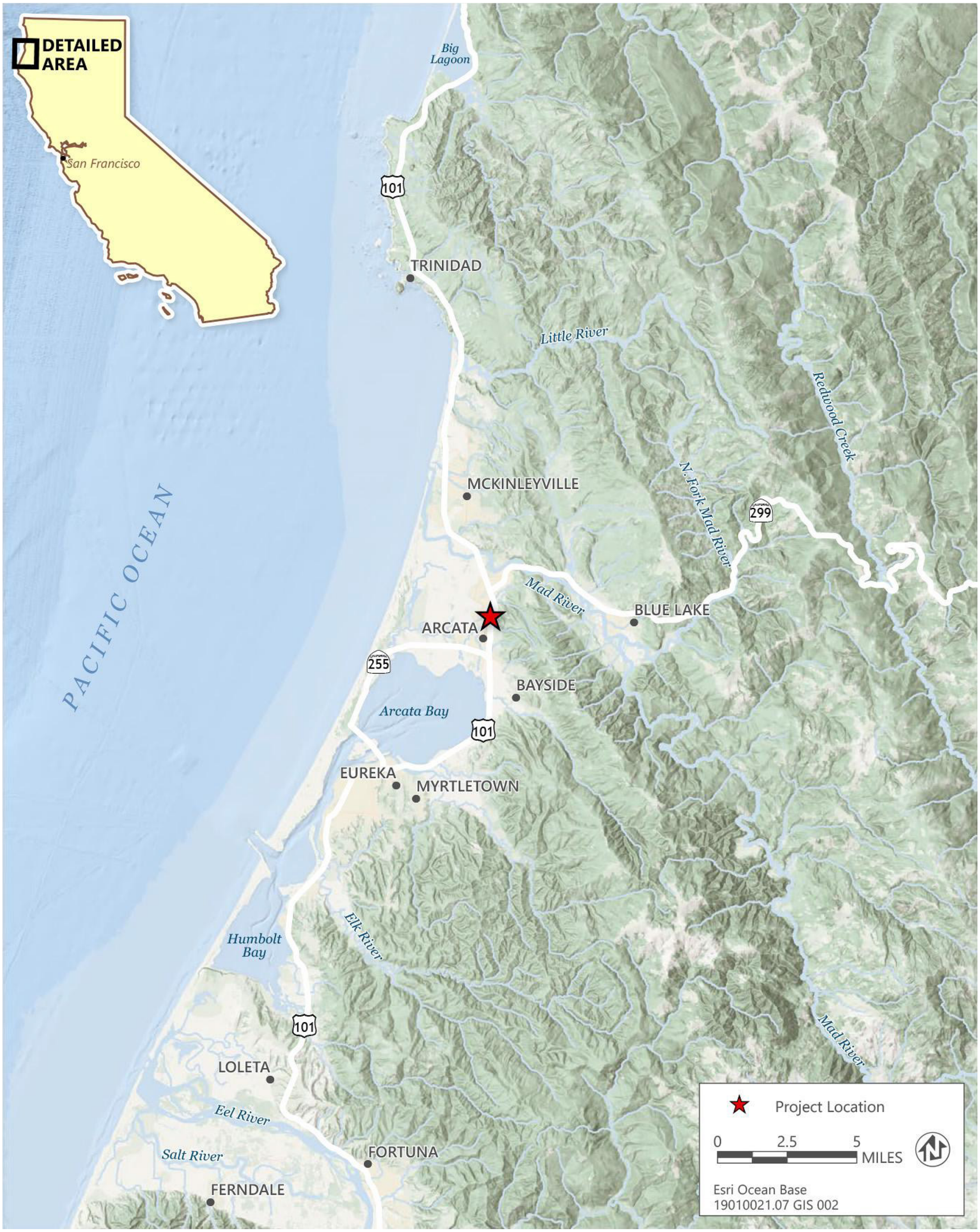
Public Review Period: March 1 through March 31, 2021

Purpose of the Notice: The intent of this Notice of Preparation (NOP) is to inform agencies and interested parties that California State Polytechnic University, Humboldt (Cal Poly Humboldt) is preparing a Draft Environmental Impact Report (EIR) for the proposed Student Housing Project. The California State University (CSU) Board of Trustees is the lead agency pursuant to CEQA and as such is also responsible for complying with the provisions of CEQA.

This NOP has been prepared pursuant to Sections 15082 and 15083 of the CEQA Guidelines and starts a public scoping period that will assist Cal Poly Humboldt in the preparation of the Draft EIR. The purpose of the NOP is to provide trustee agencies, property owners and other interested parties with a description of the project and its potential environmental impacts and to allow the opportunity to provide input regarding the scope and content of the EIR, including possible environmental impacts, mitigation measures, and alternatives.

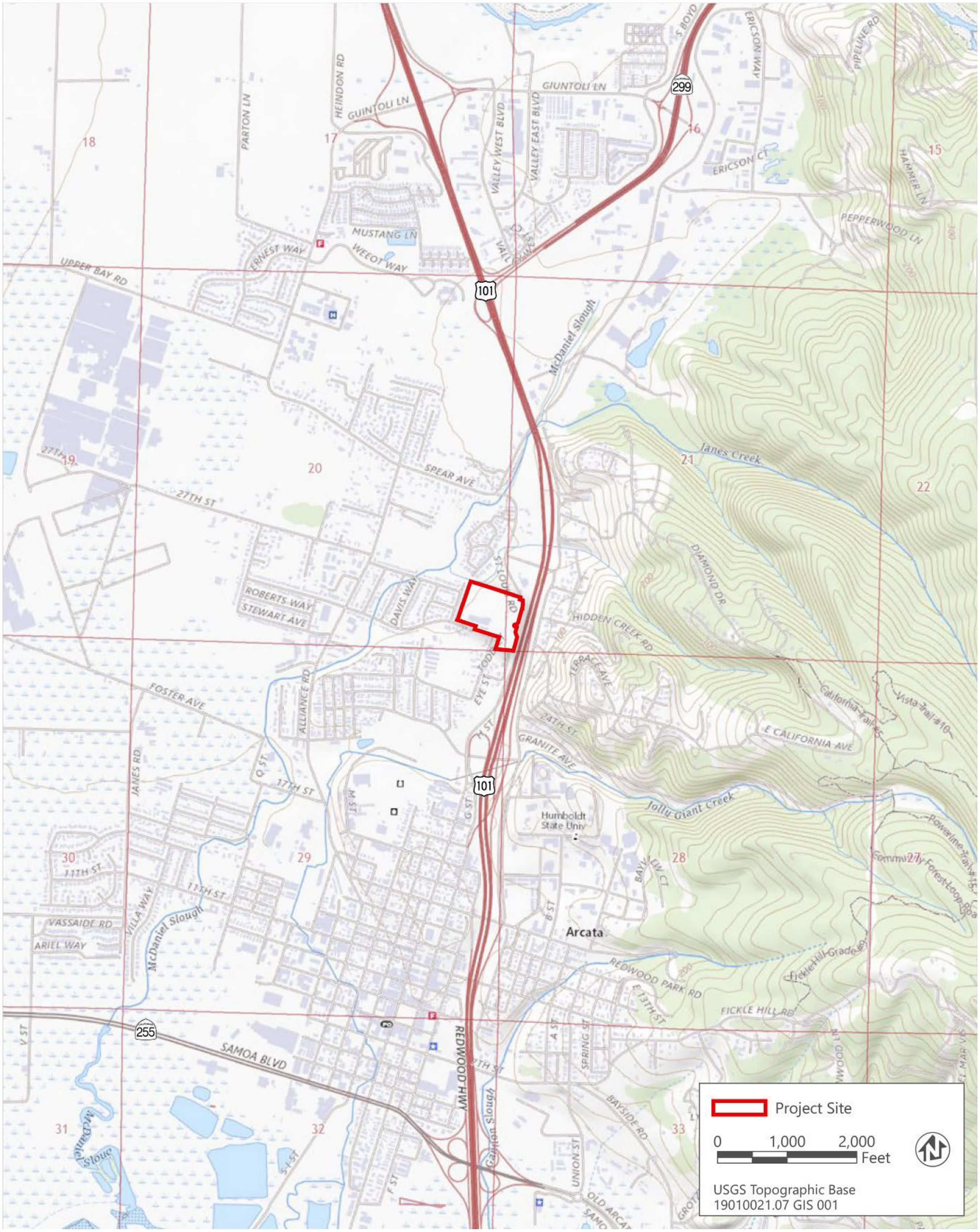
The public scoping period is for 30 days and will run from March 1, 2022 to March 31, 2022.

Project Location: The 10.7-acre project site is located at the following Assessor's parcel numbers (APNs): 505-022-011, 505-022-012, 503-372-002, 503-372-003, 503-372-004, 503-372-005, and 503-372-006), located along St. Louis Road in the City of Arcata, approximately 0.5 mile north of Cal Poly Humboldt (Figure 1, Figure 2). The project site is located near the intersection of the St. Louis Road and U.S. Highway 101 (US 101) overcrossing, on the northeast edge of the Sunset Neighborhood in the City of Arcata (Figure 3). The project site is bordered by US 101 on the east, single-family residences to the south and west, the Janes Creek Meadows riparian/open space area, residences, and industrial uses to the north, and the Mad River Lumber Company to the northeast.



Source: Adapted by Ascent Environmental in 2022

Figure 1 Regional Location



Source: Adapted by Ascent Environmental in 2022

Figure 2 Project Location

Source: Adapted by Ascent Environmental in 2022

Figure 3 Project Site

The project site housed a lumber mill prior until the 1970s. Currently, the project site contains Craftsman's Mall, a collection of wood-framed warehouse buildings housing artisan and light industrial rental spaces and outdoor storage areas for local contractors. Two single-family residential properties are located on the site, one of which contains a residential building.

Regional access to the site is available from US 101. Local ingress / egress would be provided from St. Louis Road. Pedestrian access to the site would be available via Eye Street and St. Louis Road. In addition, the project would include creation of a bus/shuttle stop at the St. Louis Road turnaround, located along the eastern boundary of the project site. Automobile, pedestrian, and bicyclist travel between the project site and campus would primarily be provided via the US 101 overcrossing, which connects to LK Wood Boulevard, approximately 0.1 mile north of the project site.

Project Description: Currently, residential spaces available to students at Cal Poly Humboldt are aged and heavy in deferred maintenance. Expanded campus housing for undergraduate and graduate students supports the growth of Cal Poly Humboldt's academic programs, and is critical to avoid substantial effects on the local housing market. The project is one of several housing projects included in the on-campus housing capacity growth plan, which would provide over 4,000 beds for students by 2028. This represents a step toward Cal Poly Humboldt's overall housing goal of 3,000 residential campus beds and 3,000 off-campus beds.

The project involves purchase of the project site from the University Foundation, which acquired the property in 2021 with the intent on using it for campus purposes. The project site would be developed into an 850- bed housing complex that would provide apartment-style student residence units for undergraduate and graduate students attending Cal Poly Humboldt, as well approximately 20 student-family housing units. The project would include an exercise gym, common lounge spaces, study spaces, computer rooms, television rooms, a market /convenience store, and conference rooms. Exterior amenities would include green space, covered bicycle parking, basketball courts, outdoor cooking, and appropriate hardscapes. Additionally, the project would include on-site parking and exterior safety lighting.

Vehicle access to the site would be maintained along St. Louis Road. Emergency vehicle access would be allowed via Eye Street. Bicycle and pedestrian access would be available via Eye Street and St. Louis Street. A bicycle and pedestrian path is planned and funded for development along the old railroad easement located to the west of US 101 (note that this path is not considered to be part of the project).

Potential Permits and Approvals Required: Elements of the project could be subject to permitting and/or approval by agencies other than the CSU Board of Trustees. As the lead agency pursuant to CEQA, CSU is responsible for considering the adequacy of the EIR and determining whether to approve the project. Permits that may be required from other agencies include:

- California Department of Fish and Wildlife: Lake and Streambed Alteration Agreement (LSAA) from CDFW pursuant to California Fish and Game Code Section 1602
- California Department of Transportation: Permits for movement of oversized or excessive loads on State highways
- City of Arcata: utility connection permits, utility easements

- North Coast Regional Water Quality Control Board: National Pollutant Discharge Elimination System construction stormwater permit (Notice of Intent to proceed under General Construction Permit) and Section 401 Water Quality Certificate for impacts to waters of the United States
- United State Army Corps of Engineers: Clean Water Act Section 404 Permit for impacts to waters of the United States

Potential Environmental Effects: The EIR will describe the significant direct and indirect environmental impacts of the project. The EIR also will evaluate the cumulative impacts of the project, defined as impacts that could be exacerbated when considered in conjunction with other related past, present, and reasonably foreseeable future projects. The project could result in potentially significant environmental impacts in the following resource areas, which will be further evaluated in the EIR:

- **Aesthetics:** Temporary and long-term changes in visual character or views of the site from key vantage points, including US 101.
- **Air Quality:** Temporary increases in air pollutant emissions associated with construction and long-term increases associated with project operations and associated vehicular trips.
- **Archaeological, Historical, and Tribal Cultural Resources:** Disturbance of known or unknown archaeological or tribal cultural resources.
- **Biological Resources:** Although the project site is disturbed and located within a semi-urban setting, the potential for impacts to biological resources, including tree removal, nesting birds, and bats, will be evaluated.
- **Energy**: Energy consumption for construction and operation of the project.
- **Greenhouse Gas Emissions:** Temporary increases in greenhouse gas (GHG) emissions associated with mobile-source exhaust from construction worker commute trips, truck haul trips, and equipment (e.g., excavators, graders); and long-term increases associated with project operations, including stationary and mobile sources.
- **Land Use and Planning:** Relationship to campus planning efforts and, in the interest of intergovernmental coordination, discussion for informational purposes only of project relationship to the City of Arcata General Plan land use designation and policies.
- **Noise:** Temporary increases in noise (including off-site, vehicle traffic noise) and vibration levels during construction; and long-term increases in noise from project operation, including stationary and mobile sources.
- **Population and Housing:** Project relationship to university, local, and regional population growth and housing demand and supply.
- **Public Services and Recreation:** The need for new or expanded public service facilities and whether the construction of such facilities would result in significant impacts to the environment.
- **Transportation and Traffic:** Temporary and long-term increases in vehicular trips, potential traffic hazards on local roadways, parking, and impacts to transit, pedestrian, or bicycle facilities due to construction and operations.
- **Utilities and Service Systems:** Increased demand for water, wastewater service, electricity, or natural gas at the project site and the potential need to increase the capacity of existing infrastructure.

The aforementioned issue areas and associated impacts will be evaluated in detail in the EIR. As necessary, feasible and practicable mitigation measures will be recommended to reduce any identified significant or potentially significant impacts.

Cal Poly Humboldt anticipates that the project would not result in significant environmental impacts to the following resources and does not propose to evaluate them in depth in the EIR: agriculture and forest resources, hazards and hazardous materials, geology and soils, hydrology and water quality, mineral resources, and wildfire. Brief discussions of these resources will be provided in the EIR with explanations as to why significant impacts to each resource are not anticipated.

Comment Period: Written comments on the scope and content of the Draft EIR may be submitted during the NOP review period, which runs from March 1, 2022 to March 31, 2022. Cal Poly Humboldt will accept mailed or electronic comments submitted by 5:00 p.m. on March 31, 2022, to the following addresses:

Deirdre Clem
Facilities Management
California State Polytechnic University, Humboldt
1 Harpst Street
Arcata, CA 95521
Email: Deirdre.Clem@humboldt.edu

Comments provided via email should include "Student Housing Project NOP Scoping Comment" in the subject line and the name and physical address of the commenter in the body of the email.

Public Scoping Meeting: Cal Poly Humboldt will host a public scoping meeting on Wednesday, March 16, 2022, 5:00 p.m. to 6:00 p.m. to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide comments on the scope and content of the EIR. The scoping meeting will be held via webinar only.

Participants must register to attend the scoping meeting here:
https://humboldtstate.zoom.us/meeting/register/tZMvdOCorz0sGNJPpbnF9SMsH8bIfBM6DsCU

- After registering, participants will receive a link via email to log into the webinar on March 16, 2022.

CAL POLY HUMBOLDT
Facilities Management

707 826-3646 PHONE
707 826-5888 FAX
fmservice@humboldt.edu EMAIL

REVISED NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT
Student Housing Project
California State Polytechnic University, Humboldt

Date: June 28, 2022

To: State Clearinghouse, Responsible Agencies, Trustee Agencies, Interested Parties and Individuals

Lead Agency: California State Polytechnic University, Humboldt

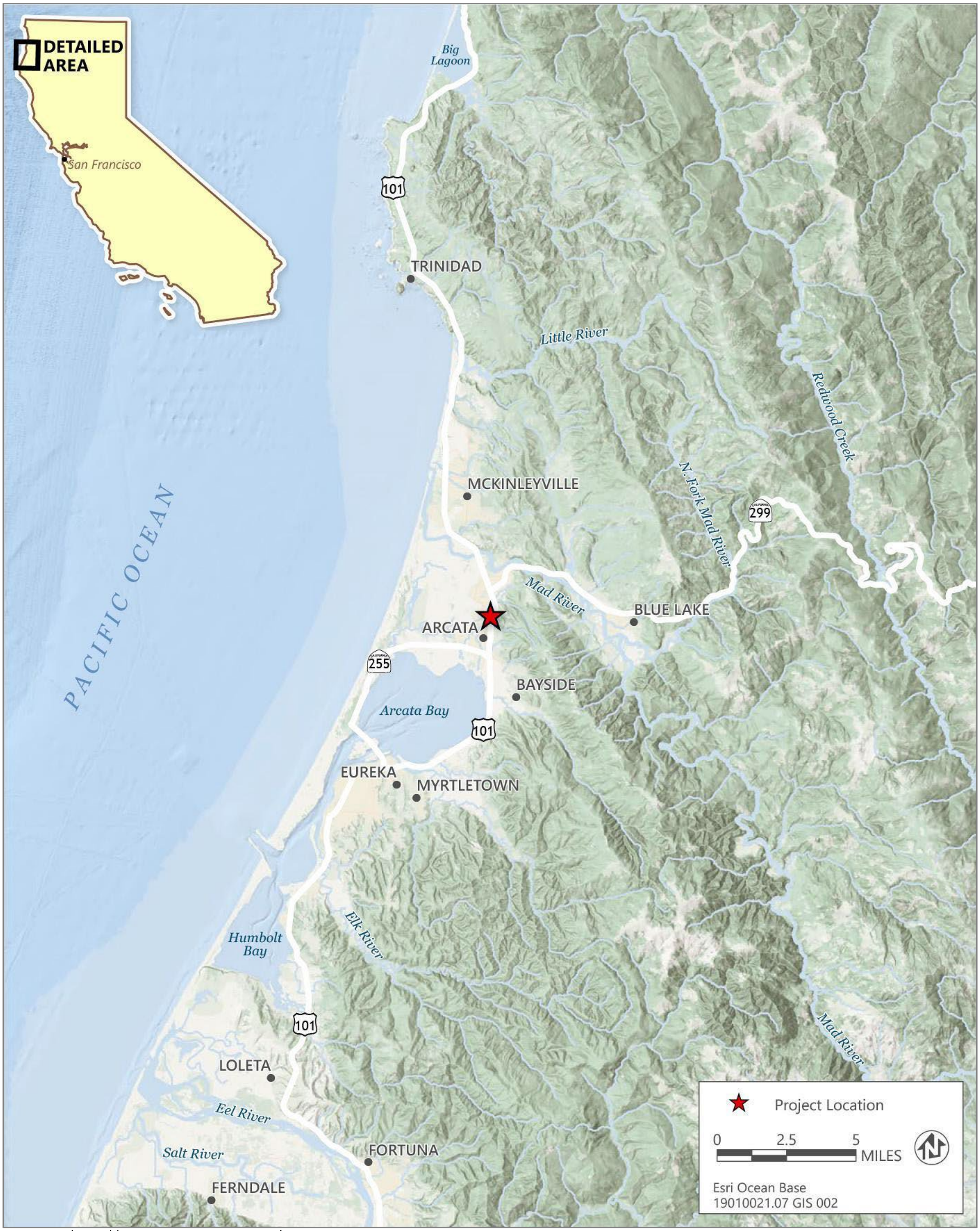
Public Review Period: June 28 – July 27, 2022

Purpose of the Notice: The intent of this Revised Notice of Preparation (NOP) is to inform agencies and interested parties that California State Polytechnic University, Humboldt (Cal Poly Humboldt) is preparing a Draft Environmental Impact Report (EIR) for the proposed Student Housing Project. The California State University (CSU) Board of Trustees is the lead agency pursuant to CEQA and as such is also responsible for complying with the provisions of CEQA.

This Revised NOP has been prepared pursuant to Sections 15082 and 15083 of the CEQA Guidelines and starts a public scoping period that will assist Cal Poly Humboldt in the preparation of the Draft EIR. The purpose of the NOP is to provide trustee agencies, property owners and other interested parties with a description of the project and its potential environmental impacts and to allow the opportunity to provide input regarding the scope and content of the EIR, including possible environmental impacts, mitigation measures, and alternatives. An NOP had been previously circulated in March 2022 but due to subsequent revisions to the project since its circulation, issuance of a Revised NOP is considered appropriate.

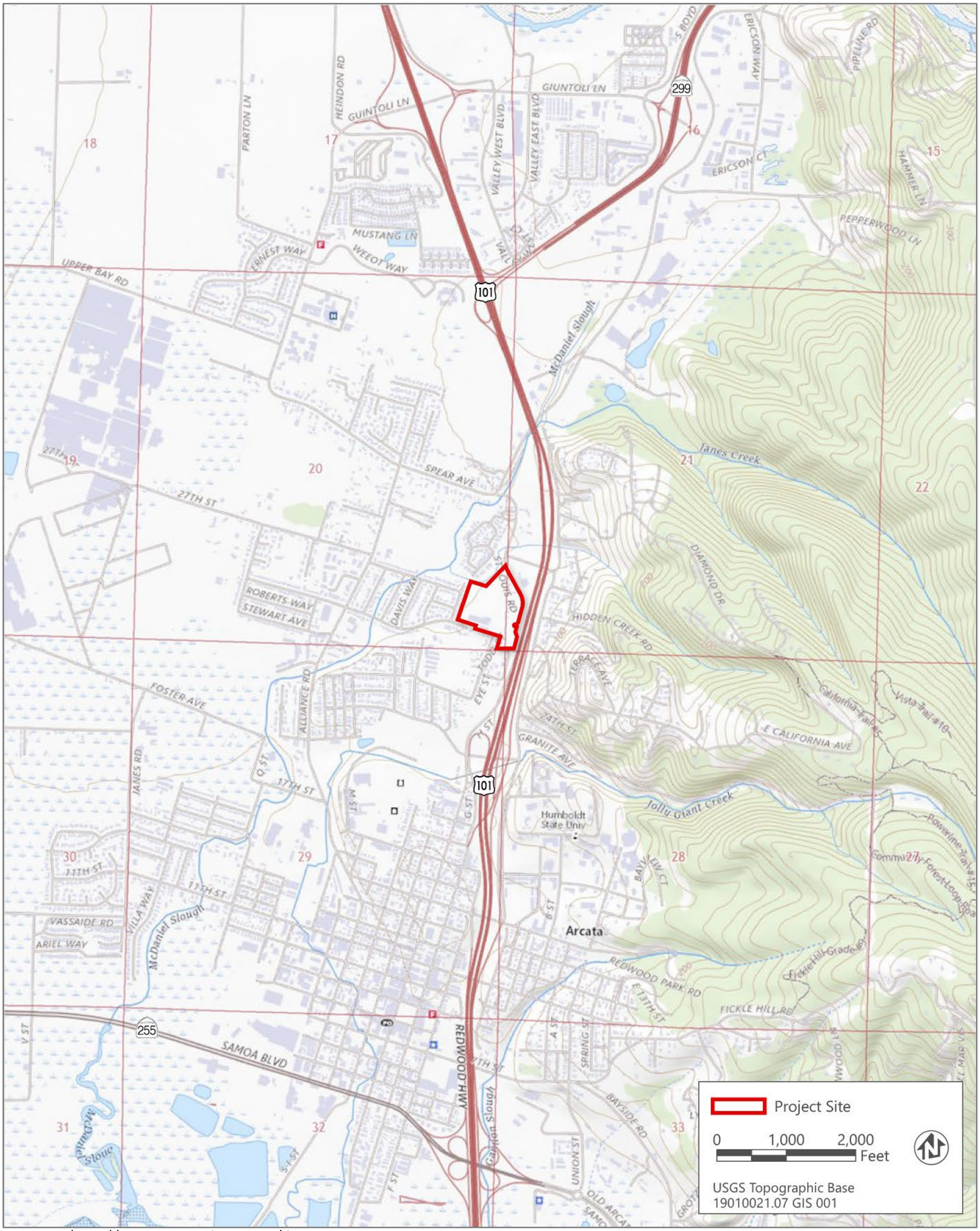
The public scoping period is for 30 days and will run from June 28 – July 27, 2022.

Project Location: The 12.8-acre project site is located at the following Assessor's parcel numbers (APNs): 505-022-011, 505-022-012, 503-372-002, 503-372-003, 503-372-004, 503-372-005, 503-372-006, 505-012-004, 505-011-010, 505-011-002, 505-011-007, 505-011-006, located along St. Louis Road in the City of Arcata, approximately 0.5 mile north of Cal Poly Humboldt (Figure 1, Figure 2). The project site is located near the intersection of the St. Louis Road and U.S. Highway 101 (US 101) overcrossing, on the northeast edge of the Sunset Neighborhood in the City of Arcata (Figure 3). The project site is bordered by US 101 on the east, single-family residences to the south and west, the Janes Creek Meadows riparian/open space area, residences, and industrial uses to the north, and the Mad River Lumber Company to the northeast.



Source: Adapted by Ascent Environmental in 2022

Figure 1 Regional Location



Source: Adapted by Ascent Environmental in 2022

Figure 2 Project Location

Source: Adapted by Ascent Environmental in 2022

Figure 3 Project Site

The project site housed a lumber mill prior until the 1970s. Currently, the project site contains Craftsman's Mall, a collection of wood-framed warehouse buildings housing artisan and light industrial rental spaces and outdoor storage areas for local contractors. Two single-family residential properties are located on the site, one of which contains a residential building.

Regional access to the site is available from US 101. Local ingress / egress would be provided from St. Louis Road. Pedestrian access to the site would be available via Eye Street and St. Louis Road. In addition, the project would include creation of a bus/shuttle stop at the St. Louis Road turnaround, located along the eastern boundary of the project site. Automobile, pedestrian, and bicyclist travel between the project site and campus would primarily be provided via the US 101 overcrossing, which connects to LK Wood Boulevard, approximately 0.1 mile north of the project site.

Project Description: Humboldt has revised and recirculated this NOP to address the expanded scope of the project. The previous NOP identified a residential capacity of up to 850 student beds and 20 student family housing units, but due to campus housing needs, the number and type of student housing to be constructed has been amended. The project now includes up to 1,050 student beds and student-family housing is no longer included in the project. In addition, the project site has been expanded to include the 5 parcels located north of the project site. The project description below has been revised to reflect these changes.

Currently, residential spaces available to students at Cal Poly Humboldt are aged and heavy in deferred maintenance. Expanded campus housing for undergraduate and graduate students supports the growth of Cal Poly Humboldt's academic programs, and is critical to avoid substantial effects on the local housing market. The project is one of several housing projects included in the on-campus housing capacity growth plan, which would provide over 4,000 beds for students by 2028. This represents a step toward Cal Poly Humboldt's overall housing goal of 3,000 residential campus beds and 3,000 off-campus beds.

The project involves purchase of the project site from the University Foundation, which acquired the property in 2021 with the intent on using it for campus purposes. The project site would be developed into an 1,050- bed housing complex that would provide apartment-style student residence units for undergraduate and graduate students attending Cal Poly Humboldt. The project would include an exercise gym, common lounge spaces, study spaces, computer rooms, television rooms, a market /convenience store, and conference rooms. Exterior amenities would include green space, covered bicycle parking, outdoor cooking, and appropriate hardscapes. Additionally, the project would include on-site parking and exterior safety lighting.

Vehicle access to the site would be provided via St. Louis Road, via a new driveway that extends through the northern parcels of the site. Emergency vehicle access would be allowed via Eye Street. Bicycle and pedestrian access would be available via St. Louis Road and a bicycle and pedestrian public, City-maintained paved trail is planned and funded for development along the old railroad easement located to the west of US 101 (note that this path is not considered to be part of the project).

Potential Permits and Approvals Required: Elements of the project could be subject to permitting and/or approval by agencies other than the CSU Board of Trustees. As the lead agency pursuant to CEQA, CSU is responsible for considering the adequacy of the EIR and determining whether to approve the project. Permits that may be required from other agencies include:

- California Department of Fish and Wildlife: Lake and Streambed Alteration Agreement (LSAA) from CDFW pursuant to California Fish and Game Code Section 1602
- California Department of Transportation: Permits for movement of oversized or excessive loads on State highways
- City of Arcata: utility connection permits, utility easements
- North Coast Regional Water Quality Control Board: National Pollutant Discharge Elimination System construction stormwater permit (Notice of Intent to proceed under General Construction Permit) and Section 401 Water Quality Certificate for impacts to waters of the United States
- United State Army Corps of Engineers: Clean Water Act Section 404 Permit for impacts to waters of the United States

Potential Environmental Effects: The EIR will describe the significant direct and indirect environmental impacts of the project. The EIR also will evaluate the cumulative impacts of the project, defined as impacts that could be exacerbated when considered in conjunction with other related past, present, and reasonably foreseeable future projects. The project could result in potentially significant environmental impacts in the following resource areas, which will be further evaluated in the EIR:

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The aforementioned issue areas and associated impacts will be evaluated in detail in the EIR. As necessary, feasible and practicable mitigation measures will be recommended to reduce any identified significant or potentially significant impacts.

Cal Poly Humboldt anticipates that the project would not result in significant environmental impacts to the following resources and does not propose to evaluate them in depth in the EIR: agriculture and forest resources, hazards and hazardous materials, geology and soils, hydrology and water quality, mineral resources, and wildfire. Brief discussions of these resources will be provided in the EIR with explanations as to why significant impacts to each resource are not anticipated.

Comment Period: Written comments on the scope and content of the Draft EIR may be submitted during the NOP review period, which runs from June 28 – July 27, 2022. Cal Poly Humboldt will accept mailed or electronic comments submitted by 5:00 p.m. on July 27, 2022, to the following addresses:

Deirdre Clem
Facilities Management
California State Polytechnic University, Humboldt
1 Harpst Street
Arcata, CA 95521
Email: Deirdre.Clem@humboldt.edu

Comments provided via email should include “Student Housing Project NOP Scoping Comment” in the subject line and the name and physical address of the commenter in the body of the email.

Public Scoping Meeting: Cal Poly Humboldt will host a public scoping meeting on Wednesday, July 20, 2022, from 5:00 p.m. to 6:00 p.m. to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide comments on the scope and content of the EIR. The scoping meeting will be held via webinar only.

Participants must register to attend the scoping meeting here:

https://humboldtstate.zoom.us/j/88649651060?pwd=MkJDaVRIbTcva0diUnIxVWVZeWl6dz09

After registering, participants will receive a link via email to join the webinar on July 20, 2022.

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

March 1, 2022

Deirdre Clem
The Board of Trustees of the California State University
1 Harpst Street
Arcata, CA 95521

Re: 2022030008, Cal Poly Humboldt Student Housing Project, Humboldt County

Dear Ms. Clem:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
   a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
   b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
   a. If part or all of the APE has been previously surveyed for cultural resources.
   b. If any known cultural resources have already been recorded on or adjacent to the APE.
   c. If the probability is low, moderate, or high that cultural resources are located in the APE.
   d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
   a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
   b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Cameron.Vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

cc: State Clearinghouse

HCAOG

Regional Transportation Planning Agency

611 I Street, Suite B
Eureka, CA 95501
707.444.8208
Fax: 707.444.8319
www.hcaog.net

March 25, 2022

Deirdre Clem
Facilities Management
California State Polytechnic University, Humboldt
1 Harpst Street
Arcata, CA 95521
Deirdre.Clem@humboldt.edu

RE: **Notice of Preparation of EIR for Student Housing**

Dear Ms. Clem,

The Humboldt County Association of Governments (HCAOG) is the Regional Transportation Planning Agency comprised of the seven cities and County of Humboldt. HCAOG guides regional transportation investments that support state mandates to lower vehicle miles-travelled, design complete streets that are safe for all users, and achieve equitable transportation outcomes. As the agency tasked with completion of the Regional Housing Needs Assessment and administering the regions Regional Early Action Planning (REAP) Grant funds, HCAOG is keenly aware of the housing needs of our region and supports well-planned housing developments that can assist in meeting our regional targets.

HCAOG adopted the region's long-range transportation plan, *VROOM 2022-2042,* in January 2022. The plan contains Safe and Sustainable Targets (see page 2-17) that provide clear targets to increase the percentage of all trips taken by walking, biking and transit, accelerate zero-emission adoption, and achieve Vision Zero for traffic fatalities. When analyzing whether the project conflicts with any adopted transportation plans, please review the policies and targets in *VROOM* to determine consistency.

The majority of operational emissions will likely be generated by mobile sources (i.e. vehicle travel resulting from the project). HCAOG strongly recommends avoidance, and where needed, mitigation measures be applied to quantifiably reduce vehicular emissions generated from the project to a less than significant level.

HCAOG recommends the VMT analysis consider only the wider Humboldt Bay Area in discerning the regional threshold of significance, rather than a county-wide comparison. The California Statewide Travel Demand Model divides Humboldt County into 18 Traffic Analysis Zones (TAZs). A VMT analysis that incorporated a TAZ for rural southern or eastern Humboldt into the baseline VMT would not be appropriate. Instead, we suggest using a narrower geographic area, such as the McKinleyville to Eureka area where most students live, as the baseline.

HCAOG encourages Cal Poly Humboldt to analyze and mitigate for the impact of the project's vehicular traffic on the walkability and bikeability of the surrounding street network. A key metric to gauge the functionality of an on-street bicycle network is the Level of Traffic Stress (LTS). This metric is a product of vehicular speed/volume and degree of separation between cars and bikes. Bicycle Level of Service and Quality of Service (BLOS/ BQOS) are two additional metrics recommended in HCAOG's 2018 Regional Bicycle Plan. At minimum, the project should not increase the level of stress for pedestrians and bicyclists in the surrounding area. We recommend the project study the barrier effect of increased vehicular traffic, which refers to the incremental delay, discomfort, and risk that increased motor vehicle traffic speeds and volumes impose on pedestrians and bicyclists.[1] Although not a physical barrier, increased vehicle trips may in fact create a barrier to others using the multimodal system in the vicinity.

We appreciate the opportunity to comment on this project at this early stage of the environmental review and look forward to future communications as the project moves forward. Please do not hesitate to reach out if you have any questions or would like to further discuss these comments.

Sincerely,

Beth Burks, AICP
Executive Director

---

[1] Todd Litman, New Mobilities: Smart Planning for Emerging Transportation Technologies. 2021.

California Department of Transportation

DISTRICT 1
P.O. BOX 3700 | EUREKA, CA 95502–3700
(707) 445-6600 | FAX (707) 441-6314 TTY 711
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July 22, 2022

1-HUM-101-86.94
Cal Poly Humboldt Student Housing
SCH#2022030008

Ms. Dierdre Clem
Facilities Management
Cal Poly Humboldt
1 Harpst Street
Arcata, CA 95521

Dear Ms. Clem:

Thank you for giving Caltrans the opportunity to comment on the Notice of Preparation (NOP) for the Environmental Impact Report (EIR) to develop student housing for California State Polytechnic University, Humboldt (Cal Poly Humboldt). The project would include the development of 1050 student beds, increasing the number of student beds from the previous NOP EIR by 200 beds (850 beds previously). The project site is located near the intersection of the St. Louis Road and U.S. Highway 101 (US 101) overcrossing, approximately 0.5 mile north of Cal Poly Humboldt. We offer the following comments for your consideration:

The Caltrans Strategic Plan for 2020-2024 calls for the Department to enhance and connect the multimodal transportation network and to be a leader in Climate Action. Caltrans invites Cal Poly Humboldt to help meet the State's climate goals locally. Tail pipe emissions from the transportation sector make up the largest contribution of greenhouse gas (GHG) emissions in the State. One of the ways in which we can help California to reduce GHG emissions and achieve a carbon-neutral future by the year 2045 is through the reduction of Vehicle Miles Traveled (VMT) on California streets and highways. To meet the State's targets for reducing GHG emissions and energy consumption, we must work with our local partners to plan for a more sustainable transportation system.

Although the proposed project is located in an area suspected of having lower VMT rates when compared to the County or region as a whole, the design of the facility may have a positive impact on the existing VMT for the area. Examples to consider include:

- Increasing the connectivity of the site by connecting the public rights of way for local streets, such as St. Louis Road and Eye Street and/or Todd Street. A better-connected network of local streets, particularly in the north and south directions may reduce the distance of existing trips by minimizing the amount of out-of-direction travel.

- Reducing the amount of parking provided on-site and/or requiring parking fees for residents would influence how residents choose to travel. Fewer vehicle trips would likely result from different trip purposes, beyond home-to-school trips.
- Incorporate shared mobility options and parking on-site. University bike share programs should include reciprocal parking on-site. Access to shared Zero-Emission Vehicles (ZEV), and charging points for privately-owned ZEVs, may help to support the adoption of alternative fuel vehicles.
- Secure bike parking should be conveniently located on-site.

As Cal Poly Humboldt is expected increase student enrollment and has plans to expand student housing, particularly to off-campus sites, the draft Environmental Impact Report (DEIR) will need to evaluate the potential for student housing to generate transportation impacts. To the extent known, trips generated from other off-site university-owned, or university-operated student housing facilities should be considered cumulatively for increases in VMT and potential impacts to transportation safety. Please consider coordinating with Caltrans and the Arcata City Engineering staff in the preparation of the scope of the transportation study.

We have previously reviewed a traffic study, which examined increases in multi-modal travel at the US-101/Sunset/LK Wood ramps, overpass and intersections and local road network from the student housing project site to the Cal Poly Humboldt Campus. Although some of the assumptions have changed for Arcata's 2017 study, increased travel demand at the 101/Sunset intersections and connecting streets have the potential to affect traffic safety and potentially require mitigation. Caltrans concurs with Cal Poly Humboldt's Revised NOP EIR that identifies transportation and land use impacts as potentially significant areas of review for the project/EIR.

The traffic impact study for the project should be consistent with State standards, established by the Governor's Office of Planning & Research and Caltrans, and include measures that support state multimodal, transit and climate goals. The TIS should use the most recent collision data, traffic, bike & pedestrian counts, etc., to identify existing conditions for the 101 corridor and ramps/Sunset Ave/LK Wood Blvd. intersections and connecting local roads near Campus. The study should include a robust discussion and multi-modal analysis of motor vehicles, non-motorized facilities, including trails, transit, first- and last-mile connectivity, and cumulative impacts of significant housing plans and proposals and Cal Poly Humboldt student housing sites.

The "Potential Permits and Approvals Required" section of the revised NOP states that Caltrans permits will be required for moving oversized or excessive loads. Please be advised that the Project may require encroachment permits for any work done within

Caltrans rights-of-way or other Caltrans permitting and cooperative agreements that may not be limited to the approvals and permitting listed in the NOP.

We recommend a coordinated approach to multimodal transportation planning for the Project in proximity to the affected 101-corridor near Campus. We suggest that Cal Poly Humboldt form a working group that meets regularly and includes Caltrans, local jurisdictions, Humboldt transit agencies, and other stakeholders to provide an opportunity to identify and discuss transportation, transit, land use and related issues and coordinate on planning issues and needs. This may include but is not limited to the development of a Cal Poly Humboldt Masterplan and housing sites.

We recognize and appreciate Cal Poly Humboldt's leadership in the community to promote transit service for the student population. We offer the following best practices to continue the tradition of transit service for students and to help manage travel demand to and from the university campus:

- Consult early and often with Arcata and Mad River Transit Service (A&MRTS) and Humboldt Transit Authority (HTA) by including both agencies in the planning process to ensure that Cal Poly Humboldt's student population is well served by transit.
- In addition to the Jack Pass program that allows students unlimited free rides on local buses, work with transit providers to establish a regional student transit pass that allows for unlimited rides on all regional transit service.
- Encourage residents to forgo cars by offering reduced rents or reimbursements.
- Consider a mixed-use project with retail establishments onsite so residents do not have to travel to meet all their shopping needs.
- Establish car (preferably zero emissions) and bike sharing locations onsite to offer an alternative to car ownership.
- Work with the City of Arcata in planning/constructing safe pedestrian and protected bicycle infrastructure to offer residents multimodal transportation choices. These pedestrian and bicycle infrastructure should offer origin-destination linkages and compliment transit especially the first-last mile connectivity.

We support campus incentives to reduce single-occupancy vehicle (SOV) trips, parking demand and space devoted to parking, both on- and off-campus. Some useful tools include user-pay campus parking, higher permit parking fees and limited eligibility, and multi-level, mixed-use parking garage structures.

As part of the project features or transportation improvements or mitigation measures that could benefit traffic safety/circulation and non-motorized connectivity from the project site to campus, we suggest the following:

- Annie and Mary Trail connections and improvements could be added as a feature of the project's site development.

- Bike/ped access and connectivity to the Westwood neighborhood, shopping center and transit, via the McDaniel Slough greenways, trails, or easements to other public rights of way.

Some residents of the project may choose to access LK Wood Blvd via St Louis Road. Depending on trip assignment and distribution for project residents, LK Wood Blvd. may need to be evaluated for safety conflicts between vehicle and non-motorized travelers. Potential strategies for providing safe and convenient multi-modal use of the corridor include:

- Developing a Class IV multimodal two-way (shared) bike and ped path along the west side of LK Wood and common US-101 corridor R/W with a crossing to the 101/Sunset/LK Wood intersection and campus.
- Consider improvements to the LK Wood intersection with Granite Ave, and/or a redesign of Cal Poly Humboldt's parking lot layout, ingress/egress and pedestrian routes to reduce potential safety conflicts.

We suggest that Cal Poly Humboldt consider working in partnership with local stakeholders to apply for annual Caltrans Sustainable Transportation Planning Grants for planning improvements to the larger transportation system beyond the scope of mitigation for the proposed project. A Sustainable Communities Formula grant can help to evaluate transportation needs for adjacent roads that might be impacted by growth, including Cal Poly Humboldt's Master Plan for Growth and the City of Arcata's General Plan Update. Strategic Partnership grants can help to coordinate regional, long-range transportation planning activities between Cal Poly Humboldt, the City of Arcata, the Humboldt County Association of Governments (HCAOG), Humboldt Transit Authority (HTA), and Caltrans. More information about Caltrans transportation grant programs can be found on our website: <https://dot.ca.gov/programs/transportation-planning/regional-planning/sustainable-transportation-planning-grants>.

We encourage Cal Poly Humboldt improving trail and pathway facilities within and adjacent to Campus, greater use of shuttles, and identifying high demand routes from Campus to destinations in the neighborhood and beyond. Encourage Cal Poly Humboldt's upgrade of adjacent Community Forest trails, trail heads, and other innovative measures to improve trail and neighborhood connectivity.

We encourage Cal Poly Humboldt to advance plans for infrastructure projects that are eligible and ready to submit for federal funding applications under the Infrastructure Investment Jobs Act/ Bipartisan Infrastructure Law (IIJA/BIL).

Among the more innovative trends in other parts of the State, local communities have begun planning and building structures that span State highways and freeways for other civic uses. In response to local interest and initiatives, we suggest that Cal Poly

Humboldt consider participating in cooperative local efforts to "cap" a segment of US 101 through Arcata using a mix of grant funds and local matching funds.

We look forward to the potential partnering opportunities that expanded enrollment at the university may bring. Feel free to contact me with questions or for further assistance with the comments provided at (707) 684-6879 or by email at: <jesse.robertson@dot.ca.gov>.

Sincerely,

Jesse G. Robertson

Jesse Robertson
Transportation Planning
Caltrans District 1

e-copy: State Clearinghouse
Netra Khatri, City Engineer, City of Arcata
Greg Pratt, General Manager, Humboldt Transit Authority

July 25, 2022

Deirdre Clem
Facilities Management
California State Polytechnic University, Humboldt
1 Harpst Street
Arcata, CA 95521

via email: Deirdre.clem@humboldt.edu

RE: Craftsman Mall Student Housing Project NOP Scoping Comments

Ms. Clem:

The Coalition for Responsible Transportation Priorities (CRTP), Humboldt Baykeeper and the Northcoast Environmental Center (NEC) have reviewed the revised Notice of Preparation for an Environmental Impact Report (NOP) for the proposed student housing project ("project") at the site known as the Craftsman Mall in Arcata, California. We recognize the urgent need for student housing and the appropriateness of the location near both the Cal Poly Humboldt campus and downtown Arcata. Therefore, we support this project in concept. We submit the following comments on the NOP:

- We appreciate the NOP's acknowledgement that the project could result in a significant increase in vehicle trips, along with attendant air quality, energy, greenhouse gas, and noise impacts. Pursuant to SB 743 and subsequent state-issued CEQA guidance, the EIR must assess the per capita vehicle miles traveled (VMT) of future residents of the project compared to an area baseline. We request that the baseline be considered the average per capita VMT from the McKinleyville-Arcata-Eureka area, which encompasses both the vast majority of the university's student and employee residential catchment area as well as all areas potentially feasible for the development of future student housing. Therefore, following the state's guidance, we request that the significance threshold for VMT impacts be considered 15% below the average per capita VMT for the McKinleyville-Arcata-Eureka area. We further request that, in projecting the per capita VMT of future project residents, the EIR acknowledge and incorporate the well-documented influence of vehicular parking on vehicle ownership and driving habits (i.e., free and abundant residential parking leads to higher vehicle ownership and higher per capita VMT).
- We also appreciate the NOP's acknowledgement that the project could result in impacts related to "potential traffic hazards on local roadways." We request that the EIR acknowledge that a significant increase in vehicular traffic can result in traffic hazards as well as what CEQA Guidelines refer to as "incompatible uses." In other words, if

vehicular traffic increases significantly on a particular roadway which lacks adequate and sufficient bicycle and pedestrian facilities (including closely spaced safe crossings), the overall level of vehicular use could become incompatible with walking, biking and rolling, resulting in a significant impact under CEQA.

- The project site has a long history of industrial activities, including a leaky underground storage tank, trucking facility, and a lumber mill with a conical burner that burned wood waste during the era that the dioxin-containing wood preservative pentachlorophenol was commonly used. As a result, there are areas of contamination that were identified in the Phase I and Phase II Environmental Site Assessments and Draft Environmental Impact Report conducted for The Village Project as proposed by AMCAL Equities, LLC. As plans are developed for on-site stormwater infrastructure to infiltrate runoff into the soil, areas with remaining or previously unidentified contamination should be carefully assessed and avoided to ensure that stormwater features are not built in or near contaminated areas. If stormwater comes into contact with contaminated soil, groundwater and bay tributary streams could be impacted.
- The close proximity of the project site to Highway 101 is likely to result in exposure to pollutants from motor vehicles. Research has demonstrated that exposure to pollutants emitted from motor vehicles can cause impaired lung function, heart problems, cognition problems and premature death. We request that the EIR analyze the health and environmental justice impacts of housing students in close proximity to a major highway, and include an assessment of air quality at the site.

Thank you for your consideration of our comments.

Sincerely,

Colin Fiske
Executive Director
Coalition for Responsible Transportation Priorities
145 G Street, Suite A
Arcata, CA 95521
colin@transportationpriorities.org

Jennifer Kalt, Director
Humboldt Baykeeper
600 F Street, Suite 3 #810
Arcata, CA 95521
jkalt@humboldtbaykeeper.org

Caroline Griffith, Co-Executive Director
Northcoast Environmental Center
PO Box 4259
Arcata, CA 95518
carolinenecmail@gmail.com

From: **Margaret T Kelso** <margaret.kelso@humboldt.edu>
Date: Wed, Jul 27, 2022 at 2:16 PM
Subject: Craftsman's Mall dorm
To: <Deirdre.Clem@humboldt.edu>

Hi Dierdre,
I'm glad you're interested in receiving comments about the proposed Craftsman's Mall dorm that Cal Poly is planning to build.

There are many concerns about putting such a densely populated construction in the middle of single family dwellings but the primary issue is safety. As was revealed in community discussions around the former proposal by a private developer on that property, increased traffic of all kinds -- cars, bicycles, skateboarders, and pedestrians, presents a real danger.

Here is a quote from The Village FEIR dated 3/30/18. (1.6 Overriding Considerations.)
For the Village Student Housing project, the proposed project will result in significant and unavoidable transportation-traffic related impacts until the traffic improvements recommended in the W-Trans Central Arcata Areawide Traffic Study (Appendix L of the Draft EIR), or alternative improvements agreed upon by Humboldt State University (HSU) and Caltrans, are constructed.

As a former bicyclist over the Sunset overpass, I can predict that disaster is very likely. The bicycle lane on the overpass just disappears on the west side as it meets Sunset Avenue. Increased traffic of any kind is likely to lead to injury or even death. This is just one of the dangerous traffic issues that exist now and that will become more likely with a huge influx of residents in this area.

I understand that this may seem like minor detail in light of the benefits increased student housing will bring, but it won't be minor to the students and their parents who might be affected.

I ask that you postpone the construction of this project until you can mitigate the traffic issues that accompany such a large housing unit.

Thank you
Margaret

FALLIS
1149 STROMBERG AVENUE
ARCATA, CALIFORNIA 95521

Ms. Deirdre Clem
Facilities Management
California State Polytechnic University, Humboldt
1 Harpst Street
Arcata, California 95521

July 22, 2022

Re: Student Housing Project NOP Scoping Comment

Dear Ms. Clem;

I am writing to you to enter in to the record of the above named project some concerns, thoughts and suggestions, relative to the student housing project (PROJECT) proposed by California Polytechnic University, Humboldt (CalPoly/STATE) for the site of the former Craftsman Mall at the south end of Saint Louis Road in the City of Arcata (CITY), that my wife, Janet, and I have about the possible impacts of the PROJECT on our neighbors and on our property. We represent only ourselves in this correspondence and not necessarily those of our neighbors. Our neighbors will need to speak for themselves. We express our concerns, not to speak against the PROJECT but, simply, to ask that STATE and CITY take note of and consider them.

It should be acknowledged and understood by all parties involved that it is not the responsibility of either the STATE (CalPoly) nor CITY to look after the interests of specific private property owners possibly impacted by the Project. That is our responsibility. However, it should also be understood that peoples directly impacted by STATE and CITY projects have the inherent right to voice their concerns and both STATE and CITY have an obligation to hear and consider those concerns. The use of the pejorative term "NYBY", to dismiss, disregard and discredit those concerns, is simply not professional, warranted or acceptable.

SETTING

We own and reside in our home at the very east of Stromberg Avenue, in the Westwood Village - East residential development. Our property, and those of our neighbors, is/are adjacent to and conterminous with the west and south property lines of the Craftsman Mall property (three on Stromberg Avenue: 1129, 1139,1149; nine on Maple Lane: 2528, 2548, 2558, 2568, 2578, 2586, 2592, 2596, 2612. In addition, there are two at the north end of Eye Street (2585 & 2590) in the Sunset residential area to our east. We have been residents of the City since September 1970 (52 years) and we are owner/occupant of our home since July 1977 (45 years). As you can see, we have a long and continuous experience with our community and our neighborhood. All the residential properties along Stromberg, with one exception, and Maple are at a lower elevation, about fifteen feet, than the terrace of the Project. The properties at the north end of Eye Street and one on Stromberg (1139), are at an approximate level with the Project and right up against the common fence line. To the north and west, and below the level of PROJECT is the fairly new residential subdivision known as Janes Creek Meadows, a planned unit development (PUD). This residential subdivision will be somewhat sheltered from the effects of PROJECT due to distance away, dense and tall vegetation in between and a branch of Janes Creek along the common boundary. While the visual impacts of PROJECT to this subdivision will be somewhat naturally mitigated, increased sound and traffic, (vehicular and pedestrian) will not be.

PROJECT PROPERTY HISTORY

PROJECT property has undergone a series of business transformations over the last 75+ years. As evidenced by Corp of Engineers aerial photographs, circa late 1940's, site was open table land then, about 1948, a lumber mill was constructed on the site. When we moved into the Stromberg Avenue neighborhood in 1977 the former lumber mill was owned and operated by a lumber loading mill called Humboldt Loaders. The property was subsequently purchased and used by Cal Kirk Landscaping, at some point in the 1980's. During the years of the lumber industry there, there was an active railroad spur that came into the mill property from the S.E. corner, off the former Arcata & Mad River Railroad line. That spur ran between the two big sheds all the way out to the west edge of the westerly bluff. As far as I know those tracks are still there, buried under the gravel road. In all the years that we have been neighbors of the old mill property the relationship has generally been a good one. It is usually quiet but, with an occasional disturbance from people working there. Normally, the evenings and nights are quiet as well as the weekends. The mill hasn't bothered us and we haven't bothered the mill.

PROJECT

While I have yet to see specific plans showing the site plan and typical elevations of PROJECT, I will address several possible issues and concerns, based on what I know from my personal experiences living here, the prior proposed housing project (The Village, circa 2019) and what is shown on the REVISED NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT, Student Housing Project, California State Polytechnic University, Humboldt, dated June 28, 2022, from your office:

- Sound
- Lighting
- Visual
- Privacy
- Drainage
- Pedestrian traffic
- Vehicular traffic and parking
- Economics
- Public Utilities

SOUND

While the sounds that will be generated and emitted by PROJECT, both during construction and after completion and occupancy, are to be expected we request mitigation measures be taken in the planning stage to lessen their impacts on the adjoining neighborhoods. **Recommendation:**

a solid eight foot high sound wall along the entire southerly property line and along the edge of the upper terrace along the westerly line. In addition, internal operational procedures be in place to mitigate for excessive sound generated by occupants during normal quiet hours in the evening and at night.

LIGHTING

Recommendation: External lighting for pedestrian and vehicular uses be "hooded" in such a way that direct lighting does not carry over into adjacent properties and neighborhoods.

VISUAL

We recommend and request that the external appearance of the structures be designed by an architect (and not an engineer) who is both familiar with and sympathetic to the general culture and history of the North Coast, such that the aesthetics of the design will blend more consistently with the existing area and community. The Arcata community has enough straight-line building facades

PRIVACY

As the neighborhoods to the west and south generally are at a much lower elevation than the PROJECT property, it puts the neighbors in jeopardy of living in a "fish bowl" environment, especially if PROJECT is designed and constructed to be multi-story and buildings placed near neighboring properties lines. **Recommendation**: effective measures need to be put in place to mitigate against trespassing on to adjoining neighbors properties.

DRAINAGE

Storm water runoff has generally been free flowing and uncontrolled onto neighboring properties. There are no known extant storm water best management practices in place on the property, with one exception; storm water along the western portion of the property drains down to the lower area immediately behind the fences of the conterminous properties to the west and, eventually, some, but not all, finds its way into a constructed pipe that passes under the property line between 2548 & 2558 Maple Lane and directly into the CITY storm drain system in Maple lane. As it currently stands, storm water run-off from the open yard area to the east and south east finds its way to the gate and the north end of Eye Street, flows under the gate and drains immediately into a poorly constructed over-side drain inlet (constructed by County of Humboldt when the Sunset residential area was in the County jurisdiction until sometime in the late 1980's to early 1990's). From that inlet the water passes under the private property at 2585 in some type of pipe and daylights into a swale, immediately adjacent and south of PROJECT property, on the property of 2533 eye Street. From there it free flows under my fence and into a drainage swale on my land and conveys off my land to the south on down into Sunset Creek. This runoff normally is only present during the rainy season and is in direct response to heavy sustained storm conditions. However, several times over the years a water line or fire hydrant, either on the old mill property or on Eye Street, has been ruptured and a considerable amount of water has conveyed onto my land and been accommodated by the drainage swale. When those events occur, the amount and velocity of the runoff is quite spectacular, to say the least! My biggest concern is that, while the existing property is open and not subject to "hard" coverage and, thus, subject to some storm water infiltration, PROJECT will, by definition, create a higher percentage of "hard" covered area (buildings, parking and paving). This will create a higher percentage of storm water runoff into adjoining properties. **Recommendation**: All storm water be subject to best management practices such that it is 100 % treated within the PROJECT property limits so that proper mitigation measures will treat all runoff through collecting, filtering and detention and infiltration. Treated runoff should be controlled and directed in to CITY storm water drainage systems. Adjacent properties should not have to bear the burden of receiving, collecting, treating or conveying PROJECT storm water runoff.

PEDESTRIAN TRAFFIC

The streets, sidewalks and properties of the Westwood Village – East residential area were designed and intended to accommodate pedestrian traffic generated within the boundaries of the subdivision. The Eye Street residential area is small, compact and the street is very narrow and substandard with no real prospect of upgrading it to CITY standards. To expect the residents there to accommodate pedestrian traffic generated by PROJECT is not reasonable, where that source and level of traffic does not already exist. Historically and currently no established pedestrian pathway exists connecting the PROJECT properties and Westwood Village – East. **Recommendation**: Do not create a pedestrian pathway connecting PROJECT and Westwood Village – East or Eye Street.

VEHICULAR TRAFFIC AND PARKING

Should PROJECT create 1,050 bed spaces the increase in the need for on-site parking to accommodate that number will be very large. In addition, the increased vehicular traffic will have a large impact on the local roads. Alliance Road, the principle arterial connecting the northwest side of Arcata to the downtown area, is already heavily used. **Recommendations**: 1) Design and construct on-site parking facilities sufficient to accommodate anticipated parking demand, both for the residents but, also, for staff and visitors. 2) Encourage and direct PROJECT vehicular traffic to access downtown Arcata via L.K. Wood Blvd.

ECONOMICS

Historically, and up until acquisition of PROJECT properties by the Humboldt State University foundation, these properties generated tax revenues to CITY and COUNTY, via property tax and business tax. With acquisition of the properties by STATE, these tax revenues no longer exist. **Recommendation**: Explain in the EIR how these tax revenue losses will be substantially offset by PROJECT generated revenues to CITY and COUNTY.

PUBLIC UTILITIES

The existing CITY public utilities, water, sewer, storm water conveyance systems, were not designed or constructed to accommodate the large volume demand that PROJECT will generate. **Recommendation**: EIR address these various CITY utilities and how PROJECT will affect them.

RESPONDING

Please acknowledge and respond to the public's concerns and suggestions. For the adjacent neighborhoods, please develop an effective communications system and links such that neighboring property owners will know how and where to follow developments of PROJECT.

Thank you for providing me with an opportunity to participate in the scoping process for the EIR. Should you have any questions of anything stated above or would like further input from me, please contact me either by USPS, E-mail or telephone. I'll be pleased to respond to you in any way that I am able.

Sincerely,

Robert H. Fallis
707.822.3096 (H)
bjfallis@humboldt1.com

cc: Karen Diemer, City Manager, City of Arcata
Neighbors

From: **Fred Johansen** <fredjohansen28@gmail.com>
Date: Wed, Jul 27, 2022 at 8:54 AM
Subject: Housing at the Craftsman's Mall
To: <Deirdre.Clem@humboldt.edu>

Deirdre,
My major concern is for the safety of the students entering and leaving this new housing facility. I have spoken to the owner, Travis of Mad River Lumber, Karen Deimer, the Arcata Transportation Committee, the Arcata Planning Committee, Micheal Fisher, Peter Kress and your previous Police Chief about my concerns.

1. The proposed Rails by Trails path will not be a safe corridor for students to travel to and from Cal Poly Humboldt as currently planned. I have concerns about lighting and sight lines particularly where the path connects to Sunset Ave. Please observe where the path connects between the intersection and traffic circle. In Arcata's 2017 Central Traffic Study these two intersections will be severely impacted by the number of students at the new dorms and other student housing developments. Cal Poly Humboldt's new land acquisition is not addressed as student housing by the 2017 study. These two intersections will be more heavily impacted because of the increased numbers of students and or faculty.

2. When students realize the lack of safety at these two intersections they will then take Saint Louis Rd. and travel through an industrial zone along Saint Louis Road where log trucks, lumber trucks and a chip truck average 40 trips daily. There are no sidewalks and the lighting is minimal. In the 2017 traffic study it is noted that this is not a safe path for pedestrians or bicyclists.

I have proposed a new entrance with the city along a rerouted Saint Louis Road. That could include new sidewalks and lighting. It would also include a lighted trail from the southwest corner of the Mall property to the street below to allow students access to a market and city services. The city is in the process of developing a new traffic plan that will be revisited every two years as new problems arise. I am hoping that Cal Poly will be proactive in helping our city to deal with problems that will occur with the growth of Cal Poly Humboldt.

I am a Concerned Citizen and Chairman of the Arcata Public Safety Committee. I have lived in the Sunset area of Arcata since 1974 and I am a graduate of H.S.U. This is an exciting time at Cal Poly as it expands its housing. I am grateful for Cal Poly's increasing policing presence due to your expansion.

Thank You,
Fred Johansen.

From: **Anne & Alfred Eanni** <aeanni2@yahoo.com>
Date: Fri, Jul 29, 2022 at 10:33 AM
Subject: Student Housing Project NOP Scoping Comment
To: Deirdre.Clem@humboldt.edu <Deirdre.Clem@humboldt.edu>

Dierdre,

We are late in getting our thoughts and concerns emailed to you.

One of the biggest concerns we have with the Craftsman Mall property plan is RODENTS!

Once tearing down of this building and area starts, the rodents and other pests will migrate elsewhere...mainly down towards the housing area just below the site, (Stromberg/Hilfiker), as well as the grade school, (Arcata Elementary).
Not dealing with this likely invasion of disease-spreading rodents, as well as wasps, which can attack children and adults, is poor foresight. We strongly encourage that this be addressed.

The other is the impact on the hillside just above Maple Lane and east end of Stromberg. Although the development is to include a small food court in the housing project, there will be a number of students who will be hiking down to the small Westwood Shopping Centre...especially when they are being discouraged to not drive cars, which is a whole other unrealistic plan. Without taking this into consideration, there will begin to be trespassing along with erosion of the hillside.

Thank you for allowing comments from concerned Arcata residents.

Anne Carlisle and Alfred Eanni
1173 Madrone Way
Arcata

Appendix B

Air Quality, Greenhouse Gas, and Energy Modeling Results

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Humboldt Student Housing Project Unmit.

Humboldt County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	347.00	Space	3.12	138,800.00	0
Health Club	127.62	1000sqft	2.93	127,620.00	0
Apartments Mid Rise	241.00	Dwelling Unit	4.53	197,380.00	964

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	140.9	**CH4 Intensity (lb/MWhr)**	0.035	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emissions factors calculated using data from eGRID, Climate Registry and PG&E Power Content Label

Land Use - residential sqft based on data provided by Cal Poly Humboldt in "Craftsman Student Housing", remainder of sqft assigned to "health club" general land use

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trip lengths reverted to defaults for "Urban" project location

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - sf calculated by estimating agreggate sf of existing structures to be demolished using Google Earth

Grading - no import or export; grading based on land use module

Architectural Coating - default VOC coatings

Vehicle Trips - trip lengths and rates calculated based on

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - no wood stoves or fireplaces

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use - PD states no natural gas will be used for operation of the project - calculations done to account for increase in electricity demand as a result

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation - PD states all diesel construction equipment will be Tier 4

Table Name	Column Name	Default Value	New Value
tblEnergyUse	NT24E	3,054.10	3,522.74
tblEnergyUse	NT24NG	1,599.00	0.00
tblEnergyUse	NT24NG	0.31	0.00
tblEnergyUse	T24E	176.92	816.54
tblEnergyUse	T24E	0.56	1.49
tblEnergyUse	T24NG	2,182.40	0.00
tblEnergyUse	T24NG	3.17	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	NumberGas	132.55	0.00
tblFireplaces	NumberNoFireplace	24.10	0.00
tblFireplaces	NumberWood	84.35	0.00
tblLandUse	LandUseSquareFeet	241,000.00	197,380.00

tblLandUse	LotAcreage	6.34	4.53
tblLandUse	Population	689.00	964.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.035
tblProjectCharacteristics	CO2IntensityFactor	203.98	140.9
tblVehicleEF	LDA	0.62	0.62
tblVehicleEF	LDA	2.41	2.43
tblVehicleEF	LDA	245.02	250.03
tblVehicleEF	LDA	52.03	53.11
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.20	0.20
tblVehicleEF	LDA	1.5560e-003	1.5630e-003
tblVehicleEF	LDA	1.8500e-003	1.8590e-003
tblVehicleEF	LDA	1.4380e-003	1.4440e-003
tblVehicleEF	LDA	1.7010e-003	1.7100e-003
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.13	0.13
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.26	0.26
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.13	0.13
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.28	0.28
tblVehicleEF	LDA	0.62	0.62
tblVehicleEF	LDA	2.13	2.14
tblVehicleEF	LDA	244.87	249.88

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDA	51.50	52.57
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.18	0.18
tblVehicleEF	LDA	1.5560e-003	1.5630e-003
tblVehicleEF	LDA	1.8500e-003	1.8590e-003
tblVehicleEF	LDA	1.4380e-003	1.4440e-003
tblVehicleEF	LDA	1.7010e-003	1.7100e-003
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	0.13	0.13
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.23	0.23
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	0.13	0.13
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.25	0.25
tblVehicleEF	LDA	0.62	0.63
tblVehicleEF	LDA	2.78	2.79
tblVehicleEF	LDA	244.10	249.09
tblVehicleEF	LDA	52.71	53.80
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.21	0.21
tblVehicleEF	LDA	1.5560e-003	1.5630e-003
tblVehicleEF	LDA	1.8500e-003	1.8590e-003
tblVehicleEF	LDA	1.4380e-003	1.4440e-003
tblVehicleEF	LDA	1.7010e-003	1.7100e-003

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.14	0.14
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.29	0.29
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.14	0.14
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.31	0.31
tblVehicleEF	LDT1	1.72	1.73
tblVehicleEF	LDT1	2.95	2.96
tblVehicleEF	LDT1	308.62	315.00
tblVehicleEF	LDT1	68.50	69.92
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	0.39	0.39
tblVehicleEF	LDT1	2.5100e-003	2.5220e-003
tblVehicleEF	LDT1	3.1400e-003	3.1560e-003
tblVehicleEF	LDT1	2.3120e-003	2.3230e-003
tblVehicleEF	LDT1	2.8870e-003	2.9020e-003
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.41	0.41
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.63	0.63
tblVehicleEF	LDT1	0.14	0.14

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT1	0.41	0.41
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.69	0.69
tblVehicleEF	LDT1	1.71	1.71
tblVehicleEF	LDT1	2.59	2.60
tblVehicleEF	LDT1	308.45	314.83
tblVehicleEF	LDT1	67.73	69.14
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.36	0.36
tblVehicleEF	LDT1	2.5100e-003	2.5220e-003
tblVehicleEF	LDT1	3.1400e-003	3.1560e-003
tblVehicleEF	LDT1	2.3120e-003	2.3230e-003
tblVehicleEF	LDT1	2.8870e-003	2.9020e-003
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.40	0.40
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.57	0.57
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.40	0.40
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.62	0.62
tblVehicleEF	LDT1	1.73	1.74
tblVehicleEF	LDT1	3.40	3.41

tblVehicleEF	LDT1	307.63	313.99
tblVehicleEF	LDT1	69.48	70.92
tblVehicleEF	LDT1	0.21	0.21
tblVehicleEF	LDT1	0.42	0.42
tblVehicleEF	LDT1	2.5100e-003	2.5220e-003
tblVehicleEF	LDT1	3.1400e-003	3.1560e-003
tblVehicleEF	LDT1	2.3120e-003	2.3230e-003
tblVehicleEF	LDT1	2.8870e-003	2.9020e-003
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.44	0.44
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.28	0.28
tblVehicleEF	LDT1	0.71	0.71
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.44	0.44
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.28	0.28
tblVehicleEF	LDT1	0.77	0.77
tblVehicleEF	LDT2	1.09	1.10
tblVehicleEF	LDT2	3.32	3.33
tblVehicleEF	LDT2	328.24	334.99
tblVehicleEF	LDT2	72.74	74.24
tblVehicleEF	LDT2	0.13	0.13
tblVehicleEF	LDT2	0.40	0.40
tblVehicleEF	LDT2	1.6160e-003	1.6240e-003
tblVehicleEF	LDT2	2.0410e-003	2.0510e-003
tblVehicleEF	LDT2	1.4890e-003	1.4960e-003

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT2	1.8770e-003	1.8860e-003
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.25	0.25
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.14	0.14
tblVehicleEF	LDT2	0.48	0.48
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.25	0.25
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.14	0.14
tblVehicleEF	LDT2	0.52	0.52
tblVehicleEF	LDT2	1.08	1.09
tblVehicleEF	LDT2	2.92	2.93
tblVehicleEF	LDT2	328.08	334.82
tblVehicleEF	LDT2	71.96	73.45
tblVehicleEF	LDT2	0.12	0.12
tblVehicleEF	LDT2	0.37	0.37
tblVehicleEF	LDT2	1.6160e-003	1.6240e-003
tblVehicleEF	LDT2	2.0410e-003	2.0510e-003
tblVehicleEF	LDT2	1.4890e-003	1.4960e-003
tblVehicleEF	LDT2	1.8770e-003	1.8860e-003
tblVehicleEF	LDT2	0.15	0.15
tblVehicleEF	LDT2	0.24	0.24
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.12	0.12
tblVehicleEF	LDT2	0.43	0.43

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT2	0.15	0.15
tblVehicleEF	LDT2	0.24	0.24
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.12	0.12
tblVehicleEF	LDT2	0.47	0.47
tblVehicleEF	LDT2	1.10	1.10
tblVehicleEF	LDT2	3.81	3.83
tblVehicleEF	LDT2	327.27	334.00
tblVehicleEF	LDT2	73.72	75.24
tblVehicleEF	LDT2	0.15	0.15
tblVehicleEF	LDT2	0.43	0.43
tblVehicleEF	LDT2	1.6160e-003	1.6240e-003
tblVehicleEF	LDT2	2.0410e-003	2.0510e-003
tblVehicleEF	LDT2	1.4890e-003	1.4960e-003
tblVehicleEF	LDT2	1.8770e-003	1.8860e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.26	0.26
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.53	0.54
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.26	0.26
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.59	0.59
tblVehicleEF	MDV	0.98	0.98

tblVehicleEF	MDV	3.68	3.70
tblVehicleEF	MDV	397.85	405.76
tblVehicleEF	MDV	85.65	87.42
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.43	0.43
tblVehicleEF	MDV	1.6710e-003	1.6780e-003
tblVehicleEF	MDV	2.1430e-003	2.1540e-003
tblVehicleEF	MDV	1.5460e-003	1.5530e-003
tblVehicleEF	MDV	1.9710e-003	1.9810e-003
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.26	0.26
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.55	0.55
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.26	0.26
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.60	0.60
tblVehicleEF	MDV	0.97	0.98
tblVehicleEF	MDV	3.24	3.26
tblVehicleEF	MDV	397.69	405.60
tblVehicleEF	MDV	84.78	86.54
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.40	0.40
tblVehicleEF	MDV	1.6710e-003	1.6780e-003
tblVehicleEF	MDV	2.1430e-003	2.1540e-003

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MDV	1.5460e-003	1.5530e-003
tblVehicleEF	MDV	1.9710e-003	1.9810e-003
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.26	0.26
tblVehicleEF	MDV	0.10	0.10
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.50	0.50
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.26	0.26
tblVehicleEF	MDV	0.10	0.10
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.54	0.54
tblVehicleEF	MDV	0.98	0.99
tblVehicleEF	MDV	4.24	4.26
tblVehicleEF	MDV	396.88	404.77
tblVehicleEF	MDV	86.76	88.55
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.46	0.46
tblVehicleEF	MDV	1.6710e-003	1.6780e-003
tblVehicleEF	MDV	2.1430e-003	2.1540e-003
tblVehicleEF	MDV	1.5460e-003	1.5530e-003
tblVehicleEF	MDV	1.9710e-003	1.9810e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.27	0.27
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.18	0.18

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MDV	0.61	0.61
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.27	0.27
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	0.67	0.67
tblVehicleEF	OBUS	9.9000e-005	9.8000e-005
tblVehicleEF	UBUS	4.6000e-005	4.5000e-005
tblVehicleEF	UBUS	4.6000e-005	4.5000e-005
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.50	5.53
tblVehicleTrips	HS_TL	7.30	5.53
tblVehicleTrips	HW_TL	10.80	5.53
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	4.91	15.75
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	4.09	15.75
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	5.44	15.75
tblVehicleTrips	WD_TR	32.93	0.00
tblWoodstoves	NumberCatalytic	12.05	0.00

tblWoodstoves	NumberNoncatalytic	12.05	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.4349	34.5937	28.7393	0.0635	19.8049	1.4255	21.0718	10.1417	1.3115	11.3073	0.0000	6,153.4959	6,153.4959	1.9511	0.3080	6,239.2691
2024	461.9538	18.4210	26.3311	0.0609	2.8080	0.6526	3.4606	0.7553	0.6140	1.3694	0.0000	6,046.4625	6,046.4625	0.7186	0.2966	6,152.3354
Maximum	**461.9538**	**34.5937**	**28.7393**	**0.0635**	**19.8049**	**1.4255**	**21.0718**	**10.1417**	**1.3115**	**11.3073**	**0.0000**	**6,153.4959**	**6,153.4959**	**1.9511**	**0.3080**	**6,239.2691**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.4349	34.5937	28.7393	0.0635	19.8049	1.4255	21.0718	10.1417	1.3115	11.3073	0.0000	6,153.4959	6,153.4959	1.9511	0.3080	6,239.2691
2024	461.9538	18.4210	26.3311	0.0609	2.8080	0.6526	3.4606	0.7553	0.6140	1.3694	0.0000	6,046.4625	6,046.4625	0.7186	0.2966	6,152.3354
Maximum	**461.9538**	**34.5937**	**28.7393**	**0.0635**	**19.8049**	**1.4255**	**21.0718**	**10.1417**	**1.3115**	**11.3073**	**0.0000**	**6,153.4959**	**6,153.4959**	**1.9511**	**0.3080**	**6,239.2691**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.1348	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103	0.0000	35.9050	35.9050	0.0346	0.0000	36.7705
Energy	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
Mobile	13.1508	20.4781	108.9079	0.1622	16.1573	0.2001	16.3574	4.3147	0.1884	4.5032		16,766.8560	16,766.8560	1.5478	1.1125	17,137.0601
Total	**23.2856**	**20.7075**	**128.8307**	**0.1633**	**16.1573**	**0.3105**	**16.4677**	**4.3147**	**0.2988**	**4.6135**	**0.0000**	**16,802.7610**	**16,802.7610**	**1.5824**	**1.1125**	**17,173.8306**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.1348	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103	0.0000	35.9050	35.9050	0.0346	0.0000	36.7705
Energy	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
Mobile	13.1508	20.4781	108.9079	0.1622	16.1573	0.2001	16.3574	4.3147	0.1884	4.5032		16,766.8560	16,766.8560	1.5478	1.1125	17,137.0601
Total	**23.2856**	**20.7075**	**128.8307**	**0.1633**	**16.1573**	**0.3105**	**16.4677**	**4.3147**	**0.2988**	**4.6135**	**0.0000**	**16,802.7610**	**16,802.7610**	**1.5824**	**1.1125**	**17,173.8306**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	3/28/2023	5	20	
2	Site Preparation	Site Preparation	3/29/2023	4/11/2023	5	10	
3	Grading	Grading	4/12/2023	5/23/2023	5	30	
4	Building Construction	Building Construction	5/24/2023	7/16/2024	5	300	
5	Paving	Paving	7/17/2024	8/13/2024	5	20	
6	Architectural Coating	Architectural Coating	8/14/2024	9/10/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 3.12

Residential Indoor: 399,695; Residential Outdoor: 133,232; Non-Residential Indoor: 191,430; Non-Residential Outdoor: 63,810; Striped Parking Area: 8,328 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	191.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	285.00	69.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	57.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0713	0.0000	2.0713	0.3136	0.0000	0.3136			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0713**	**0.9975**	**3.0689**	**0.3136**	**0.9280**	**1.2416**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0271	1.7033	0.2767	5.8800e-003	0.1666	0.0140	0.1806	0.0456	0.0134	0.0590		622.0349	622.0349	1.2600e-003	0.0978	651.1978
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
Worker	0.0849	0.0586	0.5161	1.0500e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		106.5137	106.5137	5.1400e-003	4.6000e-003	108.0122
Total	**0.1120**	**1.7619**	**0.7928**	**6.9300e-003**	**0.2898**	**0.0148**	**0.3046**	**0.0783**	**0.0141**	**0.0924**		**728.5486**	**728.5486**	**6.4000e-003**	**0.1024**	**759.2100**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0713	0.0000	2.0713	0.3136	0.0000	0.3136			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0713**	**0.9975**	**3.0689**	**0.3136**	**0.9280**	**1.2416**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0271	1.7033	0.2767	5.8800e-003	0.1666	0.0140	0.1806	0.0456	0.0134	0.0590		622.0349	622.0349	1.2600e-003	0.0978	651.1978
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
Worker	0.0849	0.0586	0.5161	1.0500e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		106.5137	106.5137	5.1400e-003	4.6000e-003	108.0122
Total	**0.1120**	**1.7619**	**0.7928**	**6.9300e-003**	**0.2898**	**0.0148**	**0.3046**	**0.0783**	**0.0141**	**0.0924**		**728.5486**	**728.5486**	**6.4000e-003**	**0.1024**	**759.2100**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.1019	0.0703	0.6193	1.2600e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		127.8164	127.8164	6.1700e-003	5.5200e-003	129.6147
Total	**0.1019**	**0.0703**	**0.6193**	**1.2600e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**127.8164**	**127.8164**	**6.1700e-003**	**5.5200e-003**	**129.6147**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**	**0.0000**	**3,687.308 1**	**3,687.308 1**	**1.1926**		**3,717.121 9**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.1019	0.0703	0.6193	1.2600e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		127.8164	127.8164	6.1700e-003	5.5200e-003	129.6147
Total	**0.1019**	**0.0703**	**0.6193**	**1.2600e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**127.8164**	**127.8164**	**6.1700e-003**	**5.5200e-003**	**129.6147**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.1132	0.0781	0.6881	1.4000e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		142.0182	142.0182	6.8500e-003	6.1300e-003	144.0163
Total	**0.1132**	**0.0781**	**0.6881**	**1.4000e-003**	**0.1643**	**1.0400e-003**	**0.1653**	**0.0436**	**9.6000e-004**	**0.0445**		**142.0182**	**142.0182**	**6.8500e-003**	**6.1300e-003**	**144.0163**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.477 7	6,011.477 7	1.9442		6,060.083 6
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**	**0.0000**	**6,011.477 7**	**6,011.477 7**	**1.9442**		**6,060.083 6**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.1132	0.0781	0.6881	1.4000e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		142.0182	142.0182	6.8500e-003	6.1300e-003	144.0163
Total	**0.1132**	**0.0781**	**0.6881**	**1.4000e-003**	**0.1643**	**1.0400e-003**	**0.1653**	**0.0436**	**9.6000e-004**	**0.0445**		**142.0182**	**142.0182**	**6.8500e-003**	**6.1300e-003**	**144.0163**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0000
Vendor	0.1438	4.0881	1.2179	0.0147	0.4667	0.0261	0.4928	0.1343	0.0250	0.1593		1,550.7142	1,550.7142	6.6700e-003	0.2206	1,616.6311
Worker	1.6128	1.1135	9.8054	0.0200	2.3412	0.0148	2.3560	0.6210	0.0137	0.6347		2,023.7596	2,023.7596	0.0977	0.0874	2,052.2320
Total	**1.7566**	**5.2016**	**11.0234**	**0.0348**	**2.8079**	**0.0409**	**2.8489**	**0.7553**	**0.0387**	**0.7940**		**3,574.4738**	**3,574.4738**	**0.1043**	**0.3080**	**3,668.8630**

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0000
Vendor	0.1438	4.0881	1.2179	0.0147	0.4667	0.0261	0.4928	0.1343	0.0250	0.1593		1,550.714 2	1,550.714 2	6.6700e-003	0.2206	1,616.631 1
Worker	1.6128	1.1135	9.8054	0.0200	2.3412	0.0148	2.3560	0.6210	0.0137	0.6347		2,023.759 6	2,023.759 6	0.0977	0.0874	2,052.232 0
Total	**1.7566**	**5.2016**	**11.0234**	**0.0348**	**2.8079**	**0.0409**	**2.8489**	**0.7553**	**0.0387**	**0.7940**		**3,574.473 8**	**3,574.473 8**	**0.1043**	**0.3080**	**3,668.863 0**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.698 9**	**2,555.698 9**	**0.6044**		**2,570.807 7**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0000
Vendor	0.1391	3.9881	1.1881	0.0145	0.4668	0.0255	0.4923	0.1343	0.0244	0.1588		1,528.780 8	1,528.780 8	6.3700e-003	0.2163	1,593.390 1
Worker	1.5187	0.9891	8.9761	0.0194	2.3412	0.0138	2.3550	0.6210	0.0127	0.6337		1,961.982 8	1,961.982 8	0.0883	0.0804	1,988.137 7
Total	**1.6577**	**4.9772**	**10.1643**	**0.0339**	**2.8080**	**0.0393**	**2.8473**	**0.7553**	**0.0371**	**0.7925**		**3,490.763 6**	**3,490.763 6**	**0.0947**	**0.2966**	**3,581.527 8**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0000
Vendor	0.1391	3.9881	1.1881	0.0145	0.4668	0.0255	0.4923	0.1343	0.0244	0.1588		1,528.7808	1,528.7808	6.3700e-003	0.2163	1,593.3901
Worker	1.5187	0.9891	8.9761	0.0194	2.3412	0.0138	2.3550	0.6210	0.0127	0.6337		1,961.9828	1,961.9828	0.0883	0.0804	1,988.1377
Total	**1.6577**	**4.9772**	**10.1643**	**0.0339**	**2.8080**	**0.0393**	**2.8473**	**0.7553**	**0.0371**	**0.7925**		**3,490.7636**	**3,490.7636**	**0.0947**	**0.2966**	**3,581.5278**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.4087					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3969**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.0799	0.0521	0.4724	1.0200e-003	0.1232	7.3000e-004	0.1240	0.0327	6.7000e-004	0.0334		103.2623	103.2623	4.6500e-003	4.2300e-003	104.6388
Total	**0.0799**	**0.0521**	**0.4724**	**1.0200e-003**	**0.1232**	**7.3000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**103.2623**	**103.2623**	**4.6500e-003**	**4.2300e-003**	**104.6388**

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.4087					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3969**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.0799	0.0521	0.4724	1.0200e-003	0.1232	7.3000e-004	0.1240	0.0327	6.7000e-004	0.0334		103.2623	103.2623	4.6500e-003	4.2300e-003	104.6388
Total	**0.0799**	**0.0521**	**0.4724**	**1.0200e-003**	**0.1232**	**7.3000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**103.2623**	**103.2623**	**4.6500e-003**	**4.2300e-003**	**104.6388**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	461.4693					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**461.6501**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.3037	0.1978	1.7952	3.8800e-003	0.4682	2.7600e-003	0.4710	0.1242	2.5400e-003	0.1267		392.3966	392.3966	0.0177	0.0161	397.6275
Total	**0.3037**	**0.1978**	**1.7952**	**3.8800e-003**	**0.4682**	**2.7600e-003**	**0.4710**	**0.1242**	**2.5400e-003**	**0.1267**		**392.3966**	**392.3966**	**0.0177**	**0.0161**	**397.6275**

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	461.4693					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**461.6501**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.3037	0.1978	1.7952	3.8800e-003	0.4682	2.7600e-003	0.4710	0.1242	2.5400e-003	0.1267		392.3966	392.3966	0.0177	0.0161	397.6275
Total	**0.3037**	**0.1978**	**1.7952**	**3.8800e-003**	**0.4682**	**2.7600e-003**	**0.4710**	**0.1242**	**2.5400e-003**	**0.1267**		**392.3966**	**392.3966**	**0.0177**	**0.0161**	**397.6275**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.1508	20.4781	108.9079	0.1622	16.1573	0.2001	16.3574	4.3147	0.1884	4.5032		16,766.8560	16,766.8560	1.5478	1.1125	17,137.0601
Unmitigated	13.1508	20.4781	108.9079	0.1622	16.1573	0.2001	16.3574	4.3147	0.1884	4.5032		16,766.8560	16,766.8560	1.5478	1.1125	17,137.0601

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,795.75	3,795.75	3795.75	7,640,541	7,640,541
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	3,795.75	3,795.75	3,795.75	7,640,541	7,640,541

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	5.53	5.53	5.53	42.30	19.60	38.10	100	0	0
Health Club	0.00	0.00	0.00	16.90	64.10	19.00	52	39	9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842
Health Club	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842
Parking Lot	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
Health Club	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
Parking Lot	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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
Health Club	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
Parking Lot	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

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.1348	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103	0.0000	35.9050	35.9050	0.0346	0.0000	36.7705
Unmitigated	10.1348	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103	0.0000	35.9050	35.9050	0.0346	0.0000	36.7705

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0042					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.6021	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103		35.9050	35.9050	0.0346		36.7705
Total	**10.1348**	**0.2294**	**19.9228**	**1.0500e-003**		**0.1103**	**0.1103**		**0.1103**	**0.1103**	**0.0000**	**35.9050**	**35.9050**	**0.0346**	**0.0000**	**36.7705**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0042					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.6021	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103		35.9050	35.9050	0.0346		36.7705
Total	**10.1348**	**0.2294**	**19.9228**	**1.0500e-003**		**0.1103**	**0.1103**		**0.1103**	**0.1103**	**0.0000**	**35.9050**	**35.9050**	**0.0346**	**0.0000**	**36.7705**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Humboldt Student Housing Project Mit - Revised

Humboldt County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	347.00	Space	3.12	138,800.00	0
Health Club	127.62	1000sqft	2.93	127,620.00	0
Apartments Mid Rise	241.00	Dwelling Unit	4.53	197,380.00	964

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	140.9	**CH4 Intensity (lb/MWhr)**	0.035	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emissions factors calculated using data from eGRID, Climate Registry and PG&E Power Content Label

Land Use - residential sqft based on data provided by Cal Poly Humboldt in "Craftsman Student Housing", remainder of sqft assigned to "health club" general land use

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Worker and vendor trips reverted to default values for "urban" project location

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - sf calculated by estimating agreggate sf of existing structures to be demolished using Google Earth

Grading - no import or export; grading based on land use module

Architectural Coating - mitigated VOC coatings

Vehicle Trips - trip lengths and rates calculated based on

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - no wood stoves or fireplaces

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use - PD states no natural gas will be used for operation of the project - calculations done to account for increase in electricity demand as a result

Water And Wastewater -

Solid Waste -

Sequestration -

Construction Off-road Equipment Mitigation - PD states all diesel construction equipment will be Tier 4

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	10.00
tblArchitecturalCoating	EF_Parking	250.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	10.00
tblEnergyUse	NT24E	3,054.10	3,522.74
tblEnergyUse	NT24NG	1,599.00	0.00
tblEnergyUse	NT24NG	0.31	0.00
tblEnergyUse	T24E	176.92	816.54
tblEnergyUse	T24E	0.56	1.49
tblEnergyUse	T24NG	2,182.40	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblEnergyUse	T24NG	3.17	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	NumberGas	132.55	0.00
tblFireplaces	NumberNoFireplace	24.10	0.00
tblFireplaces	NumberWood	84.35	0.00
tblLandUse	LandUseSquareFeet	241,000.00	197,380.00
tblLandUse	LotAcreage	6.34	4.53
tblLandUse	Population	689.00	964.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.035
tblProjectCharacteristics	CO2IntensityFactor	203.98	140.9
tblVehicleEF	LDA	0.62	0.62
tblVehicleEF	LDA	2.41	2.43
tblVehicleEF	LDA	245.02	250.03
tblVehicleEF	LDA	52.03	53.11
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.20	0.20
tblVehicleEF	LDA	1.5560e-003	1.5630e-003
tblVehicleEF	LDA	1.8500e-003	1.8590e-003
tblVehicleEF	LDA	1.4380e-003	1.4440e-003
tblVehicleEF	LDA	1.7010e-003	1.7100e-003
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.13	0.13
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.26	0.26
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.13	0.13
tblVehicleEF	LDA	0.04	0.04

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.28	0.28
tblVehicleEF	LDA	0.62	0.62
tblVehicleEF	LDA	2.13	2.14
tblVehicleEF	LDA	244.87	249.88
tblVehicleEF	LDA	51.50	52.57
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.18	0.18
tblVehicleEF	LDA	1.5560e-003	1.5630e-003
tblVehicleEF	LDA	1.8500e-003	1.8590e-003
tblVehicleEF	LDA	1.4380e-003	1.4440e-003
tblVehicleEF	LDA	1.7010e-003	1.7100e-003
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	0.13	0.13
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.23	0.23
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	0.13	0.13
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.25	0.25
tblVehicleEF	LDA	0.62	0.63
tblVehicleEF	LDA	2.78	2.79
tblVehicleEF	LDA	244.10	249.09
tblVehicleEF	LDA	52.71	53.80

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.21	0.21
tblVehicleEF	LDA	1.5560e-003	1.5630e-003
tblVehicleEF	LDA	1.8500e-003	1.8590e-003
tblVehicleEF	LDA	1.4380e-003	1.4440e-003
tblVehicleEF	LDA	1.7010e-003	1.7100e-003
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.14	0.14
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.29	0.29
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.14	0.14
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.31	0.31
tblVehicleEF	LDT1	1.72	1.73
tblVehicleEF	LDT1	2.95	2.96
tblVehicleEF	LDT1	308.62	315.00
tblVehicleEF	LDT1	68.50	69.92
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	0.39	0.39
tblVehicleEF	LDT1	2.5100e-003	2.5220e-003
tblVehicleEF	LDT1	3.1400e-003	3.1560e-003
tblVehicleEF	LDT1	2.3120e-003	2.3230e-003
tblVehicleEF	LDT1	2.8870e-003	2.9020e-003
tblVehicleEF	LDT1	0.14	0.14

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT1	0.41	0.41
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.63	0.63
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.41	0.41
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.69	0.69
tblVehicleEF	LDT1	1.71	1.71
tblVehicleEF	LDT1	2.59	2.60
tblVehicleEF	LDT1	308.45	314.83
tblVehicleEF	LDT1	67.73	69.14
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.36	0.36
tblVehicleEF	LDT1	2.5100e-003	2.5220e-003
tblVehicleEF	LDT1	3.1400e-003	3.1560e-003
tblVehicleEF	LDT1	2.3120e-003	2.3230e-003
tblVehicleEF	LDT1	2.8870e-003	2.9020e-003
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.40	0.40
tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.57	0.57
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.40	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT1	0.14	0.14
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.62	0.62
tblVehicleEF	LDT1	1.73	1.74
tblVehicleEF	LDT1	3.40	3.41
tblVehicleEF	LDT1	307.63	313.99
tblVehicleEF	LDT1	69.48	70.92
tblVehicleEF	LDT1	0.21	0.21
tblVehicleEF	LDT1	0.42	0.42
tblVehicleEF	LDT1	2.5100e-003	2.5220e-003
tblVehicleEF	LDT1	3.1400e-003	3.1560e-003
tblVehicleEF	LDT1	2.3120e-003	2.3230e-003
tblVehicleEF	LDT1	2.8870e-003	2.9020e-003
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.44	0.44
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.28	0.28
tblVehicleEF	LDT1	0.71	0.71
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.44	0.44
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.28	0.28
tblVehicleEF	LDT1	0.77	0.77
tblVehicleEF	LDT2	1.09	1.10
tblVehicleEF	LDT2	3.32	3.33
tblVehicleEF	LDT2	328.24	334.99

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT2	72.74	74.24
tblVehicleEF	LDT2	0.13	0.13
tblVehicleEF	LDT2	0.40	0.40
tblVehicleEF	LDT2	1.6160e-003	1.6240e-003
tblVehicleEF	LDT2	2.0410e-003	2.0510e-003
tblVehicleEF	LDT2	1.4890e-003	1.4960e-003
tblVehicleEF	LDT2	1.8770e-003	1.8860e-003
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.25	0.25
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.14	0.14
tblVehicleEF	LDT2	0.48	0.48
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.25	0.25
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.14	0.14
tblVehicleEF	LDT2	0.52	0.52
tblVehicleEF	LDT2	1.08	1.09
tblVehicleEF	LDT2	2.92	2.93
tblVehicleEF	LDT2	328.08	334.82
tblVehicleEF	LDT2	71.96	73.45
tblVehicleEF	LDT2	0.12	0.12
tblVehicleEF	LDT2	0.37	0.37
tblVehicleEF	LDT2	1.6160e-003	1.6240e-003
tblVehicleEF	LDT2	2.0410e-003	2.0510e-003
tblVehicleEF	LDT2	1.4890e-003	1.4960e-003
tblVehicleEF	LDT2	1.8770e-003	1.8860e-003

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT2	0.15	0.15
tblVehicleEF	LDT2	0.24	0.24
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.12	0.12
tblVehicleEF	LDT2	0.43	0.43
tblVehicleEF	LDT2	0.15	0.15
tblVehicleEF	LDT2	0.24	0.24
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.12	0.12
tblVehicleEF	LDT2	0.47	0.47
tblVehicleEF	LDT2	1.10	1.10
tblVehicleEF	LDT2	3.81	3.83
tblVehicleEF	LDT2	327.27	334.00
tblVehicleEF	LDT2	73.72	75.24
tblVehicleEF	LDT2	0.15	0.15
tblVehicleEF	LDT2	0.43	0.43
tblVehicleEF	LDT2	1.6160e-003	1.6240e-003
tblVehicleEF	LDT2	2.0410e-003	2.0510e-003
tblVehicleEF	LDT2	1.4890e-003	1.4960e-003
tblVehicleEF	LDT2	1.8770e-003	1.8860e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.26	0.26
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.53	0.54
tblVehicleEF	LDT2	0.03	0.03

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	LDT2	0.26	0.26
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.59	0.59
tblVehicleEF	MDV	0.98	0.98
tblVehicleEF	MDV	3.68	3.70
tblVehicleEF	MDV	397.85	405.76
tblVehicleEF	MDV	85.65	87.42
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.43	0.43
tblVehicleEF	MDV	1.6710e-003	1.6780e-003
tblVehicleEF	MDV	2.1430e-003	2.1540e-003
tblVehicleEF	MDV	1.5460e-003	1.5530e-003
tblVehicleEF	MDV	1.9710e-003	1.9810e-003
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.26	0.26
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.55	0.55
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.26	0.26
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.60	0.60
tblVehicleEF	MDV	0.97	0.98
tblVehicleEF	MDV	3.24	3.26

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MDV	397.69	405.60
tblVehicleEF	MDV	84.78	86.54
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.40	0.40
tblVehicleEF	MDV	1.6710e-003	1.6780e-003
tblVehicleEF	MDV	2.1430e-003	2.1540e-003
tblVehicleEF	MDV	1.5460e-003	1.5530e-003
tblVehicleEF	MDV	1.9710e-003	1.9810e-003
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.26	0.26
tblVehicleEF	MDV	0.10	0.10
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.50	0.50
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.26	0.26
tblVehicleEF	MDV	0.10	0.10
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.54	0.54
tblVehicleEF	MDV	0.98	0.99
tblVehicleEF	MDV	4.24	4.26
tblVehicleEF	MDV	396.88	404.77
tblVehicleEF	MDV	86.76	88.55
tblVehicleEF	MDV	0.13	0.13
tblVehicleEF	MDV	0.46	0.46
tblVehicleEF	MDV	1.6710e-003	1.6780e-003
tblVehicleEF	MDV	2.1430e-003	2.1540e-003
tblVehicleEF	MDV	1.5460e-003	1.5530e-003

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleEF	MDV	1.9710e-003	1.9810e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.27	0.27
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	0.61	0.61
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.27	0.27
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	0.67	0.67
tblVehicleEF	OBUS	9.9000e-005	9.8000e-005
tblVehicleEF	UBUS	4.6000e-005	4.5000e-005
tblVehicleEF	UBUS	4.6000e-005	4.5000e-005
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.50	5.53
tblVehicleTrips	HS_TL	7.30	5.53
tblVehicleTrips	HW_TL	10.80	5.53
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	4.91	15.75

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	4.09	15.75
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	5.44	15.75
tblVehicleTrips	WD_TR	32.93	0.00
tblWoodstoves	NumberCatalytic	12.05	0.00
tblWoodstoves	NumberNoncatalytic	12.05	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.4349	34.5937	28.7393	0.0635	19.8049	1.4255	21.0718	10.1417	1.3115	11.3073	0.0000	6,153.4959	6,153.4959	1.9511	0.3080	6,239.2691
2024	18.9433	18.4210	26.3311	0.0609	2.8080	0.6526	3.4606	0.7553	0.6140	1.3694	0.0000	6,046.4625	6,046.4625	0.7186	0.2966	6,152.3354
Maximum	**18.9433**	**34.5937**	**28.7393**	**0.0635**	**19.8049**	**1.4255**	**21.0718**	**10.1417**	**1.3115**	**11.3073**	**0.0000**	**6,153.4959**	**6,153.4959**	**1.9511**	**0.3080**	**6,239.2691**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.4349	34.5937	28.7393	0.0635	19.8049	1.4255	21.0718	10.1417	1.3115	11.3073	0.0000	6,153.4959	6,153.4959	1.9511	0.3080	6,239.2691
2024	18.9433	18.4210	26.3311	0.0609	2.8080	0.6526	3.4606	0.7553	0.6140	1.3694	0.0000	6,046.4625	6,046.4625	0.7186	0.2966	6,152.3354
Maximum	**18.9433**	**34.5937**	**28.7393**	**0.0635**	**19.8049**	**1.4255**	**21.0718**	**10.1417**	**1.3115**	**11.3073**	**0.0000**	**6,153.4959**	**6,153.4959**	**1.9511**	**0.3080**	**6,239.2691**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.1348	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103	0.0000	35.9050	35.9050	0.0346	0.0000	36.7705
Energy	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
Mobile	13.1508	20.4781	108.9079	0.1622	16.1573	0.2001	16.3574	4.3147	0.1884	4.5032		16,766.8560	16,766.8560	1.5478	1.1125	17,137.0601
Total	**23.2856**	**20.7075**	**128.8307**	**0.1633**	**16.1573**	**0.3105**	**16.4677**	**4.3147**	**0.2988**	**4.6135**	**0.0000**	**16,802.7610**	**16,802.7610**	**1.5824**	**1.1125**	**17,173.8306**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.1348	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103	0.0000	35.9050	35.9050	0.0346	0.0000	36.7705
Energy	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
Mobile	13.1508	20.4781	108.9079	0.1622	16.1573	0.2001	16.3574	4.3147	0.1884	4.5032		16,766.8560	16,766.8560	1.5478	1.1125	17,137.0601
Total	**23.2856**	**20.7075**	**128.8307**	**0.1633**	**16.1573**	**0.3105**	**16.4677**	**4.3147**	**0.2988**	**4.6135**	**0.0000**	**16,802.7610**	**16,802.7610**	**1.5824**	**1.1125**	**17,173.8306**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	3/28/2023	5	20	
2	Site Preparation	Site Preparation	3/29/2023	4/11/2023	5	10	
3	Grading	Grading	4/12/2023	5/23/2023	5	30	
4	Building Construction	Building Construction	5/24/2023	7/16/2024	5	300	
5	Paving	Paving	7/17/2024	8/13/2024	5	20	
6	Architectural Coating	Architectural Coating	8/14/2024	9/10/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 3.12

Residential Indoor: 399,695; Residential Outdoor: 133,232; Non-Residential Indoor: 191,430; Non-Residential Outdoor: 63,810; Striped Parking Area: 8,328 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	191.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	285.00	69.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	57.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0713	0.0000	2.0713	0.3136	0.0000	0.3136			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.984 0	3,746.984 0	1.0494		3,773.218 3
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0713**	**0.9975**	**3.0689**	**0.3136**	**0.9280**	**1.2416**		**3,746.984 0**	**3,746.984 0**	**1.0494**		**3,773.218 3**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0271	1.7033	0.2767	5.8800e-003	0.1666	0.0140	0.1806	0.0456	0.0134	0.0590		622.0349	622.0349	1.2600e-003	0.0978	651.1978
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
Worker	0.0849	0.0586	0.5161	1.0500e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		106.5137	106.5137	5.1400e-003	4.6000e-003	108.0122
Total	**0.1120**	**1.7619**	**0.7928**	**6.9300e-003**	**0.2898**	**0.0148**	**0.3046**	**0.0783**	**0.0141**	**0.0924**		**728.5486**	**728.5486**	**6.4000e-003**	**0.1024**	**759.2100**

3.2 Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0713	0.0000	2.0713	0.3136	0.0000	0.3136			0.0000			0.0000
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**	**2.0713**	**0.9975**	**3.0689**	**0.3136**	**0.9280**	**1.2416**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0271	1.7033	0.2767	5.8800e-003	0.1666	0.0140	0.1806	0.0456	0.0134	0.0590		622.0349	622.0349	1.2600e-003	0.0978	651.1978
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
Worker	0.0849	0.0586	0.5161	1.0500e-003	0.1232	7.8000e-004	0.1240	0.0327	7.2000e-004	0.0334		106.5137	106.5137	5.1400e-003	4.6000e-003	108.0122
Total	**0.1120**	**1.7619**	**0.7928**	**6.9300e-003**	**0.2898**	**0.0148**	**0.3046**	**0.0783**	**0.0141**	**0.0924**		**728.5486**	**728.5486**	**6.4000e-003**	**0.1024**	**759.2100**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.1019	0.0703	0.6193	1.2600e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		127.8164	127.8164	6.1700e-003	5.5200e-003	129.6147
Total	**0.1019**	**0.0703**	**0.6193**	**1.2600e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**127.8164**	**127.8164**	**6.1700e-003**	**5.5200e-003**	**129.6147**

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.1019	0.0703	0.6193	1.2600e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		127.8164	127.8164	6.1700e-003	5.5200e-003	129.6147
Total	**0.1019**	**0.0703**	**0.6193**	**1.2600e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**127.8164**	**127.8164**	**6.1700e-003**	**5.5200e-003**	**129.6147**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.1132	0.0781	0.6881	1.4000e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		142.0182	142.0182	6.8500e-003	6.1300e-003	144.0163
Total	**0.1132**	**0.0781**	**0.6881**	**1.4000e-003**	**0.1643**	**1.0400e-003**	**0.1653**	**0.0436**	**9.6000e-004**	**0.0445**		**142.0182**	**142.0182**	**6.8500e-003**	**6.1300e-003**	**144.0163**

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.477 7	6,011.477 7	1.9442		6,060.083 6
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**	**0.0000**	**6,011.477 7**	**6,011.477 7**	**1.9442**		**6,060.083 6**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.1132	0.0781	0.6881	1.4000e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		142.0182	142.0182	6.8500e-003	6.1300e-003	144.0163
Total	**0.1132**	**0.0781**	**0.6881**	**1.4000e-003**	**0.1643**	**1.0400e-003**	**0.1653**	**0.0436**	**9.6000e-004**	**0.0445**		**142.0182**	**142.0182**	**6.8500e-003**	**6.1300e-003**	**144.0163**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0000
Vendor	0.1438	4.0881	1.2179	0.0147	0.4667	0.0261	0.4928	0.1343	0.0250	0.1593		1,550.7142	1,550.7142	6.6700e-003	0.2206	1,616.6311
Worker	1.6128	1.1135	9.8054	0.0200	2.3412	0.0148	2.3560	0.6210	0.0137	0.6347		2,023.7596	2,023.7596	0.0977	0.0874	2,052.2320
Total	**1.7566**	**5.2016**	**11.0234**	**0.0348**	**2.8079**	**0.0409**	**2.8489**	**0.7553**	**0.0387**	**0.7940**		**3,574.4738**	**3,574.4738**	**0.1043**	**0.3080**	**3,668.8630**

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0000
Vendor	0.1438	4.0881	1.2179	0.0147	0.4667	0.0261	0.4928	0.1343	0.0250	0.1593		1,550.7142	1,550.7142	6.6700e-003	0.2206	1,616.6311
Worker	1.6128	1.1135	9.8054	0.0200	2.3412	0.0148	2.3560	0.6210	0.0137	0.6347		2,023.7596	2,023.7596	0.0977	0.0874	2,052.2320
Total	**1.7566**	**5.2016**	**11.0234**	**0.0348**	**2.8079**	**0.0409**	**2.8489**	**0.7553**	**0.0387**	**0.7940**		**3,574.4738**	**3,574.4738**	**0.1043**	**0.3080**	**3,668.8630**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0000
Vendor	0.1391	3.9881	1.1881	0.0145	0.4668	0.0255	0.4923	0.1343	0.0244	0.1588		1,528.7808	1,528.7808	6.3700e-003	0.2163	1,593.3901
Worker	1.5187	0.9891	8.9761	0.0194	2.3412	0.0138	2.3550	0.6210	0.0127	0.6337		1,961.9828	1,961.9828	0.0883	0.0804	1,988.1377
Total	**1.6577**	**4.9772**	**10.1643**	**0.0339**	**2.8080**	**0.0393**	**2.8473**	**0.7553**	**0.0371**	**0.7925**		**3,490.7636**	**3,490.7636**	**0.0947**	**0.2966**	**3,581.5278**

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0000
Vendor	0.1391	3.9881	1.1881	0.0145	0.4668	0.0255	0.4923	0.1343	0.0244	0.1588		1,528.7808	1,528.7808	6.3700e-003	0.2163	1,593.3901
Worker	1.5187	0.9891	8.9761	0.0194	2.3412	0.0138	2.3550	0.6210	0.0127	0.6337		1,961.9828	1,961.9828	0.0883	0.0804	1,988.1377
Total	**1.6577**	**4.9772**	**10.1643**	**0.0339**	**2.8080**	**0.0393**	**2.8473**	**0.7553**	**0.0371**	**0.7925**		**3,490.7636**	**3,490.7636**	**0.0947**	**0.2966**	**3,581.5278**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.4087					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3969**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.0799	0.0521	0.4724	1.0200e-003	0.1232	7.3000e-004	0.1240	0.0327	6.7000e-004	0.0334		103.2623	103.2623	4.6500e-003	4.2300e-003	104.6388
Total	**0.0799**	**0.0521**	**0.4724**	**1.0200e-003**	**0.1232**	**7.3000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**103.2623**	**103.2623**	**4.6500e-003**	**4.2300e-003**	**104.6388**

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.4087					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3969**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.0799	0.0521	0.4724	1.0200e-003	0.1232	7.3000e-004	0.1240	0.0327	6.7000e-004	0.0334		103.2623	103.2623	4.6500e-003	4.2300e-003	104.6388
Total	**0.0799**	**0.0521**	**0.4724**	**1.0200e-003**	**0.1232**	**7.3000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**103.2623**	**103.2623**	**4.6500e-003**	**4.2300e-003**	**104.6388**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.4588					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**18.6395**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.3037	0.1978	1.7952	3.8800e-003	0.4682	2.7600e-003	0.4710	0.1242	2.5400e-003	0.1267		392.3966	392.3966	0.0177	0.0161	397.6275
Total	**0.3037**	**0.1978**	**1.7952**	**3.8800e-003**	**0.4682**	**2.7600e-003**	**0.4710**	**0.1242**	**2.5400e-003**	**0.1267**		**392.3966**	**392.3966**	**0.0177**	**0.0161**	**397.6275**

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.4588					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**18.6395**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	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
Worker	0.3037	0.1978	1.7952	3.8800e-003	0.4682	2.7600e-003	0.4710	0.1242	2.5400e-003	0.1267		392.3966	392.3966	0.0177	0.0161	397.6275
Total	**0.3037**	**0.1978**	**1.7952**	**3.8800e-003**	**0.4682**	**2.7600e-003**	**0.4710**	**0.1242**	**2.5400e-003**	**0.1267**		**392.3966**	**392.3966**	**0.0177**	**0.0161**	**397.6275**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.1508	20.4781	108.9079	0.1622	16.1573	0.2001	16.3574	4.3147	0.1884	4.5032		16,766.8560	16,766.8560	1.5478	1.1125	17,137.0601
Unmitigated	13.1508	20.4781	108.9079	0.1622	16.1573	0.2001	16.3574	4.3147	0.1884	4.5032		16,766.8560	16,766.8560	1.5478	1.1125	17,137.0601

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,795.75	3,795.75	3795.75	7,640,541	7,640,541
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	3,795.75	3,795.75	3,795.75	7,640,541	7,640,541

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	5.53	5.53	5.53	42.30	19.60	38.10	100	0	0
Health Club	0.00	0.00	0.00	16.90	64.10	19.00	52	39	9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842
Health Club	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842
Parking Lot	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
Health Club	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
Parking Lot	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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
Health Club	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
Parking Lot	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

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.1348	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103	0.0000	35.9050	35.9050	0.0346	0.0000	36.7705
Unmitigated	10.1348	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103	0.0000	35.9050	35.9050	0.0346	0.0000	36.7705

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0042					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.6021	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103		35.9050	35.9050	0.0346		36.7705
Total	**10.1348**	**0.2294**	**19.9228**	**1.0500e-003**		**0.1103**	**0.1103**		**0.1103**	**0.1103**	**0.0000**	**35.9050**	**35.9050**	**0.0346**	**0.0000**	**36.7705**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0042					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.6021	0.2294	19.9228	1.0500e-003		0.1103	0.1103		0.1103	0.1103		35.9050	35.9050	0.0346		36.7705
Total	**10.1348**	**0.2294**	**19.9228**	**1.0500e-003**		**0.1103**	**0.1103**		**0.1103**	**0.1103**	**0.0000**	**35.9050**	**35.9050**	**0.0346**	**0.0000**	**36.7705**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Humboldt Student Housing Project Unmit.

Humboldt County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	347.00	Space	3.12	138,800.00	0
Health Club	127.62	1000sqft	2.93	127,620.00	0
Apartments Mid Rise	241.00	Dwelling Unit	4.53	197,380.00	964

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	140.9	**CH4 Intensity (lb/MWhr)**	0.035	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emissions factors calculated using data from eGRID, Climate Registry and PG&E Power Content Label

Land Use - residential sqft based on data provided by Cal Poly Humboldt in "Craftsman Student Housing", remainder of sqft assigned to "health club" general land use

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trip lengths reverted to defaults for "Urban" project location

Demolition - sf calculated by estimating agreggate sf of existing structures to be demolished using Google Earth

Grading - no import or export; grading based on land use module

Architectural Coating - default VOC coatings

Vehicle Trips - trip lengths and rates calculated based on

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - no wood stoves or fireplaces

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use - PD states no natural gas will be used for operation of the project - calculations done to account for increase in electricity demand as a result

Water And Wastewater -

Solid Waste -

Construction Off-road Equipment Mitigation - PD states all diesel construction equipment will be Tier 4

Table Name	Column Name	Default Value	New Value
tblEnergyUse	NT24E	3,054.10	3,522.74
tblEnergyUse	NT24NG	1,599.00	0.00
tblEnergyUse	NT24NG	0.31	0.00
tblEnergyUse	T24E	176.92	816.54
tblEnergyUse	T24E	0.56	1.49
tblEnergyUse	T24NG	2,182.40	0.00
tblEnergyUse	T24NG	3.17	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	NumberGas	132.55	0.00
tblFireplaces	NumberNoFireplace	24.10	0.00
tblFireplaces	NumberWood	84.35	0.00
tblLandUse	LandUseSquareFeet	241,000.00	197,380.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	6.34	4.53
tblLandUse	Population	689.00	964.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.035
tblProjectCharacteristics	CO2IntensityFactor	203.98	140.9
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblVehicleTrips	CC_TL	6.60	0.00
tblVehicleTrips	CC_TL	6.60	0.00
tblVehicleTrips	CNW_TL	6.60	0.00
tblVehicleTrips	CNW_TL	6.60	0.00
tblVehicleTrips	CW_TL	14.70	0.00
tblVehicleTrips	CW_TL	14.70	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.90	5.53
tblVehicleTrips	HS_TL	7.10	5.53
tblVehicleTrips	HW_TL	16.80	5.53
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	4.91	15.75

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	4.09	15.75
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	5.44	15.75
tblVehicleTrips	WD_TR	32.93	0.00
tblWoodstoves	NumberCatalytic	12.05	0.00
tblWoodstoves	NumberNoncatalytic	12.05	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3411	2.4177	2.8570	6.4800e-003	0.4714	0.0964	0.5678	0.1664	0.0900	0.2564	0.0000	581.2887	581.2887	0.0922	0.0227	590.3430
2024	4.8469	1.4022	2.0336	4.6300e-003	0.1931	0.0517	0.2447	0.0522	0.0485	0.1007	0.0000	416.8355	416.8355	0.0516	0.0189	423.7572
Maximum	**4.8469**	**2.4177**	**2.8570**	**6.4800e-003**	**0.4714**	**0.0964**	**0.5678**	**0.1664**	**0.0900**	**0.2564**	**0.0000**	**581.2887**	**581.2887**	**0.0922**	**0.0227**	**590.3430**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3411	2.4177	2.8570	6.4800e-003	0.4714	0.0964	0.5678	0.1664	0.0900	0.2564	0.0000	581.2883	581.2883	0.0922	0.0227	590.3427
2024	4.8469	1.4022	2.0336	4.6300e-003	0.1931	0.0517	0.2447	0.0522	0.0485	0.1007	0.0000	416.8352	416.8352	0.0516	0.0189	423.7570
Maximum	**4.8469**	**2.4177**	**2.8570**	**6.4800e-003**	**0.4714**	**0.0964**	**0.5678**	**0.1664**	**0.0900**	**0.2564**	**0.0000**	**581.2883**	**581.2883**	**0.0922**	**0.0227**	**590.3427**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	1.0417	1.0417
2	6-1-2023	8-31-2023	0.7335	0.7335
3	9-1-2023	11-30-2023	0.7384	0.7384
4	12-1-2023	2-29-2024	0.7155	0.7155
5	3-1-2024	5-31-2024	0.6960	0.6960
6	6-1-2024	8-31-2024	3.4336	3.4336
7	9-1-2024	9-30-2024	1.6546	1.6546
		Highest	3.4336	3.4336

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7939	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	123.3662	123.3662	0.0306	3.5000e-003	125.1760
Mobile	2.3798	3.5152	18.5671	0.0295	2.7625	0.0364	2.7988	0.7416	0.0342	0.7758	0.0000	2,769.2029	2,769.2029	0.2404	0.1761	2,827.6757
Waste						0.0000	0.0000		0.0000	0.0000	170.1653	0.0000	170.1653	10.0565	0.0000	421.5773
Water						0.0000	0.0000		0.0000	0.0000	7.3761	11.2895	18.6657	0.7604	0.0182	43.1021
Total	**4.1737**	**3.5358**	**20.3601**	**0.0296**	**2.7625**	**0.0463**	**2.8088**	**0.7416**	**0.0442**	**0.7857**	**177.5414**	**2,906.7901**	**3,084.3316**	**11.0907**	**0.1978**	**3,420.5333**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7939	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	123.3662	123.3662	0.0306	3.5000e-003	125.1760
Mobile	2.3798	3.5152	18.5671	0.0295	2.7625	0.0364	2.7988	0.7416	0.0342	0.7758	0.0000	2,769.2029	2,769.2029	0.2404	0.1761	2,827.6757
Waste						0.0000	0.0000		0.0000	0.0000	170.1653	0.0000	170.1653	10.0565	0.0000	421.5773
Water						0.0000	0.0000		0.0000	0.0000	7.3761	11.2895	18.6657	0.7604	0.0182	43.1021
Total	**4.1737**	**3.5358**	**20.3601**	**0.0296**	**2.7625**	**0.0463**	**2.8088**	**0.7416**	**0.0442**	**0.7857**	**177.5414**	**2,906.7901**	**3,084.3316**	**11.0907**	**0.1978**	**3,420.5333**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	3/28/2023	5	20	
2	Site Preparation	Site Preparation	3/29/2023	4/11/2023	5	10	
3	Grading	Grading	4/12/2023	5/23/2023	5	30	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	5/24/2023	7/16/2024	5	300	
5	Paving	Paving	7/17/2024	8/13/2024	5	20	
6	Architectural Coating	Architectural Coating	8/14/2024	9/10/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 3.12

Residential Indoor: 399,695; Residential Outdoor: 133,232; Non-Residential Indoor: 191,430; Non-Residential Outdoor: 63,810; Striped Parking Area: 8,328 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	191.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	285.00	69.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	57.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0207	0.0000	0.0207	3.1400e-003	0.0000	3.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**	**0.0207**	**9.9800e-003**	**0.0307**	**3.1400e-003**	**9.2800e-003**	**0.0124**	**0.0000**	**33.9921**	**33.9921**	**9.5200e-003**	**0.0000**	**34.2301**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	0.0165	2.7300e-003	6.0000e-005	1.5800e-003	1.4000e-004	1.7200e-003	4.3000e-004	1.3000e-004	5.7000e-004	0.0000	5.6393	5.6393	1.0000e-005	8.9000e-004	5.9037
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	7.8000e-004	5.3000e-004	5.0000e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9692	0.9692	4.0000e-005	4.0000e-005	0.9819
Total	**1.0600e-003**	**0.0171**	**7.7300e-003**	**7.0000e-005**	**2.7400e-003**	**1.5000e-004**	**2.8800e-003**	**7.4000e-004**	**1.4000e-004**	**8.9000e-004**	**0.0000**	**6.6085**	**6.6085**	**5.0000e-005**	**9.3000e-004**	**6.8856**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0207	0.0000	0.0207	3.1400e-003	0.0000	3.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**	**0.0207**	**9.9800e-003**	**0.0307**	**3.1400e-003**	**9.2800e-003**	**0.0124**	**0.0000**	**33.9920**	**33.9920**	**9.5200e-003**	**0.0000**	**34.2300**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	0.0165	2.7300e-003	6.0000e-005	1.5800e-003	1.4000e-004	1.7200e-003	4.3000e-004	1.3000e-004	5.7000e-004	0.0000	5.6393	5.6393	1.0000e-005	8.9000e-004	5.9037
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	7.8000e-004	5.3000e-004	5.0000e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9692	0.9692	4.0000e-005	4.0000e-005	0.9819
Total	**1.0600e-003**	**0.0171**	**7.7300e-003**	**7.0000e-005**	**2.7400e-003**	**1.5000e-004**	**2.8800e-003**	**7.4000e-004**	**1.4000e-004**	**8.9000e-004**	**0.0000**	**6.6085**	**6.6085**	**5.0000e-005**	**9.3000e-004**	**6.8856**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	4.7000e-004	3.2000e-004	3.0000e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5815	0.5815	3.0000e-005	2.0000e-005	0.5891
Total	**4.7000e-004**	**3.2000e-004**	**3.0000e-003**	**1.0000e-005**	**6.9000e-004**	**0.0000**	**7.0000e-004**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5815**	**0.5815**	**3.0000e-005**	**2.0000e-005**	**0.5891**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	4.7000e-004	3.2000e-004	3.0000e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5815	0.5815	3.0000e-005	2.0000e-005	0.5891
Total	**4.7000e-004**	**3.2000e-004**	**3.0000e-003**	**1.0000e-005**	**6.9000e-004**	**0.0000**	**7.0000e-004**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5815**	**0.5815**	**3.0000e-005**	**2.0000e-005**	**0.5891**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1381**	**0.0214**	**0.1594**	**0.0548**	**0.0197**	**0.0745**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	1.5600e-003	1.0600e-003	0.0100	2.0000e-005	2.3100e-003	2.0000e-005	2.3300e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.9384	1.9384	9.0000e-005	8.0000e-005	1.9638
Total	**1.5600e-003**	**1.0600e-003**	**0.0100**	**2.0000e-005**	**2.3100e-003**	**2.0000e-005**	**2.3300e-003**	**6.2000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.9384**	**1.9384**	**9.0000e-005**	**8.0000e-005**	**1.9638**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1381**	**0.0214**	**0.1594**	**0.0548**	**0.0197**	**0.0745**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	1.5600e-003	1.0600e-003	0.0100	2.0000e-005	2.3100e-003	2.0000e-005	2.3300e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.9384	1.9384	9.0000e-005	8.0000e-005	1.9638
Total	**1.5600e-003**	**1.0600e-003**	**0.0100**	**2.0000e-005**	**2.3100e-003**	**2.0000e-005**	**2.3300e-003**	**6.2000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.9384**	**1.9384**	**9.0000e-005**	**8.0000e-005**	**1.9638**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1243	1.1364	1.2833	2.1300e-003		0.0553	0.0553		0.0520	0.0520	0.0000	183.1258	183.1258	0.0436	0.0000	184.2148
Total	**0.1243**	**1.1364**	**1.2833**	**2.1300e-003**		**0.0553**	**0.0553**		**0.0520**	**0.0520**	**0.0000**	**183.1258**	**183.1258**	**0.0436**	**0.0000**	**184.2148**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0112	0.3133	0.0945	1.1600e-003	0.0350	2.0600e-003	0.0371	0.0102	1.9700e-003	0.0121	0.0000	111.0351	111.0351	4.9000e-004	0.0158	115.7505
Worker	0.1168	0.0793	0.7502	1.5900e-003	0.1736	1.1700e-003	0.1748	0.0463	1.0800e-003	0.0474	0.0000	145.4791	145.4791	6.6300e-003	5.8400e-003	147.3843
Total	**0.1280**	**0.3926**	**0.8446**	**2.7500e-003**	**0.2086**	**3.2300e-003**	**0.2119**	**0.0564**	**3.0500e-003**	**0.0595**	**0.0000**	**256.5142**	**256.5142**	**7.1200e-003**	**0.0216**	**263.1348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1243	1.1364	1.2833	2.1300e-003		0.0553	0.0553		0.0520	0.0520	0.0000	183.1255	183.1255	0.0436	0.0000	184.2146
Total	**0.1243**	**1.1364**	**1.2833**	**2.1300e-003**		**0.0553**	**0.0553**		**0.0520**	**0.0520**	**0.0000**	**183.1255**	**183.1255**	**0.0436**	**0.0000**	**184.2146**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0112	0.3133	0.0945	1.1600e-003	0.0350	2.0600e-003	0.0371	0.0102	1.9700e-003	0.0121	0.0000	111.0351	111.0351	4.9000e-004	0.0158	115.7505
Worker	0.1168	0.0793	0.7502	1.5900e-003	0.1736	1.1700e-003	0.1748	0.0463	1.0800e-003	0.0474	0.0000	145.4791	145.4791	6.6300e-003	5.8400e-003	147.3843
Total	**0.1280**	**0.3926**	**0.8446**	**2.7500e-003**	**0.2086**	**3.2300e-003**	**0.2119**	**0.0564**	**3.0500e-003**	**0.0595**	**0.0000**	**256.5142**	**256.5142**	**7.1200e-003**	**0.0216**	**263.1348**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1045	0.9545	1.1478	1.9100e-003		0.0435	0.0435		0.0410	0.0410	0.0000	164.6129	164.6129	0.0389	0.0000	165.5860
Total	**0.1045**	**0.9545**	**1.1478**	**1.9100e-003**		**0.0435**	**0.0435**		**0.0410**	**0.0410**	**0.0000**	**164.6129**	**164.6129**	**0.0389**	**0.0000**	**165.5860**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	9.7300e-003	0.2746	0.0827	1.0300e-003	0.0315	1.8100e-003	0.0333	9.1300e-003	1.7300e-003	0.0109	0.0000	98.3760	98.3760	4.2000e-004	0.0139	102.5298
Worker	0.0987	0.0633	0.6167	1.3800e-003	0.1560	9.8000e-004	0.1570	0.0416	9.0000e-004	0.0425	0.0000	126.7566	126.7566	5.3900e-003	4.8300e-003	128.3298
Total	**0.1084**	**0.3380**	**0.6994**	**2.4100e-003**	**0.1875**	**2.7900e-003**	**0.1903**	**0.0507**	**2.6300e-003**	**0.0534**	**0.0000**	**225.1326**	**225.1326**	**5.8100e-003**	**0.0187**	**230.8597**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1045	0.9545	1.1478	1.9100e-003		0.0435	0.0435		0.0410	0.0410	0.0000	164.6127	164.6127	0.0389	0.0000	165.5858
Total	**0.1045**	**0.9545**	**1.1478**	**1.9100e-003**		**0.0435**	**0.0435**		**0.0410**	**0.0410**	**0.0000**	**164.6127**	**164.6127**	**0.0389**	**0.0000**	**165.5858**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	9.7300e-003	0.2746	0.0827	1.0300e-003	0.0315	1.8100e-003	0.0333	9.1300e-003	1.7300e-003	0.0109	0.0000	98.3760	98.3760	4.2000e-004	0.0139	102.5298
Worker	0.0987	0.0633	0.6167	1.3800e-003	0.1560	9.8000e-004	0.1570	0.0416	9.0000e-004	0.0425	0.0000	126.7566	126.7566	5.3900e-003	4.8300e-003	128.3298
Total	**0.1084**	**0.3380**	**0.6994**	**2.4100e-003**	**0.1875**	**2.7900e-003**	**0.1903**	**0.0507**	**2.6300e-003**	**0.0534**	**0.0000**	**225.1326**	**225.1326**	**5.8100e-003**	**0.0187**	**230.8597**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	4.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0140**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	7.3000e-004	4.7000e-004	4.5700e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9396	0.9396	4.0000e-005	4.0000e-005	0.9513
Total	**7.3000e-004**	**4.7000e-004**	**4.5700e-003**	**1.0000e-005**	**1.1600e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**0.9396**	**0.9396**	**4.0000e-005**	**4.0000e-005**	**0.9513**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	4.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0140**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	7.3000e-004	4.7000e-004	4.5700e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9396	0.9396	4.0000e-005	4.0000e-005	0.9513
Total	**7.3000e-004**	**4.7000e-004**	**4.5700e-003**	**1.0000e-005**	**1.1600e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**0.9396**	**0.9396**	**4.0000e-005**	**4.0000e-005**	**0.9513**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.6147					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**4.6165**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	2.7800e-003	1.7800e-003	0.0174	4.0000e-005	4.4000e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.5706	3.5706	1.5000e-004	1.4000e-004	3.6149
Total	**2.7800e-003**	**1.7800e-003**	**0.0174**	**4.0000e-005**	**4.4000e-003**	**3.0000e-005**	**4.4200e-003**	**1.1700e-003**	**3.0000e-005**	**1.2000e-003**	**0.0000**	**3.5706**	**3.5706**	**1.5000e-004**	**1.4000e-004**	**3.6149**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.6147					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**4.6165**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	2.7800e-003	1.7800e-003	0.0174	4.0000e-005	4.4000e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.5706	3.5706	1.5000e-004	1.4000e-004	3.6149
Total	**2.7800e-003**	**1.7800e-003**	**0.0174**	**4.0000e-005**	**4.4000e-003**	**3.0000e-005**	**4.4200e-003**	**1.1700e-003**	**3.0000e-005**	**1.2000e-003**	**0.0000**	**3.5706**	**3.5706**	**1.5000e-004**	**1.4000e-004**	**3.6149**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3798	3.5152	18.5671	0.0295	2.7625	0.0364	2.7988	0.7416	0.0342	0.7758	0.0000	2,769.2029	2,769.2029	0.2404	0.1761	2,827.6757
Unmitigated	2.3798	3.5152	18.5671	0.0295	2.7625	0.0364	2.7988	0.7416	0.0342	0.7758	0.0000	2,769.2029	2,769.2029	0.2404	0.1761	2,827.6757

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,795.75	3,795.75	3795.75	7,640,541	7,640,541
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	3,795.75	3,795.75	3,795.75	7,640,541	7,640,541

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	5.53	5.53	5.53	42.30	19.60	38.10	100	0	0
Health Club	0.00	0.00	0.00	16.90	64.10	19.00	52	39	9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842
Health Club	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842

Parking Lot	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	123.3662	123.3662	0.0306	3.5000e-003	125.1760
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	123.3662	123.3662	0.0306	3.5000e-003	125.1760
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
Health Club	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	0.0000
Parking Lot	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	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**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
Health Club	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	0.0000
Parking Lot	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	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**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.22445e +006	78.2563	0.0194	2.2200e-003	79.4043
Health Club	657243	42.0052	0.0104	1.1900e-003	42.6214
Parking Lot	48580	3.1048	7.7000e-004	9.0000e-005	3.1504
Total		**123.3662**	**0.0306**	**3.5000e-003**	**125.1760**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.22445e +006	78.2563	0.0194	2.2200e-003	79.4043
Health Club	657243	42.0052	0.0104	1.1900e-003	42.6214
Parking Lot	48580	3.1048	7.7000e-004	9.0000e-005	3.1504
Total		**123.3662**	**0.0306**	**3.5000e-003**	**125.1760**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7939	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Unmitigated	1.7939	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4615					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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
Landscaping	0.0542	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Total	**1.7939**	**0.0207**	**1.7931**	**9.0000e-005**		**9.9300e-003**	**9.9300e-003**		**9.9300e-003**	**9.9300e-003**	**0.0000**	**2.9315**	**2.9315**	**2.8300e-003**	**0.0000**	**3.0022**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4615					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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
Landscaping	0.0542	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Total	**1.7939**	**0.0207**	**1.7931**	**9.0000e-005**		**9.9300e-003**	**9.9300e-003**		**9.9300e-003**	**9.9300e-003**	**0.0000**	**2.9315**	**2.9315**	**2.8300e-003**	**0.0000**	**3.0022**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.6657	0.7604	0.0182	43.1021
Unmitigated	18.6657	0.7604	0.0182	43.1021

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	15.7021 / 9.89916	12.6261	0.5136	0.0123	29.1298
Health Club	7.54785 / 4.6261	6.0396	0.2469	5.9100e-003	13.9723
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.6657**	**0.7604**	**0.0182**	**43.1021**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	15.7021 / 9.89916	12.6261	0.5136	0.0123	29.1298
Health Club	7.54785 / 4.6261	6.0396	0.2469	5.9100e-003	13.9723
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.6657**	**0.7604**	**0.0182**	**43.1021**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	170.1653	10.0565	0.0000	421.5773
Unmitigated	170.1653	10.0565	0.0000	421.5773

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	110.86	22.5036	1.3299	0.0000	55.7517
Health Club	727.43	147.6617	8.7266	0.0000	365.8257
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**170.1653**	**10.0565**	**0.0000**	**421.5773**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	110.86	22.5036	1.3299	0.0000	55.7517
Health Club	727.43	147.6617	8.7266	0.0000	365.8257
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**170.1653**	**10.0565**	**0.0000**	**421.5773**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Humboldt Student Housing Project Mit - Revised

Humboldt County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	347.00	Space	3.12	138,800.00	0
Health Club	127.62	1000sqft	2.93	127,620.00	0
Apartments Mid Rise	241.00	Dwelling Unit	4.53	197,380.00	964

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	140.9	**CH4 Intensity (lb/MWhr)**	0.035	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emissions factors calculated using data from eGRID, Climate Registry and PG&E Power Content Label

Land Use - residential sqft based on data provided by Cal Poly Humboldt in "Craftsman Student Housing", remainder of sqft assigned to "health club" general land use

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Worker and vendor trips reverted to default values for "urban" project location

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition - sf calculated by estimating agreggate sf of existing structures to be demolished using Google Earth

Grading - no import or export; grading based on land use module

Architectural Coating - mitigated VOC coatings

Vehicle Trips - trip lengths and rates calculated based on

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - no wood stoves or fireplaces

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use - PD states no natural gas will be used for operation of the project - calculations done to account for increase in electricity demand as a result

Water And Wastewater -

Solid Waste -

Sequestration -

Construction Off-road Equipment Mitigation - PD states all diesel construction equipment will be Tier 4

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	10.00
tblArchitecturalCoating	EF_Parking	250.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	10.00
tblEnergyUse	NT24E	3,054.10	3,522.74
tblEnergyUse	NT24NG	1,599.00	0.00
tblEnergyUse	NT24NG	0.31	0.00
tblEnergyUse	T24E	176.92	816.54
tblEnergyUse	T24E	0.56	1.49
tblEnergyUse	T24NG	2,182.40	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblEnergyUse	T24NG	3.17	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	NumberGas	132.55	0.00
tblFireplaces	NumberNoFireplace	24.10	0.00
tblFireplaces	NumberWood	84.35	0.00
tblLandUse	LandUseSquareFeet	241,000.00	197,380.00
tblLandUse	LotAcreage	6.34	4.53
tblLandUse	Population	689.00	964.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.035
tblProjectCharacteristics	CO2IntensityFactor	203.98	140.9
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	VendorTripLength	6.60	7.30
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblTripsAndVMT	WorkerTripLength	16.80	10.80
tblVehicleTrips	CC_TL	6.60	0.00
tblVehicleTrips	CC_TL	6.60	0.00
tblVehicleTrips	CNW_TL	6.60	0.00
tblVehicleTrips	CNW_TL	6.60	0.00
tblVehicleTrips	CW_TL	14.70	0.00
tblVehicleTrips	CW_TL	14.70	0.00
tblVehicleTrips	DV_TP	11.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	HO_TL	7.90	5.53
tblVehicleTrips	HS_TL	7.10	5.53
tblVehicleTrips	HW_TL	16.80	5.53
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	4.91	15.75
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	4.09	15.75
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	5.44	15.75
tblVehicleTrips	WD_TR	32.93	0.00
tblWoodstoves	NumberCatalytic	12.05	0.00
tblWoodstoves	NumberNoncatalytic	12.05	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3411	2.4177	2.8570	6.4800e-003	0.4714	0.0964	0.5678	0.1664	0.0900	0.2564	0.0000	581.2887	581.2887	0.0922	0.0227	590.3430
2024	0.4168	1.4022	2.0336	4.6300e-003	0.1931	0.0517	0.2447	0.0522	0.0485	0.1007	0.0000	416.8355	416.8355	0.0516	0.0189	423.7572
Maximum	**0.4168**	**2.4177**	**2.8570**	**6.4800e-003**	**0.4714**	**0.0964**	**0.5678**	**0.1664**	**0.0900**	**0.2564**	**0.0000**	**581.2887**	**581.2887**	**0.0922**	**0.0227**	**590.3430**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3411	2.4177	2.8570	6.4800e-003	0.4714	0.0964	0.5678	0.1664	0.0900	0.2564	0.0000	581.2883	581.2883	0.0922	0.0227	590.3427
2024	0.4168	1.4022	2.0336	4.6300e-003	0.1931	0.0517	0.2447	0.0522	0.0485	0.1007	0.0000	416.8352	416.8352	0.0516	0.0189	423.7570
Maximum	**0.4168**	**2.4177**	**2.8570**	**6.4800e-003**	**0.4714**	**0.0964**	**0.5678**	**0.1664**	**0.0900**	**0.2564**	**0.0000**	**581.2883**	**581.2883**	**0.0922**	**0.0227**	**590.3427**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	1.0417	1.0417
2	6-1-2023	8-31-2023	0.7335	0.7335
3	9-1-2023	11-30-2023	0.7384	0.7384
4	12-1-2023	2-29-2024	0.7155	0.7155
5	3-1-2024	5-31-2024	0.6960	0.6960
6	6-1-2024	8-31-2024	0.5856	0.5856
7	9-1-2024	9-30-2024	0.0724	0.0724
		Highest	1.0417	1.0417

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7939	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	123.3662	123.3662	0.0306	3.5000e-003	125.1760
Mobile	2.3798	3.5152	18.5671	0.0295	2.7625	0.0364	2.7988	0.7416	0.0342	0.7758	0.0000	2,769.2029	2,769.2029	0.2404	0.1761	2,827.6757
Waste						0.0000	0.0000		0.0000	0.0000	170.1653	0.0000	170.1653	10.0565	0.0000	421.5773
Water						0.0000	0.0000		0.0000	0.0000	7.3761	11.2895	18.6657	0.7604	0.0182	43.1021
Total	**4.1737**	**3.5358**	**20.3601**	**0.0296**	**2.7625**	**0.0463**	**2.8088**	**0.7416**	**0.0442**	**0.7857**	**177.5414**	**2,906.7901**	**3,084.3316**	**11.0907**	**0.1978**	**3,420.5333**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7939	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	123.3662	123.3662	0.0306	3.5000e-003	125.1760
Mobile	2.3798	3.5152	18.5671	0.0295	2.7625	0.0364	2.7988	0.7416	0.0342	0.7758	0.0000	2,769.2029	2,769.2029	0.2404	0.1761	2,827.6757
Waste						0.0000	0.0000		0.0000	0.0000	170.1653	0.0000	170.1653	10.0565	0.0000	421.5773
Water						0.0000	0.0000		0.0000	0.0000	7.3761	11.2895	18.6657	0.7604	0.0182	43.1021
Total	**4.1737**	**3.5358**	**20.3601**	**0.0296**	**2.7625**	**0.0463**	**2.8088**	**0.7416**	**0.0442**	**0.7857**	**177.5414**	**2,906.7901**	**3,084.3316**	**11.0907**	**0.1978**	**3,420.5333**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	3/28/2023	5	20	
2	Site Preparation	Site Preparation	3/29/2023	4/11/2023	5	10	
3	Grading	Grading	4/12/2023	5/23/2023	5	30	

4	Building Construction	Building Construction	5/24/2023	7/16/2024	5	300	
5	Paving	Paving	7/17/2024	8/13/2024	5	20	
6	Architectural Coating	Architectural Coating	8/14/2024	9/10/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 3.12

Residential Indoor: 399,695; Residential Outdoor: 133,232; Non-Residential Indoor: 191,430; Non-Residential Outdoor: 63,810; Striped Parking Area: 8,328 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	191.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	285.00	69.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	57.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0207	0.0000	0.0207	3.1400e-003	0.0000	3.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**	**0.0207**	**9.9800e-003**	**0.0307**	**3.1400e-003**	**9.2800e-003**	**0.0124**	**0.0000**	**33.9921**	**33.9921**	**9.5200e-003**	**0.0000**	**34.2301**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	0.0165	2.7300e-003	6.0000e-005	1.5800e-003	1.4000e-004	1.7200e-003	4.3000e-004	1.3000e-004	5.7000e-004	0.0000	5.6393	5.6393	1.0000e-005	8.9000e-004	5.9037
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	7.8000e-004	5.3000e-004	5.0000e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9692	0.9692	4.0000e-005	4.0000e-005	0.9819
Total	**1.0600e-003**	**0.0171**	**7.7300e-003**	**7.0000e-005**	**2.7400e-003**	**1.5000e-004**	**2.8800e-003**	**7.4000e-004**	**1.4000e-004**	**8.9000e-004**	**0.0000**	**6.6085**	**6.6085**	**5.0000e-005**	**9.3000e-004**	**6.8856**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0207	0.0000	0.0207	3.1400e-003	0.0000	3.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**	**0.0207**	**9.9800e-003**	**0.0307**	**3.1400e-003**	**9.2800e-003**	**0.0124**	**0.0000**	**33.9920**	**33.9920**	**9.5200e-003**	**0.0000**	**34.2300**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	0.0165	2.7300e-003	6.0000e-005	1.5800e-003	1.4000e-004	1.7200e-003	4.3000e-004	1.3000e-004	5.7000e-004	0.0000	5.6393	5.6393	1.0000e-005	8.9000e-004	5.9037
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	7.8000e-004	5.3000e-004	5.0000e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9692	0.9692	4.0000e-005	4.0000e-005	0.9819
Total	**1.0600e-003**	**0.0171**	**7.7300e-003**	**7.0000e-005**	**2.7400e-003**	**1.5000e-004**	**2.8800e-003**	**7.4000e-004**	**1.4000e-004**	**8.9000e-004**	**0.0000**	**6.6085**	**6.6085**	**5.0000e-005**	**9.3000e-004**	**6.8856**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	4.7000e-004	3.2000e-004	3.0000e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5815	0.5815	3.0000e-005	2.0000e-005	0.5891
Total	**4.7000e-004**	**3.2000e-004**	**3.0000e-003**	**1.0000e-005**	**6.9000e-004**	**0.0000**	**7.0000e-004**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5815**	**0.5815**	**3.0000e-005**	**2.0000e-005**	**0.5891**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	4.7000e-004	3.2000e-004	3.0000e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5815	0.5815	3.0000e-005	2.0000e-005	0.5891
Total	**4.7000e-004**	**3.2000e-004**	**3.0000e-003**	**1.0000e-005**	**6.9000e-004**	**0.0000**	**7.0000e-004**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5815**	**0.5815**	**3.0000e-005**	**2.0000e-005**	**0.5891**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1381**	**0.0214**	**0.1594**	**0.0548**	**0.0197**	**0.0745**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	1.5600e-003	1.0600e-003	0.0100	2.0000e-005	2.3100e-003	2.0000e-005	2.3300e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.9384	1.9384	9.0000e-005	8.0000e-005	1.9638
Total	**1.5600e-003**	**1.0600e-003**	**0.0100**	**2.0000e-005**	**2.3100e-003**	**2.0000e-005**	**2.3300e-003**	**6.2000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.9384**	**1.9384**	**9.0000e-005**	**8.0000e-005**	**1.9638**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1381**	**0.0214**	**0.1594**	**0.0548**	**0.0197**	**0.0745**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	1.5600e-003	1.0600e-003	0.0100	2.0000e-005	2.3100e-003	2.0000e-005	2.3300e-003	6.2000e-004	1.0000e-005	6.3000e-004	0.0000	1.9384	1.9384	9.0000e-005	8.0000e-005	1.9638
Total	**1.5600e-003**	**1.0600e-003**	**0.0100**	**2.0000e-005**	**2.3100e-003**	**2.0000e-005**	**2.3300e-003**	**6.2000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.9384**	**1.9384**	**9.0000e-005**	**8.0000e-005**	**1.9638**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1243	1.1364	1.2833	2.1300e-003		0.0553	0.0553		0.0520	0.0520	0.0000	183.1258	183.1258	0.0436	0.0000	184.2148
Total	**0.1243**	**1.1364**	**1.2833**	**2.1300e-003**		**0.0553**	**0.0553**		**0.0520**	**0.0520**	**0.0000**	**183.1258**	**183.1258**	**0.0436**	**0.0000**	**184.2148**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0112	0.3133	0.0945	1.1600e-003	0.0350	2.0600e-003	0.0371	0.0102	1.9700e-003	0.0121	0.0000	111.0351	111.0351	4.9000e-004	0.0158	115.7505
Worker	0.1168	0.0793	0.7502	1.5900e-003	0.1736	1.1700e-003	0.1748	0.0463	1.0800e-003	0.0474	0.0000	145.4791	145.4791	6.6300e-003	5.8400e-003	147.3843
Total	**0.1280**	**0.3926**	**0.8446**	**2.7500e-003**	**0.2086**	**3.2300e-003**	**0.2119**	**0.0564**	**3.0500e-003**	**0.0595**	**0.0000**	**256.5142**	**256.5142**	**7.1200e-003**	**0.0216**	**263.1348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1243	1.1364	1.2833	2.1300e-003		0.0553	0.0553		0.0520	0.0520	0.0000	183.1255	183.1255	0.0436	0.0000	184.2146
Total	**0.1243**	**1.1364**	**1.2833**	**2.1300e-003**		**0.0553**	**0.0553**		**0.0520**	**0.0520**	**0.0000**	**183.1255**	**183.1255**	**0.0436**	**0.0000**	**184.2146**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	0.0112	0.3133	0.0945	1.1600e-003	0.0350	2.0600e-003	0.0371	0.0102	1.9700e-003	0.0121	0.0000	111.0351	111.0351	4.9000e-004	0.0158	115.7505
Worker	0.1168	0.0793	0.7502	1.5900e-003	0.1736	1.1700e-003	0.1748	0.0463	1.0800e-003	0.0474	0.0000	145.4791	145.4791	6.6300e-003	5.8400e-003	147.3843
Total	**0.1280**	**0.3926**	**0.8446**	**2.7500e-003**	**0.2086**	**3.2300e-003**	**0.2119**	**0.0564**	**3.0500e-003**	**0.0595**	**0.0000**	**256.5142**	**256.5142**	**7.1200e-003**	**0.0216**	**263.1348**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1045	0.9545	1.1478	1.9100e-003		0.0435	0.0435		0.0410	0.0410	0.0000	164.6129	164.6129	0.0389	0.0000	165.5860
Total	**0.1045**	**0.9545**	**1.1478**	**1.9100e-003**		**0.0435**	**0.0435**		**0.0410**	**0.0410**	**0.0000**	**164.6129**	**164.6129**	**0.0389**	**0.0000**	**165.5860**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	9.7300e-003	0.2746	0.0827	1.0300e-003	0.0315	1.8100e-003	0.0333	9.1300e-003	1.7300e-003	0.0109	0.0000	98.3760	98.3760	4.2000e-004	0.0139	102.5298
Worker	0.0987	0.0633	0.6167	1.3800e-003	0.1560	9.8000e-004	0.1570	0.0416	9.0000e-004	0.0425	0.0000	126.7566	126.7566	5.3900e-003	4.8300e-003	128.3298
Total	**0.1084**	**0.3380**	**0.6994**	**2.4100e-003**	**0.1875**	**2.7900e-003**	**0.1903**	**0.0507**	**2.6300e-003**	**0.0534**	**0.0000**	**225.1326**	**225.1326**	**5.8100e-003**	**0.0187**	**230.8597**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1045	0.9545	1.1478	1.9100e-003		0.0435	0.0435		0.0410	0.0410	0.0000	164.6127	164.6127	0.0389	0.0000	165.5858
Total	**0.1045**	**0.9545**	**1.1478**	**1.9100e-003**		**0.0435**	**0.0435**		**0.0410**	**0.0410**	**0.0000**	**164.6127**	**164.6127**	**0.0389**	**0.0000**	**165.5858**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	9.7300e-003	0.2746	0.0827	1.0300e-003	0.0315	1.8100e-003	0.0333	9.1300e-003	1.7300e-003	0.0109	0.0000	98.3760	98.3760	4.2000e-004	0.0139	102.5298
Worker	0.0987	0.0633	0.6167	1.3800e-003	0.1560	9.8000e-004	0.1570	0.0416	9.0000e-004	0.0425	0.0000	126.7566	126.7566	5.3900e-003	4.8300e-003	128.3298
Total	**0.1084**	**0.3380**	**0.6994**	**2.4100e-003**	**0.1875**	**2.7900e-003**	**0.1903**	**0.0507**	**2.6300e-003**	**0.0534**	**0.0000**	**225.1326**	**225.1326**	**5.8100e-003**	**0.0187**	**230.8597**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	4.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0140**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	7.3000e-004	4.7000e-004	4.5700e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9396	0.9396	4.0000e-005	4.0000e-005	0.9513
Total	**7.3000e-004**	**4.7000e-004**	**4.5700e-003**	**1.0000e-005**	**1.1600e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**0.9396**	**0.9396**	**4.0000e-005**	**4.0000e-005**	**0.9513**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	4.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0140**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	7.3000e-004	4.7000e-004	4.5700e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9396	0.9396	4.0000e-005	4.0000e-005	0.9513
Total	**7.3000e-004**	**4.7000e-004**	**4.5700e-003**	**1.0000e-005**	**1.1600e-003**	**1.0000e-005**	**1.1600e-003**	**3.1000e-004**	**1.0000e-005**	**3.1000e-004**	**0.0000**	**0.9396**	**0.9396**	**4.0000e-005**	**4.0000e-005**	**0.9513**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1846					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.1864**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	2.7800e-003	1.7800e-003	0.0174	4.0000e-005	4.4000e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.5706	3.5706	1.5000e-004	1.4000e-004	3.6149
Total	**2.7800e-003**	**1.7800e-003**	**0.0174**	**4.0000e-005**	**4.4000e-003**	**3.0000e-005**	**4.4200e-003**	**1.1700e-003**	**3.0000e-005**	**1.2000e-003**	**0.0000**	**3.5706**	**3.5706**	**1.5000e-004**	**1.4000e-004**	**3.6149**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1846					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.1864**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	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	2.7800e-003	1.7800e-003	0.0174	4.0000e-005	4.4000e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.5706	3.5706	1.5000e-004	1.4000e-004	3.6149
Total	**2.7800e-003**	**1.7800e-003**	**0.0174**	**4.0000e-005**	**4.4000e-003**	**3.0000e-005**	**4.4200e-003**	**1.1700e-003**	**3.0000e-005**	**1.2000e-003**	**0.0000**	**3.5706**	**3.5706**	**1.5000e-004**	**1.4000e-004**	**3.6149**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3798	3.5152	18.5671	0.0295	2.7625	0.0364	2.7988	0.7416	0.0342	0.7758	0.0000	2,769.2029	2,769.2029	0.2404	0.1761	2,827.6757
Unmitigated	2.3798	3.5152	18.5671	0.0295	2.7625	0.0364	2.7988	0.7416	0.0342	0.7758	0.0000	2,769.2029	2,769.2029	0.2404	0.1761	2,827.6757

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,795.75	3,795.75	3795.75	7,640,541	7,640,541
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	3,795.75	3,795.75	3,795.75	7,640,541	7,640,541

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	5.53	5.53	5.53	42.30	19.60	38.10	100	0	0
Health Club	0.00	0.00	0.00	16.90	64.10	19.00	52	39	9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842
Health Club	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842

Parking Lot	0.451794	0.068066	0.207146	0.151773	0.054277	0.010863	0.006698	0.008829	0.000983	0.000219	0.034041	0.001468	0.003842

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	123.3662	123.3662	0.0306	3.5000e-003	125.1760
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	123.3662	123.3662	0.0306	3.5000e-003	125.1760
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
Health Club	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	0.0000
Parking Lot	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	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**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
Health Club	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	0.0000
Parking Lot	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	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**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.22445e +006	78.2563	0.0194	2.2200e-003	79.4043
Health Club	657243	42.0052	0.0104	1.1900e-003	42.6214
Parking Lot	48580	3.1048	7.7000e-004	9.0000e-005	3.1504
Total		**123.3662**	**0.0306**	**3.5000e-003**	**125.1760**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.22445e +006	78.2563	0.0194	2.2200e-003	79.4043
Health Club	657243	42.0052	0.0104	1.1900e-003	42.6214
Parking Lot	48580	3.1048	7.7000e-004	9.0000e-005	3.1504
Total		**123.3662**	**0.0306**	**3.5000e-003**	**125.1760**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7939	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Unmitigated	1.7939	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4615					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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
Landscaping	0.0542	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Total	**1.7939**	**0.0207**	**1.7931**	**9.0000e-005**		**9.9300e-003**	**9.9300e-003**		**9.9300e-003**	**9.9300e-003**	**0.0000**	**2.9315**	**2.9315**	**2.8300e-003**	**0.0000**	**3.0022**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4615					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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
Landscaping	0.0542	0.0207	1.7931	9.0000e-005		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9315	2.9315	2.8300e-003	0.0000	3.0022
Total	**1.7939**	**0.0207**	**1.7931**	**9.0000e-005**		**9.9300e-003**	**9.9300e-003**		**9.9300e-003**	**9.9300e-003**	**0.0000**	**2.9315**	**2.9315**	**2.8300e-003**	**0.0000**	**3.0022**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.6657	0.7604	0.0182	43.1021
Unmitigated	18.6657	0.7604	0.0182	43.1021

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	15.7021 / 9.89916	12.6261	0.5136	0.0123	29.1298
Health Club	7.54785 / 4.6261	6.0396	0.2469	5.9100e-003	13.9723
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.6657**	**0.7604**	**0.0182**	**43.1021**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	15.7021 / 9.89916	12.6261	0.5136	0.0123	29.1298
Health Club	7.54785 / 4.6261	6.0396	0.2469	5.9100e-003	13.9723
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.6657**	**0.7604**	**0.0182**	**43.1021**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	170.1653	10.0565	0.0000	421.5773
Unmitigated	170.1653	10.0565	0.0000	421.5773

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	110.86	22.5036	1.3299	0.0000	55.7517
Health Club	727.43	147.6617	8.7266	0.0000	365.8257
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**170.1653**	**10.0565**	**0.0000**	**421.5773**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	110.86	22.5036	1.3299	0.0000	55.7517
Health Club	727.43	147.6617	8.7266	0.0000	365.8257
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**170.1653**	**10.0565**	**0.0000**	**421.5773**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Appendix C

Biological Resources
Database Information

Special-Status Plants Known to Occur in the Project Region and their Potential to Occur in the Project Site

Name	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential to Occur in the Project Site[2]
Pink sand-verbena *Abronia umbellata* var. *breviflora*			1B.1	Coastal dunes and coastal strand. Foredunes and interdunes with sparse cover. *A. umb. breviflora* is usually the plant closest to the ocean. 0–33 feet in elevation. Blooms June–October. Perennial.	Not expected to occur: The project site does not support coastal dunes, coastal strand, foredunes, and interdunes suitable for this species.
Coastal marsh milk-vetch *Astragalus pycnostachyus* var. *pycnostachyus*			1B.2	Coastal dunes, marshes and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0–509 feet in elevation. Blooms April–October. Perennial.	Not expected to occur: Species was not observed during biological surveys conducted on April 20, 2016.
Seaside bittercress *Cardamine angulata*			2B.1	North coast coniferous forest, lower montane coniferous forest. Wet areas, streambanks. 295–509 feet in elevation. Blooms (January), March–July. Perennial.	Not expected to occur: The project site is outside of the elevational range of this species.
Northern clustered sedge *Carex arcta*			2B.2	Bogs and fens, north coast coniferous forest. Mesic sites. 197–4610 feet in elevation. Blooms June–September. Perennial.	Not expected to occur: The project site is outside of the elevational range of this species.
Bristle-stalked sedge *Carex leptalea*			2B.2	Bogs and fens, meadows and seeps, marshes and swamps. Mostly known from bogs and wet meadows. 10–4,577 feet in elevation. Blooms March–July. Geophyte.	Not expected to occur: The project site does not support bogs and fens, meadows and seeps, marsh or swamp habitat suitable for this species.
Lyngbye's sedge *Carex lyngbyei*			2B.2	Marshes and swamps (brackish or freshwater). 0–656 feet in elevation. Blooms April–August. Geophyte.	Not expected to occur: The project site does not support marsh or swamp habitat suitable for this species.
Northern meadow sedge *Carex praticola*			2B.2	Meadows and seeps. Moist to wet meadows. 49–10499 feet in elevation. Blooms May–July. Perennial.	Not expected to occur: The project site does not support meadow and seeps habitat suitable for this species.
Humboldt Bay owl's-clover *Castilleja ambigua* var. *humboldtiensis*			1B.2	Salt marsh, Wetland. Marshes and swamps. In coastal saltmarsh with *Spartina*, *Distichlis*, *Salicornia*, *Jaumea*. 0–66 feet in elevation. Blooms April–August. Annual.	Not expected to occur: The project site does not support salt marsh habitat suitable for this species.
Oregon coast paintbrush *Castilleja litoralis*			2B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Sandy sites. 16–837 feet in elevation. Blooms June. Perennial.	Not expected to occur: The project site does not support coastal bluff scrub, coastal dune, or coastal scrub habitat suitable for this species.
Point Reyes salty bird's-beak *Chloropyron maritimum* ssp. *palustre*			1B.2	Salt marsh, Wetland. Coastal salt marsh. Usually in coastal salt marsh with *Salicornia*, *Distichlis*, *Jaumea*, *Spartina*, etc. 0–377 feet in elevation. Blooms June–October. Annual.	Not expected to occur: The project site does not support salt marsh habitat suitable for this species.
Round-headed Chinese-houses *Collinsia corymbosa*			1B.2	Coastal dunes. 33–98 feet in elevation. Blooms April–June. Annual.	Not expected to occur: The project site does not support coastal dune habitat suitable for this species.
Menzies' wallflower *Erysimum menziesii*	FE	SE	1B.1	Coastal dunes. Localized on dunes and coastal strand. 3–82 feet in elevation. Blooms March–September. Perennial.	Not expected to occur: The project site does not support coastal dune habitat suitable for this species.
Giant fawn lily *Erythronium oregonum*			2B.2	Ultramafic. Cismontane woodland, meadows and seeps. Openings. Sometimes on serpentine; rocky sites. 984–4,708 feet in	Not expected to occur: The project site is outside of the elevational range for this species.

Name	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential to Occur in the Project Site[2]
				elevation. Blooms March–June (July). Perennial.	
Coast fawn lily *Erythronium revolutum*			2B.2	Bogs and fens, broadleafed upland forest, north coast coniferous forest. Mesic sites; streambanks. 197–4,610 feet in elevation. Blooms March–July (August). Geophyte.	Not expected to occur: The project site is outside of the elevational range for this species and the project site does not support bogs, fens, broadleafed upland forest, or north coast coniferous forest habitat suitable for this species.
Minute pocket moss *Fissidens pauperculus*			1B.2	Redwood. North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 33–3,360 feet in elevation. Perennial.	Not expected to occur: The project site does not support north coast coniferous forest habitat suitable for this species.
Pacific gilia *Gilia capitata* ssp. *pacifica*			1B.2	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. 16–4,413 feet in elevation. Blooms April–August. Annual.	Not expected to occur: Species was not observed during biological surveys conducted on April 20, 2016.
Dark-eyed gilia *Gilia millefoliata*			1B.2	Coastal dunes. 3–197 feet in elevation. Blooms April–July. Annual.	Not expected to occur: The project site does not support coastal dune habitat suitable for this species.
Short-leaved evax *Hesperevax sparsiflora* var. *brevifolia*			1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. 0–705 feet in elevation. Blooms March–June. Annual.	Not expected to occur: The project site does not support coastal bluff scrub, coastal dune or coastal prairie habitat suitable for this species.
California globe mallow *Iliamna latibracteata*			1B.2	North Coast coniferous forest, chaparral, lower montane coniferous forest, riparian scrub (streambanks). Seepage areas in silty clay loam. 197–6,562 feet in elevation. Blooms June–August. Perennial.	Not expected to occur: The project site is outside of the elevational range for this species.
Perennial goldfields *Lasthenia californica* ssp. *macrantha*			1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 16–607 feet in elevation. Blooms January–November. Perennial.	Not expected to occur: The project site does not support coastal bluff scrub, coastal dune or coastal prairie habitat suitable for this species.
Seaside pea *Lathyrus japonicus*			2B.1	Coastal dunes. 10–213 feet in elevation. Blooms May–August. Geophyte.	Not expected to occur: The project site does not support coastal dune habitat suitable for this species.
Marsh pea *Lathyrus palustris*			2B.2	Bogs and fens, lower montane coniferous forest, marshes and swamps, north coast coniferous forest, coastal prairie, coastal scrub. Moist coastal areas. 7–459 feet in elevation. Blooms March–August. Perennial.	Not expected to occur: The project site does not support bogs and fen habitat suitable for this species.
Beach layia *Layia carnosa*	FE	SE	1B.1	Coastal dunes, coastal scrub. On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 0–98 feet in elevation. Blooms March–July. Annual.	Not expected to occur: The project site does not support coastal dune or coastal scrub habitat suitable for this species.
Western lily *Lilium occidentale*	FE	SE	1B.1	Coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, north coast coniferous forest, marshes and swamps. Well-drained, old beach washes overlain with wind-blown alluvium and organic topsoil; usually near margins of Sitka spruce. 10–361 feet in elevation. Blooms June–July. Geophyte.	Not expected to occur: The project site does not support coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, north coast coniferous forest, marsh or swamp habitat suitable for this species.

Name	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential to Occur in the Project Site[2]
Ghost-pipe *Monotropa uniflora*			2B.2	Broadleaved upland forest, north coast coniferous forest. Often under redwoods or western hemlock. 49–2805 feet in elevation. Blooms June–August (September). Perennial.	**Not expected to occur:** The project site does not support broadleaved upland forest or north coast coniferous forest habitat suitable for this species.
Howell's montia *Montia howellii*			2B.2	Meadows and seeps, north coast coniferous forest, vernal pools. Vernally wet sites; often on compacted soil. 33–3,297 feet in elevation. Blooms (February), March–May. Annual.	**Not expected to occur:** The project site does not support meadows and seep, vernal pools, or North Coast coniferous forest habitat suitable for this species.
Wolf's evening-primrose *Oenothera wolfii*			1B.1	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest. Sandy substrates; usually mesic sites. 0–410 feet in elevation. Blooms May–October. Perennial.	**Not expected to occur:** The project site does not support coastal bluff scrub, coastal dune, coastal prairie or lower montane coniferous habitat suitable for this species.
Seacoast ragwort *Packera bolanderi* var. *bolanderi*			2B.2	Coastal scrub, north coast coniferous forest. Sometimes along roadsides. 98–3,002 feet in elevation. Blooms (January),(February),(April), May–July (August). Geophyte.	**Not expected to occur:** The project site is outside of the elevational range for this species and the project site does not support coastal scrub, or north coast coniferous forest habitat suitable for this species.
White-flowered rein orchid *Piperia candida*			1B.2	Ultramafic. North coast coniferous forest, lower montane coniferous forest, broadleafed upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 148–5299 feet in elevation. Blooms (March), May–September. Perennial.	**Not expected to occur:** The project site does not support North Coast coniferous forest, lower montane coniferous forest, or broadleafed upland forest habitat suitable for this species, and the project is outside of the elevational range for this species.
Siskiyou checkerbloom *Sidalcea malviflora* ssp. *patula*			1B.2	Coastal bluff scrub, coastal prairie, north coast coniferous forest. Open coastal forest; roadcuts. 16–4,117 feet in elevation. Blooms May–August. Geophyte.	**Not expected to occur:** The project site does not support coastal bluff scrub, coastal prairie or North Coast coniferous forest habitat suitable for this species.
Coast checkerbloom *Sidalcea oregana* ssp. *eximia*			1B.2	Meadows and seeps, north coast coniferous forest, lower montane coniferous forest. Near meadows, in gravelly soil. 16–5,922 feet in elevation. Blooms June–August. Perennial.	**Not expected to occur:** The project site does not support meadows and seeps, north coast coniferous forest or lower montane coniferous forest habitat suitable for this species.
Scouler's catchfly *Silene scouleri* ssp. *scouleri*			2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 0–1,968 feet in elevation. Blooms (March–May)June–August(September). Perennial.	**Not expected to occur:** This species was not observed during biological surveys previously conducted at the site in 2016.
Western sand-spurrey *Spergularia canadensis* var. *occidentalis*			2B.1	Marshes and swamps (coastal salt marshes). 0–10 feet in elevation. Blooms June–August. Annual.	**Not expected to occur:** The project site does not support marsh and swamp (coastal salt marsh) habitat suitable for this species.
Twisted horsehair lichen *Sulcaria spiralifera*			1B.2	Coastal dunes | North coast coniferous forest North Coast coniferous forest (immediate coast), coastal dunes. Usually on conifers. 0–295 feet in elevation. Blooms . Perennial.	**Not expected to occur:** The project site does not support coastal dune or North Coast coniferous forest habitat suitable for this species.

Name	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential to Occur in the Project Site[2]
Trifoliate laceflower *Tiarella trifoliata* var. *trifoliata*			3.2	Lower montane coniferous forest, north coast coniferous forest. Forest edge; moist shady banks. 558–4921 feet in elevation. Blooms (May), June–August. Geophyte.	**Not expected to occur:** The project site is outside of the elevational range of this species.
Cylindrical trichodon *Trichodon cylindricus*			2B.2	Broadleafed upland forest, upper montane coniferous forest. Moss growing in openings on sandy or clay soils on roadsides, stream banks, trails or in fields. 164–4,921 feet in elevation. Blooms . Perennial.	**Not expected to occur:** The project site is outside of the elevational range of this species.
Alpine marsh violet *Viola palustris*			2B.2	Coastal scrub, bogs and fens. Swampy, shrubby places in coastal scrub or coastal bogs. 0–492 feet in elevation. Blooms March–August. Geophyte.	**Not expected to occur:** The project site does not support coastal scrub, bogs and fens, or swampy habitat suitable for this species.

Notes: CRPR = California Rare Plant Rank; CNDDB = California Natural Diversity Database

[1 & 2] Legal Status Definitions

Federal:
FE Endangered (legally protected)
State:
SE Endangered (legally protected)

California Rare Plant Ranks:
1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)
2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Threat Ranks:
0.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
0.2 Moderately threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat)
0.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

[2] Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present within the project site due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available within or immediately adjacent to the project site; however, there are little to no other indicators that the species might be present.

Likely to occur: All of the species life history requirements can be met by habitat present in the project site, and populations/occurrences are known to occur in the immediate vicinity.

Sources: CNDDB 2022; CNPS 2022, USFWS 2022.

Special-Status Wildlife Known to Occur in the Project Region and their Potential to Occur on the Project Site

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Project Site
Invertebrates				
Crotch bumble bee *Bombus crotchii*	--	SC	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	Not expected to occur: The project site is within the historic range of this species, and the nearest known occurrence of crotch bumble bee is approximately 5 miles south (CNDDB 2021). Crotch bumble bee has recently undergone a decline in abundance and distribution and is no longer present across much of its historic range. In California, crotch bumble bee populations are currently largely restricted to the Central Valley and adjacent foothills (Williams et al. 2014, Xerces 2018). Although California poppy and buckwheat occur within the parkway, the project will occur mostly within turf, access road/trail, paved road and/or fire break areas where ongoing usage and weed abatement (i.e., mowing and tilling) preclude the presence of this species.
Monarch - California overwintering population *Danaus plexippus* pop. 1	FC	--	Closed-cone coniferous forest. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not expected to occur: The project site does not support suitable tree grove that would support wintering monarchs.
Western bumble bee *Bombus occidentalis*	--	SC	Bumble bees have three basic habitat requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens.	Not expected to occur: Due to the historical disturbance and urban nature of the project site, this species is not expected to occur.
Fish				
Coast cutthroat trout *Oncorhynchus clarkii clarkii*	--	SSC	Aquatic, Klamath/North coast flowing waters. Small coastal streams from the Eel River to the Oregon border. Small, low gradient coastal streams and estuaries. Need shaded streams with water temperatures <18C, and small gravel for spawning	Not expected to occur: Suitable aquatic habitat is absent from the project site.
Coho salmon - southern Oregon / northern California ESU *Oncorhynchus kisutch* pop. 2	FT	ST	Aquatic. Klamath/North coast flowing waters. Sacramento/San Joaquin flowing waters. Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California. State listing refers to populations between the Oregon border and Punta Gorda, California.	Not expected to occur: Suitable aquatic habitat is absent from the project site.
Eulachon *Thaleichthys pacificus*	FT	--	Aquatic, Klamath/North coast flowing waters. Found in Klamath River, Mad River, Redwood Creek and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand and woody debris	Not expected to occur: Suitable aquatic habitat is absent from the project site.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Project Site
Green sturgeon *Acipenser medirostris*	FT	SSC	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters. These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, and Trinity Rivers. Spawns at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	Not expected to occur: Suitable aquatic habitat is absent from the project site.
Longfin smelt *Spirinchus thaleichthys*	FC	ST SSC	Aquatic, estuary. Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Not expected to occur: Suitable aquatic habitat is absent from the project site.
Pacific lamprey *Entosphenus tridentatus*	--	SSC	Aquatic, Klamath/north coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters. Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs is declining. Swift-current gravel-bottomed areas for spawning with water temperatures between 12-18 degrees C. Ammocoetes need soft sand or mud.	Not expected to occur: Suitable aquatic habitat is absent from the project site.
Steelhead - northern California DPS *Oncorhynchus mykiss irideus* pop. 16	FT	--	Aquatic. Sacramento/San Joaquin flowing waters. Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	Not expected to occur: Suitable aquatic habitat is absent from the project site.
Summer-run steelhead trout *Oncorhynchus mykiss irideus* pop. 36	--	SC SSC	Aquatic. Klamath/North coast flowing waters. Sacramento/San Joaquin flowing waters. Northern California coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS and No. Calif DPS. Cool, swift, shallow water and clean loose gravel for spawning, and suitably large pools in which to spend the summer.	Not expected to occur: Suitable aquatic habitat is absent from the project site.
Tidewater goby *Eucyclogobius newberryi*	FE	SSC	Aquatic, Klamath/north coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters. Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not expected to occur: Suitable aquatic habitat is absent from the project site.
Western brook lamprey *Lampetra richardsoni*	USFS-S	SSC	This is the only nonparasitic lamprey that occurs in creeks of Mendocino, Lake, and Sonoma Counties and is also found in the Sacramento-San Joaquin drainage.	Not expected to occur: Suitable aquatic habitat is absent from the project site.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Project Site
Amphibians				
Foothill yellow-legged frog *Rana boylii*	USFS-S	SE SSC	Aquatic, chaparral, cismontane woodland, coastal scrub, Klamath/north coast flowing waters, lower montane coniferous forest, meadow and seep, riparian forest, riparian woodland, and Sacramento/San Joaquin flowing waters. Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis. Endangered: Southern Sierra, Central Coast, South Coast. Threatened: Feather River, Northern Sierra. North Coast: Not Listed.	**Not expected to occur:** This species is rarely found away from water. Required aquatic habitat is absent from the project site.
Northern red-legged frog *Rana aurora*	--	SSC	Klamath/North coast flowing waters, riparian forest, and riparian woodland. Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	**May occur:** Although the project site does not support suitable aquatic habitat for this species; however, habitat is adjacent to the project site and thus there is potential for this species to wonder onto the project site.
Pacific tailed frog *Ascaphus truei*	--	SSC	Aquatic, Klamath/north coast flowing waters, lower montane coniferous forest, north coast coniferous forest, redwood, and riparian forest. Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	**Not expected to occur:** This species inhabits cold, clear, permanent rocky streams in wet forests which are not present on the project site or vicinity. This species does not occur in ponds or lakes
Southern torrent salamander *Rhyacotriton variegatus*	--	SSC	Lower montane coniferous forest, old growth, redwood, and riparian forest. Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.	**Not expected to occur:** Suitable aquatic habitat is absent from the project site.
Reptiles				
Western pond turtle *Actinemys marmorata*	--	SSC	Aquatic, artificial flowing waters, Klamath/north coast flowing waters, Klamath/north coast standing waters, marsh and swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing and standing waters. A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Not expected to occur:** The project site does not support suitable aquatic habitat for this species.
Birds				
Bald eagle *Haliaeetus leucocephalus*	FD BGEPA	SE, FP	Lower montane coniferous forest, old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**Not expected to occur:** Although this species may fly over the project site, there is no suitable foraging or nesting habitat on site.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Project Site
Bank swallow *Riparia riparia*		ST	Riparian scrub, riparian woodland. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not expected to occur: The project site does not support vertical banks/cliffs required by this species.
California (Ridgway's) clapper rail *Rallus obsoletus obsoletus*	FE	SE, FP	Brackish marsh, marsh and swamp, salt marsh, wetlands. Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	Not expected to occur: The project site does not support marsh habitat required by this species.
Fork-tailed storm-petrel *Hydrobates furcatus*		SSC	Protected deepwater coastal communities Colonial nester on small, offshore islets. Forages over the open ocean, usually well off-shore. Birds choose offshore islets which provide nesting crannies beneath rocks or sod for burrowing.	Not expected to occur: Protected deepwater coastal communities habitat is absent from the project site.
Marbled murrelet *Brachyramphus marmoratus*	FT	SE	Lower montane coniferous forest, old growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	Not expected to occur: Although this species may fly over the project site, the project site does not provide suitable foraging or nesting habitat.
Mountain plover *Charadrius montanus*		SSC	Chenopod scrub, valley and foothill grassland. Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground and flat topography. Prefers grazed areas and areas with burrowing rodents.	Not expected to occur: Habitat is absent from the project site.
Northern harrier *Circus hudsonius*		SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienegas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Not expected to occur: The project site does not provide suitable nesting or foraging habitat for this species.
Northern spotted owl *Strix occidentalis caurina*	FT	ST SSC	North coast coniferous forest, old growth, redwood. Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris and space under canopy.	Not expected to occur: The project site does not support owl growth redwood or north coast coniferous forest that would provide suitable nesting or foraging habitat for this species.
Osprey *Pandion haliaetus*			Riparian forest. Ocean shore, bays, fresh-water lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	Not expected to occur: The project site does not provide suitable nesting or foraging habitat for this species.
Rhinoceros auklet *Cerorhinca monocerata*			Off-shore islands and rocks along the California coast. Nests in a burrow on undisturbed, forested and unforested islands, and probably in cliff caves on the mainland.	Not expected to occur: The project site does not provide suitable nesting or foraging habitat for this species.
Tufted puffin *Fratercula cirrhata*		SSC	Protected deepwater coastal communities. Open-ocean bird; nests along the coast on islands, islets, or (rarely) mainland cliffs. Requires sod or earth into which the birds can burrow, on island cliffs or grassy island slopes.	Not expected to occur: The project site does not provide suitable nesting or foraging habitat for this species.
Western snowy plover *Charadrius nivosus nivosus*	FT	SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not expected to occur: The project site does not provide suitable nesting or foraging habitat for this species.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Project Site
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT	SE	Riparian forest. Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Not expected to occur:** The project site does not provide suitable nesting or foraging habitat for this species. Adjacent riparian area does not provide dense riparian habitat typically preferred by this species.
White-tailed kite *Elanus leucurus*		FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**May occur:** Trees along Janes Creek Tributary riparian area may provide suitable nesting habitat.
Yellow rail *Coturnicops noveboracensis*	BCC USFS-S	SSC	Freshwater marsh, meadow and seep. Summer resident in eastern Sierra Nevada in Mono County. Fresh-water marshlands.	**Not expected to occur:** The project site does not support suitable marsh habitat for this species.
Mammals				
Fisher - West Coast DPS *Pekania pennanti*	USFS-S	SSC	North coast coniferous forest, old growth, riparian forest. Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest. Endangered status applies to Southern Sierra DPS.	**Not expected to occur:** The project site does not provide suitable intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure required by this species.
Humboldt mountain beaver *Aplodontia rufa humboldtiana*			Coastal scrub, redwood, riparian forest. Coast Range in southwestern Del Norte County and northwestern Humboldt County. Variety of coastal habitats, including coastal scrub, riparian forests, typically with open canopy and thickly vegetated understory.	**Not expected to occur:** The project site urban nature does not provide suitable habitat for this species.
Pacific marten *Martes caurina*	FT		North coast coniferous forest, old growth, subalpine coniferous forest, upper montane coniferous forest. Mixed evergreen forests with more than 40 percent crown closure along North Coast and Sierra Nevada, Klamath and Cascade mountains. Needs variety of different-aged stands, particularly old-growth conifers and snags which provide cavities for dens/nests.	**Not expected to occur:** The project site does not provide suitable old growth forest preferred by this species.
Sonoma tree vole *Arborimus pomo*		SSC	North coast coniferous forest, oldgrowth, redwood. North coast fog belt from Oregon border to Somona County. In Douglas-fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	**Not expected to occur:** The project site does not support trees suitable for this species.
Townsend's big-eared bat *Corynorhinus townsendii*	USFS-S	SSC	Broadleaved upland forest, chaparral, chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, meadow & seep, Mojavean desert scrub, riparian forest, riparian woodland, Sonoran desert scrub. Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Not expected to occur:** The project site does not support suitable roosting habitat for this species. Since this species roosts are extremely sensitive to human disturbance it is unlikely that a roost would occur within the project site.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Project Site
White-footed vole *Arborimus albipes*		SSC	North coast coniferous forest, redwood, riparian forest. Mature coastal forests in Humboldt and Del Norte Counties. Prefers areas near small, clear streams with dense alder and shrubs. Occupies the habitat from the ground surface to the canopy. Feeds in all layers and nests on the ground under logs or rock	**Not expected to occur:** The project site does not support trees suitable for this species.

General references: Unless otherwise noted all habitat and distribution data provided by CNDDB.
Note: CNDDB = California Natural Diversity Database

[1] Legal Status Definitions

Federal:
FE Endangered (legally protected)
FT Threatened (legally protected)

State:
SE Endangered (legally protected)
ST Threatened (legally protected)
FP Fully protected (legally protected)
SSC Species of special concern (no formal protection other than CEQA consideration)

[2] Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present in the project site due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available within or immediately adjacent to the project site, however, there are little to no other indicators that the species might be present.

Likely to occur: All of the species life history requirements can be met by habitat present on the site, and populations/occurrences are known to occur in the immediate vicinity.

Present. Species observed within the project site.

Source: CNDDB 2022; USFWS 2022a

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Appendix D

Noise Modeling Results

Representative Construction Equipment and Levels Site Preparation (LEQ)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	741	55.0
2590 Eye Street	50	84.3

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Backhoe	80	0.4
Excavator	85	0.4
Dump Truck	84	0.4

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Backhoe	76.0
Excavator	81.0
Dump Truck	80.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
84.3

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Representative Construction Equipment and Levels Site Preparation (LEQ)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	1,068	55.0
2590 Eye Street	50	88.2

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Backhoe	80	1
Excavator	85	1
Dump Truck	84	1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Backhoe	80.0
Excavator	85.0
Dump Truck	84.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88.2

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Representative Construction Equipment and Levels Grading (LEQ)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	852	55.0
2590 Eye Street	50	85.8

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dozer	85	0.4
Grader	85	0.4
Excavator	85	0.4

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dozer	81.0
Grader	81.0
Excavator	81.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
85.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Representative Construction Equipment and Levels Grading (LMAX)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	1,230	55.0
2590 Eye Street	50	89.8

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dozer	85	1
Grader	85	1
Excavator	85	1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dozer	85.0
Grader	85.0
Excavator	85.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
89.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Representative Building Construction Equipment and Levels (LEQ)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	2,085	45.0
2590 Eye Street	50	85.5

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Flat Bed Truck	84	0.4
Generator	82	0.4
Crane	85	0.16
Dump Truck	84	0.4
Front End Loader	80	0.4

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Flat Bed Truck	80.0
Generator	78.0
Crane	77.0
Dump Truck	80.0
Front End Loader	76.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
85.5

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Representative Building Construction Equipment and Levels (LEQ)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	1,294	55.0
2590 Eye Street	50	90.3

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Flat Bed Truck	84	1
Generator	82	1
Crane	85	1
Dump Truck	84	1
Front End Loader	80	1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Flat Bed Truck	84.0
Generator	82.0
Crane	85.0
Dump Truck	84.0
Front End Loader	80.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
90.3

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Representative Construction Equipment and Levels Paving (LEQ)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	852	55.0
2590 Eye Street	70	81.9
	150	73.2

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Paver	85	0.4
Roller	85	0.4
Concrete Mixer Truck	85	0.4

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Paver	81.0
Roller	81.0
Concrete Mixer Truck	81.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
85.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Representative Construction Equipment and Levels Paving (LEQ)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	1,230	55.0
2590 Eye Street	50	89.8
		#NUM!

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Paver	85	1
Roller	85	1
Concrete Mixer Truck	85	1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Paver	85.0
Roller	85.0
Concrete Mixer Truck	85.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
89.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	79.0	72.0	100	78.0	71.0
Backhoe	40	80	78	372	74.0	70.0	100	72.0	68.0
Bar Bender	20	80	na	0	74.0	67.0	100		
Blasting	na	94	na	0	88.0		100		
Boring Jack Power Unit	50	80	83	1	74.0	71.0	100	77.0	74.0
Chain Saw	20	85	84	46	79.0	72.0	100	78.0	71.0
Clam Shovel (dropping)	20	93	87	4	87.0	80.0	100	81.0	74.0
Compactor (ground)	20	80	83	57	74.0	67.0	100	77.0	70.0
Compressor (air)	40	80	78	18	74.0	70.0	100	72.0	68.0
Concrete Batch Plant	15	83	na	0	77.0	68.7	100		
Concrete Mixer Truck	40	85	79	40	79.0	75.0	100	73.0	69.0
Concrete Pump Truck	20	82	81	30	76.0	69.0	100	75.0	68.0
Concrete Saw	20	90	90	55	84.0	77.0	100	84.0	77.0
Crane	16	85	81	405	79.0	71.0	100	75.0	67.0
Dozer	40	85	82	55	79.0	75.0	100	76.0	72.0
Drill Rig Truck	20	84	79	22	78.0	71.0	100	73.0	66.0
Drum Mixer	50	80	80	1	74.0	71.0	100	74.0	71.0
Dump Truck	40	84	76	31	78.0	74.0	100	70.0	66.0
Excavator	40	85	81	170	79.0	75.0	100	75.0	71.0
Flat Bed Truck	40	84	74	4	78.0	74.0	100	68.0	64.0
Front End Loader	40	80	79	96	74.0	70.0	100	73.0	69.0
Generator	50	82	81	19	76.0	73.0	100	75.0	72.0
Generator (<25KVA, VMS si	50	70	73	74	64.0	61.0	100	67.0	64.0
Gradall	40	85	83	70	79.0	75.0	100	77.0	73.0
Grader	40	85	na	0	79.0	75.0	100		
Grapple (on Backhoe)	40	85	87	1	79.0	75.0	100	81.0	77.0
Horizontal Boring Hydr. Jac	25	80	82	6	74.0	68.0	100	76.0	70.0
Hydra Break Ram	10	90	na	0	84.0	74.0	100		
Impact Pile Driver	20	95	101	11	89.0	82.0	100	95.0	88.0
Jackhammer	20	85	89	133	79.0	72.0	100	83.0	76.0
Man Lift	20	85	75	23	79.0	72.0	100	69.0	62.0
Mounted Impact Hammer (	20	90	90	212	84.0	77.0	100	84.0	77.0
Pavement Scarafier	20	85	90	2	79.0	72.0	100	84.0	77.0
Paver	50	85	77	9	79.0	76.0	100	71.0	68.0
Pickup Truck	40	55	75	1	49.0	45.0	100	69.0	65.0
Pneumatic Tools	50	85	85	90	79.0	76.0	100	79.0	76.0
Pumps	50	77	81	17	71.0	68.0	100	75.0	72.0
Refrigerator Unit	100	82	73	3	76.0	76.0	100	67.0	67.0
Rivit Buster/chipping gun	20	85	79	19	79.0	72.0	100	73.0	66.0
Rock Drill	20	85	81	3	79.0	72.0	100	75.0	68.0
Roller	20	85	80	16	79.0	72.0	100	74.0	67.0
Sand Blasting (Single Nozzle	20	85	96	9	79.0	72.0	100	90.0	83.0
Scraper	40	85	84	12	79.0	75.0	100	78.0	74.0
Shears (on backhoe)	40	85	96	5	79.0	75.0	100	90.0	86.0
Slurry Plant	100	78	78	1	72.0	72.0	100	72.0	72.0
Slurry Trenching Machine	50	82	80	75	76.0	73.0	100	74.0	71.0
Soil Mix Drill Rig	50	80	na	0	74.0	71.0	100		
Tractor	40	84	na	0	78.0	74.0	100		
Vacuum Excavator (Vac-tru	40	85	85	149	79.0	75.0	100	79.0	75.0
Vacuum Street Sweeper	10	80	82	19	74.0	64.0	100	76.0	66.0

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Ventilation Fan	100	85	79	13	79.0	79.0	100	73.0	73.0
Vibrating Hopper	50	85	87	1	79.0	76.0	100	81.0	78.0
Vibratory Concrete Mixer	20	80	80	1	74.0	67.0	100	74.0	67.0
Vibratory Pile Driver	20	95	101	44	89.0	82.0	100	95.0	88.0
Warning Horn	5	85	83	12	79.0	66.0	100	77.0	64.0
Welder / Torch	40	73	74	5	67.0	63.0	100	68.0	64.0

Source:
FHWA Roadway Construction Noise Model, January 2006. Table 9.1
U.S. Department of Transportation
CA/T Construction Spec. 721.560

Distance Propagation Calculations for Stationary Sources of Ground Vibration

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.
— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.
— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID 2590 Eye Street	Reference Noise Level vibration level (VdB)	@	distance (ft)	Attenuated Noise Level at Receptor vibration level (VdB)	@	distance (ft)
Vibratory Roller	94	@	25	91.6	@	30
Hoe Ram	87	@	25	84.6	@	30
Large Bulldozer	87.0	@	25	84.6	@	30
Loaded Trucks	86	@	25	83.6	@	30
Jackhammer	79.0	@	25	76.6	@	30

STEP 2B: Identify the vibration source and enter the reference peak particle velocity (PPV) and distance.

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID 2590 Eye Street	Reference Noise Level vibration level (PPV)	@	distance (ft)	Attenuated Noise Level at Receptor vibration level (PPV)	@	distance (ft)
Vibratory Roller	0.210	@	25	0.160	@	30
Hoe Ram	0.089	@	25	0.068	@	30
Large Bulldozer	0.089	@	25	0.068	@	30
Loaded Trucks	0.076	@	25	0.058	@	30
Jackhammer	0.035	@	25	0.027	@	30

Notes:
Computation of propagated vibration levels is based on the equations presented on pg. 12-11 of FTA 2006. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Sources:
Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Distance Propagation Calculations for Stationary Sources of Ground Vibration

ASCENT ENVIRONMENTAL

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.
— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.
— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
2925 Saint Louis Road	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
Vibratory Roller	94	@	25	91.6	@	30

STEP 2B: Identify the vibration source and enter the reference peak particle velocity (PPV) and distance.

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
2925 Saint Louis Road	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
Vibratory Roller	0.210	@	25	0.160	@	30

Notes:
Computation of propagated vibration levels is based on the equations presented on pg. 12-11 of FTA 2006. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Sources:
Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Traffic Noise Spreadsheet Calculator

Project: **CSU Humboldt**

Number	Segment Description and Location: Name	From	To	Existing Conditions	Existing + Project Conditions	Δ Existing – Existing + Project	Cumulative Conditions	Cumulative +Project Conditions	Δ Cumulative – Cumulative + Project
Summary of Net Changes									
1	Spear Ave	Alliance Rd	West End Road	62.7	63.4	0.7	63.2	63.8	0.7
2	West End Road	Spear Avenue	West End Court	62.9	63.4	0.5	63.4	63.8	0.4
3	St Louis Road	West End Road	US 101 Overcrossing	62.7	63.9	1.2	63.2	64.3	1.1
4	US 101 overcrossing	St Louis Rd	LK Wood Blvd	63.1	65.8	2.6	63.6	66.0	2.4
5	LK Wood Blvd	Granite ave	Sunset Ave	66.3	67.3	1.0	66.6	67.6	1.0
6	LK Wood Blvd	Sunset Ave	Plaza Ave	67.0	67.5	0.5	67.3	67.7	0.4
7	Sunset Ave	G St	LK Wood blvd	67.3	67.7	0.4	67.7	68.1	0.4

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: CSU Humboldt

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input											Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics								Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	CNEL, (dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
1	Spear Ave	Alliance Rd	West End Road	3,040	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	62.7	9	29	92	291
2	West End Road	Spear Avenue	West End Court	3,220	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	62.9	10	31	97	308
3	St Louis Road	West End Road	US 101 Overcrossing	3,070	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	62.7	9	29	93	294
4	US 101 overcrossing	St Louis Rd	LK Wood Blvd	3,390	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.1	10	32	103	324
5	LK Wood Blvd	Granite ave	Sunset Ave	7,010	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	66.3	21	67	212	671
6	LK Wood Blvd	Sunset Ave	Plaza Ave	8,220	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	67.0	25	79	249	787
7	Sunset Ave	G St	LK Wood blvd	8,750	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	67.3	26	84	265	837

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: CSU Humboldt

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Number	Name	From	To	ADT	Speed (mph)	Distance to Directional Centerline, (feet)$_4$ Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	CNEL, (dBA)$_{5,6,7}$	Distance to Contour, (feet)$_3$ 70 dBA	65 dBA	60 dBA	55 dBA
	Segment Description and Location			Input				Traffic Distribution Characteristics						Output				
Existing + Project Conditions																		
1	Spear Ave	Alliance Rd	West End Road	3,610	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.4	11	35	109	345
2	West End Road	Spear Avenue	West End Court	3,600	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.4	11	34	109	344
3	St Louis Road	West End Road	US 101 Overcrossing	4,020	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.9	12	38	122	385
4	US 101 overcrossing	St Louis Rd	LK Wood Blvd	6,240	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	65.8	19	60	189	597
5	LK Wood Blvd	Granite ave	Sunset Ave	8,910	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	67.3	27	85	270	853
6	LK Wood Blvd	Sunset Ave	Plaza Ave	9,170	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	67.5	28	88	277	877
7	Sunset Ave	G St	LK Wood blvd	9,700	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	67.7	29	93	294	928

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: CSU Humboldt

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input										Output				
Number	Name	From	To	ADT	Speed (mph)	Distance to Directional Centerline, (feet)4 Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	CNEL, (dBA)5,6,7	Distance to Contour, (feet)3 70 dBA	65 dBA	60 dBA	55 dBA
Cumulative Conditions																		
1	Spear Ave	Alliance Rd	West End Road	3,400	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.2	10	33	103	325
2	West End Road	Spear Avenue	West End Court	3,590	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.4	11	34	109	344
3	St Louis Road	West End Road	US 101 Overcrossing	3,440	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.2	10	33	104	329
4	US 101 overcrossing	St Louis Rd	LK Wood Blvd	3,770	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	63.6	11	36	114	361
5	LK Wood Blvd	Granite ave	Sunset Ave	7,490	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	66.6	23	72	227	717
6	LK Wood Blvd	Sunset Ave	Plaza Ave	8,780	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	67.3	27	84	266	840
7	Sunset Ave	G St	LK Wood blvd	9,780	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%	67.7	30	94	296	936

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: CSU Humboldt

Noise Level Descriptor: CNEL
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input											Output				
						Distance to Directional Centerline, (feet)4		Traffic Distribution Characteristics							CNEL,	Distance to Contour, (feet)3			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night		(dBA)5,6,7	70 dBA	65 dBA	60 dBA	55 dBA
Cumulative +Project Conditions																			
1	Spear Ave	Alliance Rd	West End Road	3,970	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%		63.8	12	38	120	380
2	West End Road	Spear Avenue	West End Court	3,970	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%		63.8	12	38	120	380
3	St Louis Road	West End Road	US 101 Overcrossing	4,390	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%		64.3	13	42	133	420
4	US 101 overcrossing	St Louis Rd	LK Wood Blvd	6,620	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%		66.0	20	63	200	633
5	LK Wood Blvd	Granite ave	Sunset Ave	9,390	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%		67.6	28	90	284	898
6	LK Wood Blvd	Sunset Ave	Plaza Ave	9,730	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%		67.7	29	93	294	931
7	Sunset Ave	G St	LK Wood blvd	10,730	45	45	55	97.5%	1.5%	1.0%	85.0%	7.5%	7.5%		68.1	32	103	325	1027

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Citation #	Citations	
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Table (4-2), Pg 4-17.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Equation (4-5), Pg 4-17.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.	FHWA 2004 TNM Version 2.5
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.	FHWA 2004 TNM Version 2.5
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-23), Pg 2-51, 52.
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-24), Pg 2-53.
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.	Caltrans Technical Noise Supplement. 2013 (September). Pg 2-57.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.	FHWA 2004 TNM Version 2.5
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.	FHWA 2004 TNM Version 2.5
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.	FHWA 2004 TNM Version 2.5
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.	FHWA 2004 TNM Version 2.5
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.	FHWA 2004 TNM Version 2.5
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67	
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69	
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69	

References

California Department of Transportation (Caltrans). 2009 (November). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf. Accessed August 17, 2017.

California Department of Transportation (Caltrans). 2013 (September). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf. Accessed August 17, 2017.

Federal Highway Administration. 2004. Traffic Noise Model Version 2.5. Available: https://www.fhwa.dot.gov/environment/noise/traffic_noise_model/tnm_v25/. Accessed August 17, 2017.

Attenuation Calculations for Stationary Noise Sources

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	**Reference Noise Level** noise level (dBA)	@	distance (ft)	**Attenuation Characteristics** Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	**Attenuated Noise Level at Receptor** noise level (dBA)	@	distance (ft)
HVAC LEQ	75.0	@	3	soft	8	5	0.63	44.8	@	42
HVAC LEQ	75.0	@	3	soft	8	5	0.63	50.7	@	25
				hard	8	5	0.00	#DIV/0!	@	50
				hard	8	5	0.00	#DIV/0!	@	50
				hard	8	5	0.00	#DIV/0!	@	71
				soft	8	5	0.63	#DIV/0!	@	80
				soft	8	5	0.63	#DIV/0!	@	80
				soft	8	5	0.63	#DIV/0!	@	1000
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 176 and 177 of FTA 2018.

Computation of the ground factor is based on the equation presentd in Table 4-26 on pg. 86 of FTA 2018, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5, 2020.

Parking Lot Noise Calculation

KEY: Orange cells are for input.

Green cells are data to present in a written analysis (output).

Number of automobiles per hour	20
Number of buses per hour	0
Distance to sensitive receptor (feet)	50

# of spaces within 50 feet of Receptor	Activity %	# of autos per hour
40	50%	20

	distance	sound level
Leq @	50	**45.4**
Leq @	25	**51.4**

Source

Federal Transit Administration. 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed February 4, 2019. See pages 45–47, including Equation 4-14.

Existing Noise Combined with Parking Lot Noise

Hourly Leq Noise Level by Noise Source	Existing Measured Noise Levels	Parking Lot Noise Levels	Combined Hourly Leq
Hour of Day			
0:00	52.4	0.0	52.4
1:00	50.6	0.0	50.6
2:00	49.2	0.0	49.2
3:00	46.5	0.0	46.5
4:00	48.5	0.0	48.5
5:00	56.2	45.4	56.5
6:00	63.6	45.4	63.7
7:00	64.0	45.4	64.1
8:00	63.8	45.4	63.9
9:00	63.0	45.4	63.1
10:00	63.1	45.4	63.2
11:00	63.3	45.4	63.4
12:00	63.2	45.4	63.3
13:00	63.4	45.4	63.5
14:00	63.9	45.4	64.0
15:00	64.2	45.4	64.3
16:00	64.0	45.4	64.1
17:00	64.4	45.4	64.5
18:00	62.9	45.4	63.0
19:00	61.7	45.4	61.8
20:00	58.9	45.4	59.1
21:00	58.1	0.0	58.1
22:00	56.7	0.0	56.7
23:00	55.8	0.0	55.8

<u>Notes</u>

Parking activity is assumed to occur during summer daylight hours only (i.e., 5 AM- 9 PM)

Existing Noise level values are shown in Appendix X, Long-term Noise Measurement Summary worksheet

Parking Lot CNEL Calculation

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: North Demo Northern Terminus near Tunnel Creek Road
Measurement Date: 8/23/2011
Project Name: North Demo

Computation of CNEL

Hour of Day (military time)	Sound Level Leq (dBA)	Sound Power =10*Log(dBA/10)	Period of 24-Hour Day (1=included, 0=not) Day	Evening	Night	Sound Power Breakdown by Period of Day Day	Evening	Night
0:00	52.4	173,781	0	0	1	0	0	173,781
1:00	50.6	114,816	0	0	1	0	0	114,816
2:00	49.2	83,177	0	0	1	0	0	83,177
3:00	46.5	44,669	0	0	1	0	0	44,669
4:00	48.5	70,796	0	0	1	0	0	70,796
5:00	56.5	451,543	0	0	1	0	0	451,543
6:00	63.7	2,325,541	0	0	1	0	0	2,325,541
7:00	64.1	2,546,560	1	0	0	2,546,560	0	0
8:00	63.9	2,433,507	1	0	0	2,433,507	0	0
9:00	63.1	2,029,936	1	0	0	2,029,936	0	0
10:00	63.2	2,076,412	1	0	0	2,076,412	0	0
11:00	63.4	2,172,636	1	0	0	2,172,636	0	0
12:00	63.3	2,123,970	1	0	0	2,123,970	0	0
13:00	63.5	2,222,435	1	0	0	2,222,435	0	0
14:00	64.0	2,489,383	1	0	0	2,489,383	0	0
15:00	64.3	2,664,942	1	0	0	2,664,942	0	0
16:00	64.1	2,546,560	1	0	0	2,546,560	0	0
17:00	64.5	2,788,902	1	0	0	2,788,902	0	0
18:00	63.0	1,984,518	1	0	0	1,984,518	0	0
19:00	61.8	1,513,782	0	1	0	0	1,513,782	0
20:00	59.1	810,921	0	1	0	0	810,921	0
21:00	58.1	645,655	0	1	0	0	645,655	0
22:00	56.7	467,736	0	0	1	0	0	467,736
23:00	55.8	380,190	0	0	1	0	0	380,190

	Day	Evening	Night
Sum of Sound Power during Period wo/penalty	28,079,760	2,970,358	4,112,251
Log Factor for CNEL Penalty (i.e., 10*log(x))	1	3	10
Sound Power during Period with penalty	28,079,760	8,911,074	41,122,507

Total Daily Sound Power, with penalties	78,113,342
Hours per Day	24
Average Hourly Sound Power, with penalties	3,254,723
CNEL	65.1

Ldn computation on next page.

Computation of Ldn

Period of 24-Hour Day (1=included, 0=not)		Sound Power Breakdown by Period of Day	
Day	Night	Day	Night
0	1	0	173,781
0	1	0	114,816
0	1	0	83,177
0	1	0	44,669
0	1	0	70,796
0	1	0	451,543
0	1	0	2,325,541
1	0	2,546,560	0
1	0	2,433,507	0
1	0	2,029,936	0
1	0	2,076,412	0
1	0	2,172,636	0
1	0	2,123,970	0
1	0	2,222,435	0
1	0	2,489,383	0
1	0	2,664,942	0
1	0	2,546,560	0
1	0	2,788,902	0
1	0	1,984,518	0
1	0	1,513,782	0
1	0	810,921	0
1	0	645,655	0
0	1	0	467,736
0	1	0	380,190

Sum of Sound Power during Period wo/penalty	31,050,118	4,112,251
Log Factor for Penalty (i.e., 10*log(x))	1	10
Sound Power during Period with penalty	31,050,118	41,122,507

Total Daily Sound Power, with penalties	72,172,625
Hours per Day	24
Average Hourly Sound Power, with penalties	3,007,193
Ldn	64.8

<u>Notes:</u>

Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.

Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.

Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.

<u>Source:</u>

California Deaprtment of Transportation (Caltrans), Divisiong of Environmental Analysis. 2009 (November). *2009 Technical Noise Supplement* . Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

Appendix E

Transportation Impact Study

FEHR & PEERS

Draft Memorandum

Date:	September 26, 2022
To:	Deirdre Clem, Cal Poly Humboldt Facilities Management
CC:	Marianne Lowenthal and Chris Mundhenk, Ascent Environmental
From:	Ian Barnes, PE, and Bruno Lertora, Fehr & Peers
Subject:	**Cal Poly Humboldt Craftsman Mall Student Housing Project CEQA Transportation Analysis**

WC22-3875

This technical memorandum documents the results of the California Environmental Quality Act (CEQA) transportation analysis prepared for the proposed Cal Poly Humboldt Craftsman Mall Student Housing Project (project). This analysis reflects the updated CEQA analysis procedures identified in the *California State University Transportation Impact Study Manual* (CSU TISM) and supersedes the analyses completed in previous studies, including *The Village Student Housing Project Draft Environmental Impact Report* and *Final Environmental Impact Report,* dated October 2017 and March 10, 2018, respectively.

The primary purpose of this evaluation is to provide a CEQA-compliant analysis of Transportation system impacts, including an analysis of vehicle-miles traveled (VMT) per the CSU TISM and the State Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*.

Project Description

The project site is located at 2905 Saint Louis Road in the City of Arcata, approximately one-half mile northwest of the Cal Poly Humboldt campus. The Project site is bound by an abandoned railroad and US 101 to the east, residential development to the south and west, and Mad River Lumber to the north, as shown on **Figure 1** (all figures are provided at the end of the memorandum). The site is currently occupied by the Craftsman's Mall, a collection of artisan and light industrial rental spaces, and an outdoor storage area for local contractors. The proposed project aims to construct a 241-unit student housing community; up to 964 students would be housed at the project site. The project will include other amenities such as a student study center and exercise facilities that are commonly found on off-campus, University-sponsored student housing. The proposed project does not include an increase in enrollment at the University. Vehicular access to the project site would be provided the southern stub end of Saint Louis Road, in addition to a proposed emergency vehicle access point from the northern stub end of Eye Street. The project would also construct 340 single-occupancy vehicle spaces along the perimeter with 10 percent reserved for electric vehicles. No through automobile traffic would be allowed through the project site.

Existing Transportation System

As noted previously, public vehicular access to the site will be provided via Saint Louis Road; an additional emergency vehicle access point will be provided at the northern end of Eye Street. Future bicycle and pedestrian access may be provided via a new Class I multi-use path proposed for the abandoned rail line.

Saint Louis Road is a north-south local street with one travel lane in each direction, traveling from Spear Avenue/West End Road in the north to a cul-de-sac at the project site. Saint Louis Road also provides access to the US 101 overcrossing to L.K. Wood Boulevard. The posted speed limit along Saint Louis Road is 25 miles per hour. Sidewalks are present on the at least one side of the roadway north of the US 101 overcrossing. Class II bike lanes are provided on both sides of the roadway from the US 101 overcrossing to Spear Avenue/West End Road.

Eye Street is primarily a north-south residential roadway with one travel lane in each direction ranging from Jay Street in the south and terminating at the proposed project site in the north. The speed limit along Eye Street is (prima facie) 25 miles per hour. Sidewalks are present on a 350-foot segment starting at Jay Street. No other sidewalks are present. There are no designated bicycle facilities along Eye Street.

Analysis Methods

The following discusses the analysis methods and assumptions for the assessment.

CEQA Transportation Analysis

As noted previously, the project analysis is being analyzed under the auspices of the latest CEQA Guidelines and the CSU TISM. For CEQA Transportation analysis, projects are generally required to respond to the following CEQA Guidelines Appendix G checklist questions:

Would the project:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

d) Result in inadequate emergency access?

Criterion B is the formal implementation of the Senate Bill (SB) 743 requirement to analyze VMT as part of the CEQA Transportation section. Under SB 743, congestion related project effects (such as those measured by Level of Service or similar metrics) are deemed to be ***less-than-significant*** by statute. Relevant subsections of CEQA Guidelines section 15064.3(b) for the project read as follows:

(1) **Land Use Projects.** *Vehicle-miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle-miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.*

(4) **Methodology**. *A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.*

As noted above, the California State University System, in its discretion as lead agency, has the ability to select the methodology and CEQA significance criteria for use in the CEQA Transportation section. CEQA transportation impact significance criteria are provided in the following section.

CEQA Transportation Impact Criteria

CEQA impacts are identified based on the project's VMT per capita and its effects to the pedestrian, bicycle, and transit modes of travel. For land use projects, intersection operations impacts (such as those measured by congested-based metrics such as Level of Service) are specifically excluded from CEQA consideration per CEQA Guidelines §15064.3 and Senate Bill 743. The detailed CEQA Transportation section impact criteria are presented below.

Vehicle-Miles Traveled (VMT)

The State Office of Planning and Research (OPR), in their *Technical Advisory on the Evaluation of Transportation Impacts in CEQA* (December 2018), has provided non-binding guidance on thresholds that could be used in the analysis of CEQA transportation impacts, using VMT as the quantified metric for evaluation. In its capacity as lead agency, the California State University System has adopted the *Technical Advisory* VMT metrics, methodologies and thresholds as summarized in the CSU TISM. The basis of these OPR-recommended thresholds includes state climate planning documents and legislation.

CEQA Guidelines §15064.3(a) notes that, for the purposes of §15064.3 and CEQA Transportation analysis, VMT "refers to the amount and distance of automobile travel attributable to a project." This statement has been interpreted by OPR to mean automobile and light-duty truck travel (e.g., pickup trucks). For many residential land uses, the amount and distance of automobile travel is the overwhelming component of weekday daily VMT. OPR notes that heavy-duty truck VMT could be included for convenience and ease of calculation, if a lead agency so chooses, but are not required to be included in the calculations.

In the *Technical* Advisory, OPR has recommended thresholds and calculation approaches for three project types: residential, office and retail. The thresholds and calculation approaches noted in the *Technical Advisory* are in part based on the legislative intent of SB 743, which include (1) promoting infill development, (2) promoting healthy communities through encouraging active transportation, and (3) assisting California in meeting its statewide climate targets. In essence, the switch to VMT as the CEQA Transportation metric measures the efficiency of land use patterns and streamlines development that enhance a diversity of land uses and access to common goods and commercial/public services.

Based on the guidance presented in the *Technical Advisory* and the CSU TISM, the CSU system has chosen the following VMT-based thresholds to be applied to assess the CEQA significance of the project's VMT per capita for residential projects:

- Project-level impacts: The project would result in a significant impact related to VMT if the project VMT per resident exceeds a threshold of 15% below existing regional, sub-regional, or citywide VMT per resident
- Cumulative impacts: VMT per resident under the "with project" condition exceeds the regional, sub-regional, or citywide VMT per resident identified under the RTP/SCS condition.

For the purposes of the analysis of VMT impacts for the Cal Poly Humboldt Craftsman Mall Student Housing Project the regional, Humboldt County-wide average will be used as the basis for the assessment. This determination was based on the following considerations.

The OPR *Technical Advisory* VMT significance criteria are based on statewide greenhouse gas reduction targets, which are defined (per SB 375) at the Metropolitan Planning Organization (MPO) level; outside of the major urbanized areas of California (e.g., the San Francisco Bay Area and Los Angeles area), many single-county MPOs exist. While the Humboldt County Association of Governments is a Regional Transportation Planning Agency (RTPA), and not an MPO, the entirety of Humboldt County represents a logical boundary for the evaluation of VMT impacts based on the methodology used by OPR to develop the thresholds identified in the *Technical Advisory*. The *Technical Advisory* also notes that the VMT calculation itself should not be arbitrarily truncated at political boundaries (i.e., an arbitrarily defined sub-area boundary), and thus using a Humboldt County-wide geography represents a good faith effort at the full accounting of the VMT effects of the project. This County-wide analysis also represents the extents of the Humboldt County travel demand model.

In addition to the methodological reasoning for the selection of a Humboldt County-wide basis, student housing location data from Cal Poly Humboldt, location-based services "Big Data" regarding University-related trips, and from the Humboldt County Association of Governments Travel Model (HCAOG Travel Model) indicate that there is a substantial regional student housing component consisting of students living off-campus and outside of the City of Arcata. Because the project does not propose to increase student enrollment, it is reasonable to assume that the net effect of the project would be that students who would otherwise be living outside of the City of Arcata would move closer to campus. So, the most reasonable basis for evaluating the effect of the project would be a regional basis (i.e., a Humboldt County-wide basis).

Public Transit System

The project would create a significant impact related to public transit service if either of the following criteria are met:

- The project generates a substantial increase in public transit riders that cannot be adequately served by existing public transit services; or,
- The project conflicts with existing or planned public transit facilities.

Pedestrian System

The project would create a significant impact related to the pedestrian system if any of the following criteria are met:

- The project design would not provide or would eliminate pedestrian facilities to connect to the area circulation system, or
- The project design would create hazardous conditions for pedestrians due to geometric design feature or introduction of incompatible uses, or
- The project conflicts with existing or planned pedestrian facilities.

Bicycle System

The project would create a significant impact related to the bicycle system if any of the following criteria are met:

- The project design would not provide or would eliminate bicycle facilities that connect to the area circulation system; or
- The project design would create hazardous conditions for bicyclists due to geometric design feature or introduction of incompatible uses; or
- The project conflicts with existing or planned bicycle facilities.

Vehicle System Hazard Impacts

The project would create a significant impact related to the vehicle system if any of the following criteria are met:

- The project design would substantially increase hazards due to a geometric design feature, or
- The project introduces incompatible vehicle uses to the system.

Note that, per Senate Bill 743 and CEQA Guidelines §15064.3, impacts to the operations of the circulation system as measured by metrics such as Level of Service are considered to be ***less-than-significant*** by statute.

Emergency Access

The project would create a significant impact related to emergency vehicle access if the following criterion is met:

- The project incorporates design features that limit or result in inadequate emergency vehicle access.

CEQA VMT Analysis

As noted previously in the discussion regarding the CEQA significance criteria for VMT impacts, the Humboldt County Association of Governments Travel Model (HCAOG Travel Model) has been selected as the tool to calculate VMT per capita metrics for the proposed project. The use of a travel demand model to calculate VMT and related metrics is recommended by OPR in the *Technical Advisory*, and the CSU TISM notes that the travel demand model is applicable for the project area and VMT calculation context. The HCAOG Travel Model covers the entirety of Humboldt County, including the proposed project area. Caltrans District 1 maintains the HCAOG Travel Model and periodically updates the model to reflect changing travel conditions and approved land use projects and programs. This analysis used the latest HCAOG Travel Model as received from Caltrans District 1 in early 2022. The trip patterns in the HCAOG Travel Model were checked against location-based services “Big Data” to confirm that the model is reasonably replicating existing travel patterns related to the University.

HCAOG Travel Model Baseline VMT

Baseline VMT information from the HCAOG Travel Model is provided below in **Table 1**.

Table 1: Baseline Vehicle-Miles Traveled (VMT) Information

Horizon Year	Residential VMT per Resident
Base Year 2015	18.1
Cumulative Year 2045	23.2
Interpolated Near-Term Baseline (2022)	19.3

Source: Fehr & Peers, 2022.

The applicable project-level CEQA standard of significance for residential VMT per resident is 15 percent below the baseline value of 19.3, or 16.4 VMT per resident. The applicable Cumulative CEQA standard of significance is the Cumulative Year 2045 value of 23.2 VMT per resident.

Project Vehicle-Miles Traveled

The proposed project was input into the HCAOG Travel Model to assess the project’s VMT per resident. The VMT per resident for the proposed project is summarized below in **Table 2**.

Table 2: Project VMT

Horizon Year	Project VMT per Resident	Threshold Value	CEQA Impact?
Baseline Year 2022	14.1	16.4	No
Cumulative Year 2045	15.2	23.2	No

Source: Fehr & Peers, 2022.

The data from **Table 2** indicate that the impact to VMT from the proposed project is ***less-than-significant.*** No mitigation measures are needed.

CEQA Transit, Pedestrian, and Bicycle Impacts

This following section evaluates the projects potential impacts on multimodal transportation under existing with project conditions.

Transit

The project site is served by the Arcata & Mad River Transit System (A&MRTS), which provides fixed-route transit service within the City of Arcata. Additionally, paratransit service is also available for those who are unable to independently use the transit system due to a medical and other conditions. The nearest public transit stop is located about 0.25 miles away from the Project site on L.K. Wood Boulevard, which is served by the A&MRTS Gold Route and Red Route. The existing transit system is expected to accommodate Project-generated demand for transit services, and the University will continue to work with the Humboldt Transit Authority to address transit needs associated with the University. The Project is not expected to conflict with existing or planned transit facilities. Therefore, impacts to transit are ***less-than-significant***.

Pedestrian and Bicycle Systems

As noted in previous environmental documents for the project, the proposed project is expected to include the following pedestrian and bicycle improvements on and off-site:

- Covered bicycle parking areas near building entrances
- Bicycle and pedestrian access to the proposed Annie-Mary trail along the eastern boundary of the site upon the construction of the trail in 2024.

These connections would support connectivity and align with the *City of Arcata Pedestrian & Bicycle Master Plan*. Although, currently there is no planned pedestrian connection as part of the Project to the US 101 overcrossing to the north of the project site through Saint Louis Road, thus not providing pedestrian facilities to connect to the area circulation system. Therefore, impacts to pedestrian and bicycle systems would result in a **significant impact**.

Mitigation Measure

This section describes the mitigation measure the Project should implement to reduce its impact on the pedestrian system.

A sidewalk shall be built on the east side of Saint Louis Road to connect the Project site to the US 101 overcrossing and the rest of the pedestrian circulation system. There is adequate right-of-way available to complete the sidewalk gaps along the roadway. Completing the pedestrian connection as described would reduce the impact to a ***less-than-significant*** impact.

It is also recommended that the project includes wayfinding signage to guide pedestrians to key destinations beyond the Project site. The University should also work with the City of Arcata to close gaps in the bikeway system along Eye Street and Saint Louis Road.

CEQA Vehicle System Hazard Impacts

Vehicular site access is proposed at one driveway on Saint Louis Road, a local road with a posted speed limit of 25 miles per hour. Stopping sight distance is a critical factor that ensures that drivers have enough time and space to stop to avoid hazards. Eye Street provides an additional emergency vehicle access and has a speed limit of 25 miles per hour.

According to Table 201.1 of the Caltrans Highway Design Manual, the stopping sight distance at 25 miles-per- hour is 150 feet. The sight distance entering the Project site at both entrances appears to be more than 150 feet, indicating that the sight distance should be adequate. It is strongly recommended that the final site improvement plan be reviewed for potential sight distance impediments including any new signs, above ground utility boxes, or landscaping proposed in the sight triangle.

When developed, it is recommended the internal roadways meet the neighborhood streets standards required by the City of Arcata.

Overall, the project does not introduce incompatible uses to the roadway system, nor would it introduce geometric features that would result in hazardous conditions. Thus, the project's impact to the vehicle system is ***less-than-significant***. The preceding finding is related to the project's interface with the public roadway system and the project's effect on hazards to the public roadway system; site design recommendations are presented later in this memorandum.

CEQA Emergency Access Impacts

Factors such as number of access points, roadway width, and proximity to fire stations determine whether a project provides sufficient emergency access. The closest fire station to the project site is located approximately 1.5 miles to the northwest of the project site at Janes Road and Parton Lane.

The project site includes two access points for emergency vehicles: one full vehicular access point on Saint Louis Road, and a second emergency vehicle-only access point located at the northern terminus of Eye Street. The University will collaborate with the City to integrate the design of the development into the City's emergency response and evacuation plans for wildfires, floods, and other potential emergency situations.

The proposed on-site roadway design provides adequate emergency vehicle circulation and sufficient clearance to accommodate likely emergency vehicle movements. Therefore, the project's impacts to emergency vehicles are ***less-than-significant***.

Site Plan Review

This section analyzes site access and internal circulation for vehicles, pedestrians, and bicyclists. The recommendations provided in this section are not CEQA mitigation measures and are provided for informational purposes only. **Figure 3** includes the proposed site plan.

The Project can be accessed via an existing access road on Saint Louis Road approximately 700 feet south of the US 101 overcrossing. This access road becomes the site's internal drive aisle from the eastern site boundary and wraps around the entirety of the site in a loop. The 20-foot-wide drive aisle is sufficient for two-way vehicle circulation, emergency vehicle circulation, and loading trucks. Parking spaces are provided along the north, south and west site boundaries. The residential units and amenities are located in the middle of the site.

Class II bicycle lanes are present on both sides of Saint Louis Road between the US 101 overcrossing and Spear Avenue/West End Road; however, a dedicated lane along the project frontage road is not present. Walkways are provided within the site for access between and around the residentials buildings. As mentioned, the proposed Annie-Mary Trail along the eastern boundary of the site would provide primary bike and pedestrian access to the site upon its construction in 2024. Access to this trail from the site is not provided.

Recommendations to improve wayfinding and pedestrian and bicycle visibility and encourage ped/bike travel modes are provided below:

- Add wayfinding signage to different parking areas (visitor parking, electric vehicle parking, bike parking)
- Provide high-visibility crossings at the access road and by using patterns or raised crossings
- Add a pedestrian crossing signage
- Provide short-term (typically in the form of bicycle racks) and long-term (typically in a secured bike room or bike lockers) bicycle parking near building entrances
- Provide a Class I connection through the western parking area for easy access to the Annie-Mary Trail to promote pedestrian usage.

Final site plan should be checked for design vehicle movements and potential sight distance obstructions.

Traffic Volume Generation

This section provides existing traffic volume data along the roadway system, as well as the trip-making characteristics of the Project. This information is being presented for inclusion into other CEQA analysis topic areas; a Level of Service analysis has not been conducted for this project as CEQA impacts related to traffic operations are automatically considered to be ***less-than-significant*** per the CEQA Guidelines and Senate Bill 743.

Existing and Projected Traffic Volumes

To provide background information on traffic volumes along the roadway system, Fehr & Peers collected midweek AM and PM peak period traffic counts at three key intersections in the area surrounding the project. Counts were collected in the following intersections in August 2022 when Cal Poly Humboldt was in session:

1. St. Louis Road/Spear Avenue/West End Road
2. St. Louis Road/US 101 overcrossing
3. Sunset Avenue/L. K. Wood Boulevard

This information was used to estimate the traffic volumes along the following roadway segments in the study area:

- Spear Avenue between Alliance Road and West End Road
- West End Road between Spear Ave and West End Court
- St Louis Road between West End Road and Project site
- US 101 overcrossing between St Louis Road and L. K. Wood Boulevard
- L. K. Wood Boulevard between Granite Avenue and Sunset Avenue
- L. K. Wood Boulevard between Sunset Avenue and Plaza Avenue

- Sunset Avenue between G Street and L. K. Wood Boulevard

Table 3 shows the baseline and cumulative year weekday daily traffic segment volumes. Baseline segment volumes were estimated by factoring PM peak hour counts. Cumulative (far-term) traffic volumes were developed using data from the counts and the HCAOG Travel Model.

Table 3: Baseline and Cumulative Weekday Daily Traffic Volumes Without Project

Segment	Baseline Traffic Volume	Cumulative Traffic Volume
Spear Avenue between Alliance Road and West End Road	3,040	3,400
West End Road between Spear Ave and West End Court	3,220	3,590
St Louis Road between West End Road and US 101 overcrossing	3,070	3,440
US 101 overcrossing between St Louis Road and L. K. Wood Boulevard	3,390	3,770
L. K. Wood Boulevard between Granite Avenue and Sunset Avenue	7,010	7,490
L. K. Wood Boulevard between Sunset Avenue and Plaza Avenue	8,220	8,780
Sunset Avenue between G Street and L. K. Wood Boulevard	8,750	9,780

Source: Fehr & Peers, 2022.

The amount of traffic added to the roadway system associated with the Project was estimated using a three-step process:

a) **Trip Generation** – The *amount* of vehicle traffic entering/existing the Project site was estimated.
b) **Trip Distribution** – The *direction* of trips would use to approach and depart the site was projected.
c) **Trip Assignment** – Trips were then *assigned* to specific roadway segments and intersection turning movements.

Trip Generation

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. Estimates are created on a weekday daily basis. The Project trip generation was estimated using the HCAOG Travel Model. The Project is estimated to generate about 3,796 daily vehicle trips, as presented in **Table 4**.

Table 4: Vehicle Trip Generation

Land Use	Dwelling Units	Rooms	Daily Vehicle Trips
Multi-Family Housing	241	964	3,796

Source: HCAOG Travel Model, 2022.

Trip Distribution and Assignment

The Project trip distribution was based on relative distance to major gates and similar nearby land uses, as well as HCAOG Travel Model information. **Figure 3** shows the trip distribution. These trips were then assigned to the main roadway segments in the study area based on the paths they would take to the Project site, presented on **Table 5**.

Table 5: Project Weekday Daily Traffic Volumes

Segment	Traffic Volume
Spear Avenue between Alliance Road and West End Road	570
West End Road between Spear Ave and West End Court	380
St Louis Road between West End Road and US 101 overcrossing	950
US 101 overcrossing between St Louis Road and L. K. Wood Boulevard	2,850
L. K. Wood Boulevard between Granite Avenue and Sunset Avenue	1,900
L. K. Wood Boulevard between Sunset Avenue and Plaza Avenue	950
Sunset Avenue between G Street and L. K. Wood Boulevard	950

Source: Fehr & Peers, 2022. HCAOG Travel Model, 2022.

Table 6 presents the segment volumes with and without the project-added trips for baseline and Cumulative years.

Table 6: Weekday Daily Traffic Volumes

Segment	Baseline	Baseline with Project	Cumulative	Cumulative with Project
Spear Avenue between Alliance Road and West End Road	3,040	3,610	3,400	3,970
West End Road between Spear Ave and West End Court	3,220	3,600	3,590	3,970
St Louis Road between West End Road and US 101 overcrossing	3,070	4,020	3,440	4,390

Table 6: Weekday Daily Traffic Volumes

Segment	Baseline	Baseline with Project	Cumulative	Cumulative with Project
US 101 overcrossing between St Louis Road and L. K. Wood Boulevard	3,390	6,240	3,770	6,620
L. K. Wood Boulevard between Granite Avenue and Sunset Avenue	7,010	8,910	7,490	9,390
L. K. Wood Boulevard between Sunset Avenue and Plaza Avenue	8,220	9,170	8,780	9,730
Sunset Avenue between G Street and L. K. Wood Boulevard	8,750	9,700	9,780	10,730

Source: Fehr & Peers, 2022. HCAOG Travel Model, 2022

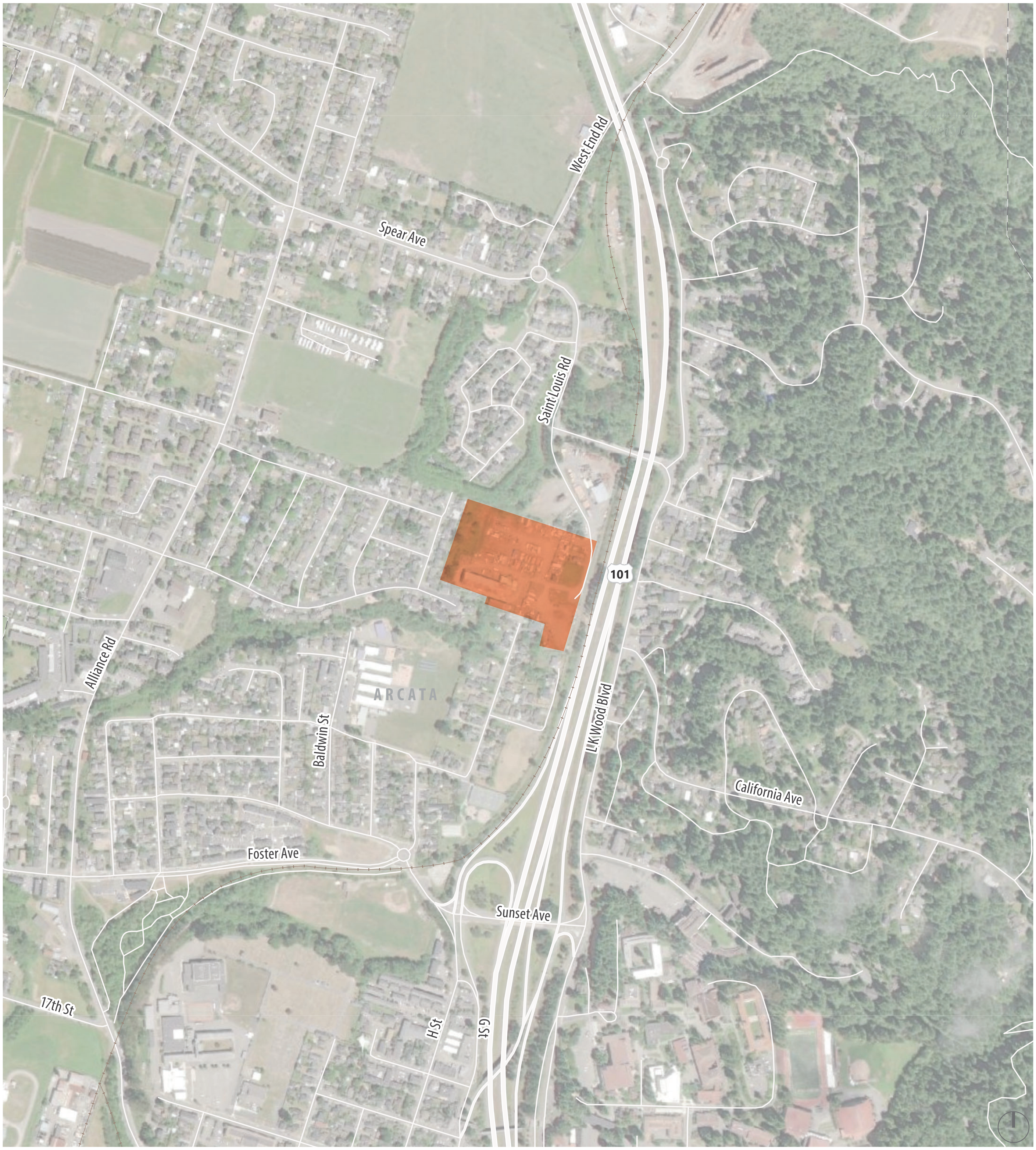
Conclusion

Results of the assessment indicate that project CEQA Transportation impacts are ***less-than-significant with mitigation***.

This completes our CEQA Transportation assessment for the proposed the Cal Poly Humboldt Craftsman Mall Student Housing Project in the City of Arcata. Please call Ian Barnes at (925) 357-3388 with any questions.

Attachments

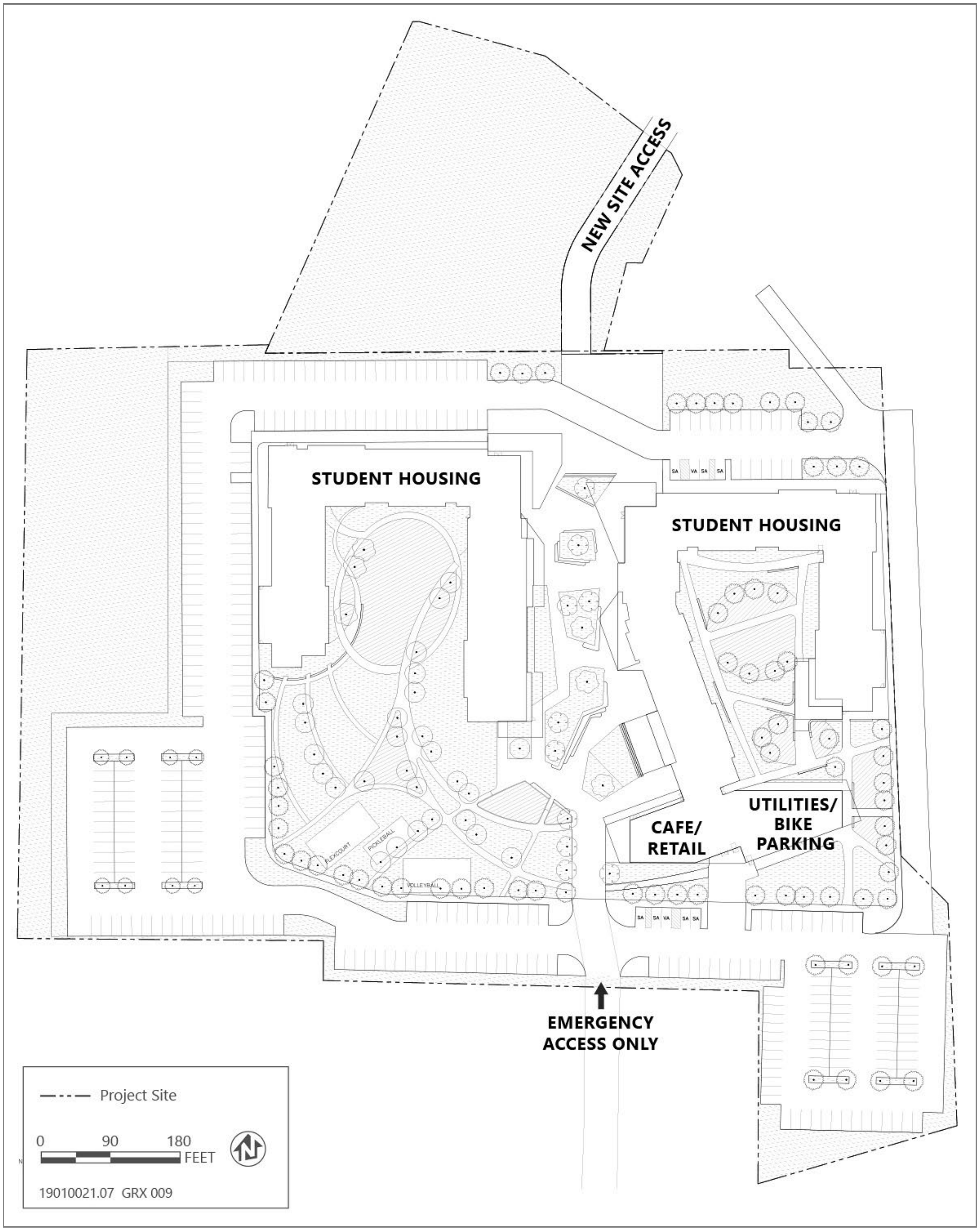
Figure 1 Project Site Vicinity
Figure 2 Project Site Plan
Figure 3 Project Trip Distribution



Project Site

Figure 1

Project Site Vicinity



Source: Adapted by Ascent Environmental in 2022.

Figure 2

Project Site Plan

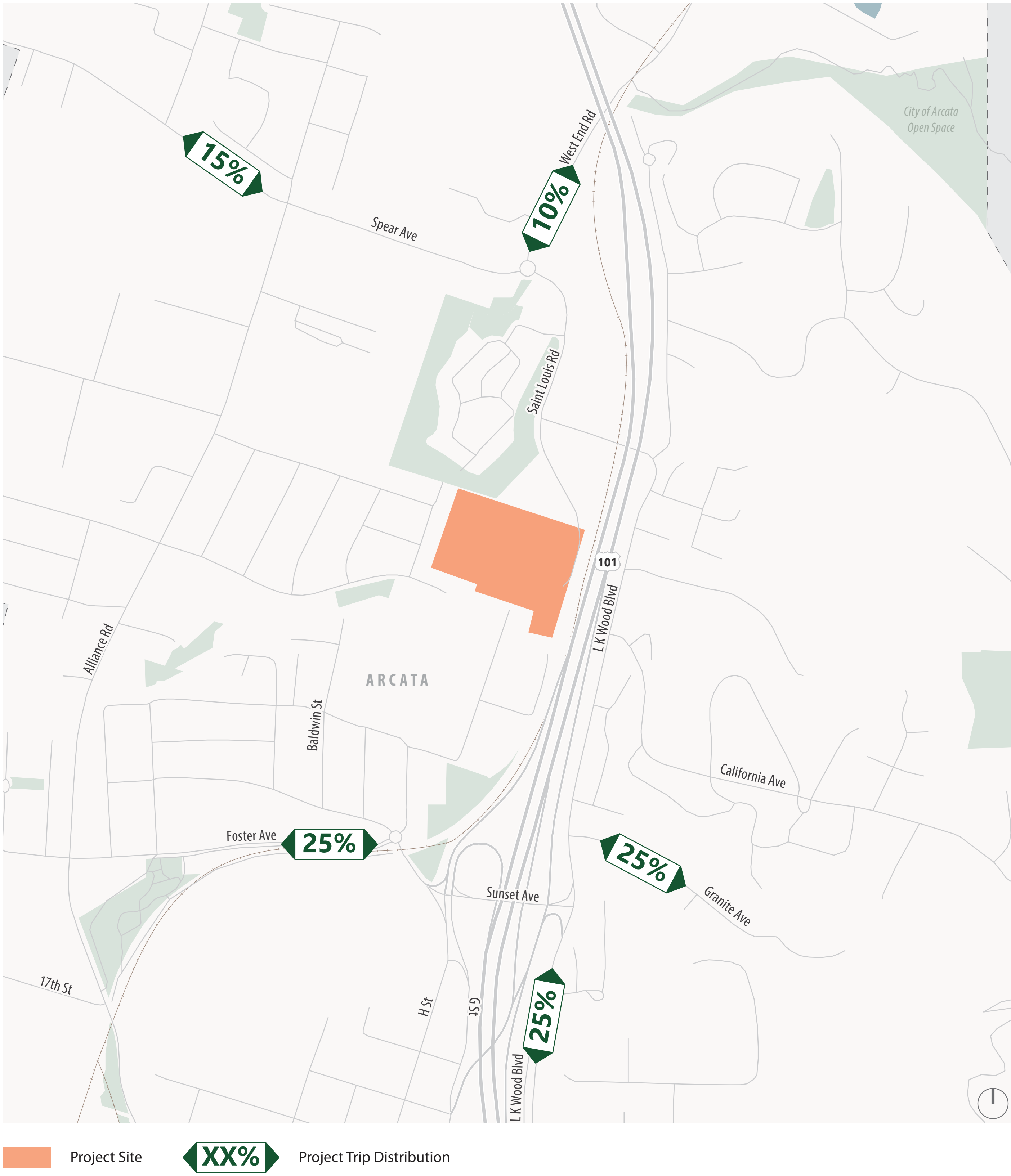


Figure 3

Project Trip Distribution

Appendix F

Water/Wastewater
Technical Memoranda

LACO

WATER SYSTEM ANALYSIS

Craftsman Student Housing Project

Date:	9/15/2022
Project No.:	8806.01
Prepared For:	Ascent Environmental, Inc 455 Capitol Mall, Suite 300 Sacramento, CA 95814
Prepared By:	LACO Associates
Reviewed By:	LACO Associates
Appendices:	Exhibit 1: WAT-1 Water Infrastructure Table 1: Water System Calculation Spreadsheet

1.0 PROJECT NARRATIVE

The Craftsman Student Housing Project is a proposed development of a 12.8-acre site formerly known as Craftsman Mall located just south of St. Louis Drive in Northern Arcata. The project proponent is Cal Poly Humboldt. The project consists of the redevelopment of a light industrial site into a 964-bed student housing complex consisting of two large buildings in a park like setting.

The site is currently served by City of Arcata (City) municipal water service. Onsite infrastructure improvements will be proposed to the system to fully support the new development complex. This technical memorandum details the analysis of the existing water system configuration and capacity, and the proposed infrastructure development demands. The objective of the water analysis is to confirm that the proposed demands will be accounted for. LACO's scope of work was to review available data sources, quantify additional flow demands and evaluate the effect on existing capacity.

Information regarding the existing system source and current usage was taken from the City of Arcata Urban Water Management Plan 2020 (UWMP). The City of Arcata is one of seven municipal agencies in the greater Humboldt Bay region which are serviced by the regional wholesale supplier, Humboldt Bay Municipal Water District (HBMWD). The District's major storage facilities is R. W. Matthews Dam which forms Ruth Reservoir in southern Trinity County along the Mad River, with a safe yield of 75 million gallons per day (MGD). HBMWD has diversion, pumping and control facilities located on the Mad River near Arcata that currently deliver 10 MGD of treated drinking water to the seven municipal agencies and some large industrial users. The City has rights to 1,186 million gallons per year (MGY) from HBMWD of which the City used 615 MG in 2020, approximately 52% of peak allocation rate. According to the UWMP, projected use in 2045 is 800MG, approximately 70% of the peak allocation rate. In addition, the City can supplement its HBMWD allotments with water from the Heindon groundwater well.

According to the UWMP the City currently has 6,225 service connections in 13 different zones. This project, located in Zone 1, has existing 8" water mains to the north, south and east of the project site. These mains are connected into a well-developed and looped pipe network providing service to this area of Arcata. See Figure WAT-1 for a graphic depiction of the water system in the vicinity of the project site.

2.0 EXISTING WATER SYSTEM ANALYSIS METHODS AND RESULTS

An estimate of the pre-development water demand was performed.

The parcels associated with this project are primarily zone Industrial Limited (IL). While the site is mostly closed now, this zoning allows for a variety of uses including agricultural processing, manufacturing, cannabis cultivation and laundry/dry cleaning. Given the variety of potential existing uses for the site, a factor of 1,500 gallon per day per acre (GPD/Acre) was assumed for a light industrial value and applied to the 12.8-acre site. This resulted in an estimated existing potential demand of 19,200 gallons per day.

3.0 PROPOSED DOMESTIC WATER SYSTEM ANALYSIS METHODS AND RESULTS

In order to develop a gallon per capita per day (gpcd) rate for the proposed development, analysis of available flow data from existing student housing projects on the Cal Poly Humboldt campus was performed. The data set was based on an actual water usage based on bills from the City of Arcata for meters serving Creekview housing complex, a site consisting of four residence buildings and a common area. Data was available from late 2012 to mid-2022, however only data through 2019 was utilized. This was done to account for any anomaly generated by Covid. The data displayed a pattern of very low usage in the months of January, May, June, July and August. These months all corresponding to University's vacation periods, and were also excluded from the data analysis.

The data showed 16,541,674 gallons were used over a time period of 1,725 days leading to a usage rate of 9,589 gal/day. This facility has a total population of 288 students resulting in an estimated water usage rate of 33 gallons per resident per day. A conservative adjustment factor (safety factor) of 1.5 was applied to achieve the estimated final water usage rate of 50 gallons per resident per day.

A similar water usage rate (50 gpcd) can be anticipated from the proposed student housing project development of 964 beds resulting in an estimate of 48,200 gpd usage, a net increase of 329,000 gpd over existing potential use. This will account for approximately 1.6% increase to the City's yearly usage over 2020 values. For comparison, City's UWMP anticipates a 1.9% per year increase in institutional water usage. See Table 1 for water usage pre and post development and the percent increase analysis.

4.0 PROPOSED FIRE PROTECTION SYSTEM ANALYSIS METHODS AND RESULTS

Water supply for fire protection will be required for this project, and is typically based on total square footage of the structures to be protected. However, the California Fire Code is complex with many allowances and reductions based on building construction materials and techniques.

Based on information available now, this project consists of 325,000 sf in two main buildings up to 7 stories high. Per the 2022 CA Fire Code, the three largest successive floors count as the building floor area. Per Appendix B of the 2022 CA Fire Code if the building floor area (three successive floors) is greater than 295,901 sf then the fire flow must be no less than 6,000 gallons per minute (gpm) for a four-hour (240 minute) duration (if less, then a two-hour duration). This number may be reduced by 25% with the installation of specific automatic fire sprinkler systems, but not less than 1,000 – 1,500 gpm, depending on sprinkler system type. Per Appendix BB of the 2022 CA Fire Code, the greater of the calculated gallons demand or the auto sprinkler system demand is the fire flow required. This is simply an example of the code requirements that may apply. Detailed architectural plans are not available at this time. As the project progresses a detailed fire protection design will be developed by a licensed Fire Protection Engineer.

The Office of the State Fire Marshall (OSFM) is responsible for the code compliance inspections and plan review of "State-Owned and State-Occupied buildings and institutions". The architect will submit the fire protection design to the OSFM, for plan review and code compliance. A further review of fire flow demand will be . will be conducted by the Fire Protection Engineer once detailed architectural plans are available. It is anticipated that only onsite improvements will be required by the Fire Protection Engineer with no significant impact or improvements to existing offsite infrastructure.

5.0 CONCLUSION

The City of Arcata has sufficient allocated water from Humboldt Bay Municipal Water District (HBMWD) to meet the projects capacity demands. The City's existing water infrastructure is sufficient to provide domestic water supply requirements of the project.

Further analysis of fire flow demand will need to be conducted by a Fire Protection Engineer once detailed architectural plans are available and hydrant pressure data has been collected and onsite improvements, if necessary, will support fire protection of the facility.

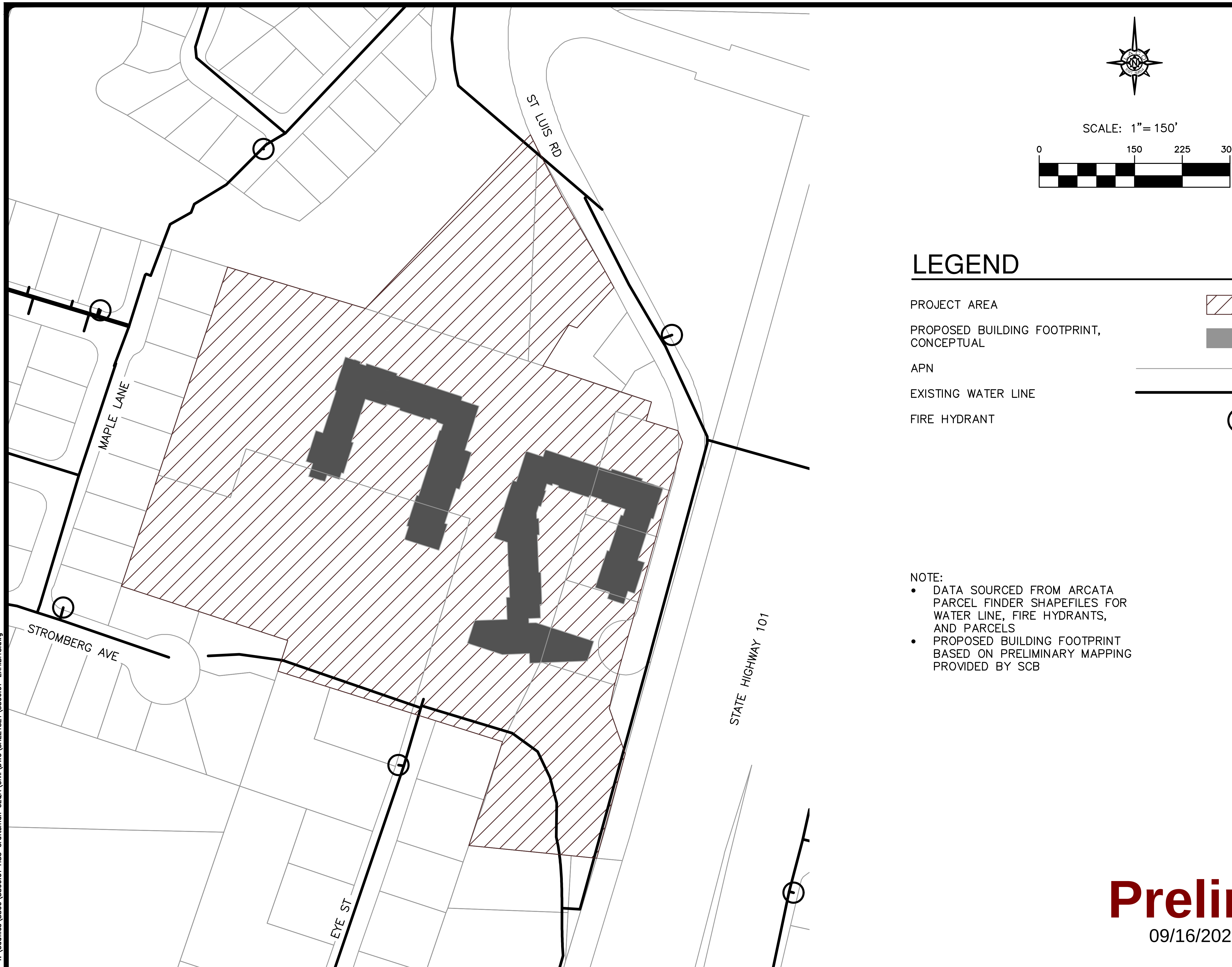
EXHIBITS

Exhibit WAT-1	**Water Infrastructure: City of Arcata GIS Water System (with proposed project site overlaid)**

TABLES

Table 1	**Water System Calculation Spreadsheet**

LACO



LEGEND

PROJECT AREA	
PROPOSED BUILDING FOOTPRINT, CONCEPTUAL	
APN	
EXISTING WATER LINE	
FIRE HYDRANT	

NOTE:
- DATA SOURCED FROM ARCATA PARCEL FINDER SHAPEFILES FOR WATER LINE, FIRE HYDRANTS, AND PARCELS
- PROPOSED BUILDING FOOTPRINT BASED ON PRELIMINARY MAPPING PROVIDED BY SCB

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CRAFTSMAN STUDENT HOUSING PROJECT
2905 ST LOUIS RD, ARCATA, CALIFORNIA
WAT-1 WATER INFRASTRUCTURE EXHIBIT

JOB NO. 8806.01
DATE AUG 2022
DESIGNER
CHECKED CCM
DRAWN LBC

SHEET 1 of 1

Date: Sep 02, 2022, 10:07am User ID: lacobrc
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Preliminary

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CRAFTSMAN STUDENT HOUSING PROJECT
PROJECT NUMBER 8806.01
9/15/2022
TABLE 1 WATER SYSTEM CALCULATION SPREADSHEET

WATER USAGE PRE AND POST-DEVELOPMENT					
WATER USAGE	RESIDENTS	RATE (GAL/PERSON-DAY)*	SITE AREA (ACRES)	WATER DEMAND (GPD/ACRE)**	WATER DEMAND (GAL/DAY)
PRE-DEVELOPMENT			12.8	1,500	19,200
POST-DEVELOPMENT	964	50			48,200

NET INCREASE IN WATER DEMAND PRE-DEVELOPMENT TO POST-DEVELOPMENT	
29,000	(GAL/DAY)

*CAL POLY HUMBOLDT CREEKVIEW APARTMENTS EXISTING WATER USAGE DATA ANALYSIS 2013-2019
** LIGHT INDUSTRIAL VALUE FROM TABLE 2-3 LAND USE & WATER DEMAND VALLECITOS WATER DISTRICT 2010 URBAN WATER MANAGEMENT PLAN

PERCENT INCREASE ANALYSIS	
YEAR	2025
CITY OF ARCATA PROJECTED WATER USE (MG/YR)***	651
CITY OF ARCATA PROJECTED WATER USE (GAL/YR)	651,000,000
EXPECTED NET INCREASE IN PROJECT DEMAND (GAL/YR)	10,585,000
PERCENT NET INCREASE WATER USE	1.6%

***VALUE FROM CITY OF ARCATA URBAN WATER MANAGEMENT PLAN 2020, YEAR 2025 PROJECTION

LACO

SEWER SYSTEM ANALYSIS

Craftsman Student Housing Project

Date:	9/15/2022
Project No.:	8806.01
Prepared For:	Ascent Environmental, Inc 455 Capitol Mall, Suite 300 Sacramento, CA 95814
Prepared By:	LACO Associates
Reviewed By:	LACO Associates
Appendices:	Exhibit 1: SS-1 Sewer Infrastructure Exhibit 2: SS-2 Sewer Area Study Table 1: Sanitary Sewer Capacity Calculation Spreadsheet ~ Existing System Table 2: Sanitary Sewer Capacity Calculation Spreadsheet ~ Proposed System

1.0 PROJECT NARRATIVE

The Craftsman Student Housing Project is a proposed development of a 12.8-acre site formerly known as Craftsman Mall located just south of St. Louis Drive in Northern Arcata. The project proponent is Cal Poly Humboldt. The project consists of the redevelopment of a light industrial site into a 964-bed student housing complex consisting of two large buildings in a park like setting.

The site is currently served by City of Arcata (City) sewer service. Infrastructure improvements will be proposed to the system to fully support the proposed development complex. This technical memorandum details the analysis of existing system configuration and capacity, and the proposed infrastructure development demands. The objective of the sewer analysis is to confirm that the proposed wastewater flows will be accounted for. LACO's scope of work was to review available data sources, quantify additional flow demands and evaluate the effect on existing capacity.

The existing sanitary sewer system collects from the residential area to the east of Highway 101 and passes under the highway through a 10" pipe (8" per GIS) to City manhole (MH) LL-8. It then passes through the proposed project site south to MH LL-5 in Eye Street. It crosses over private property through to the court at the east end of Stromberg Avenue (LL-3) and continues westward along Stromberg Avenue, in a single 8" line, through a well-developed, densely populated, single family home residential area, to a 10" line at Janes Creek and Acheson Way (II-4 and II-5, respectively). The 10" line continues westerly and transitions to a 12" line at Alliance Street (II-3). The system continues westward, through another well developed, single family home residential area, connecting to an 18" line well to the west, in Wyatt Lane (DD-38), which further connects to the 21" line (DD-37) and heads south towards the City treatment plant on the south side of town. From MH LL-5 in Eye Street to MH DD-38 in Wyatt Lane is approximately 2,000 linear feet (lf) of 8" line, 500 lf of 10" line and 1,500 lf of 12" line. See Exhibit SS-1 for a graphic depiction of the sanitary sewer system in the vicinity of the project site.

2.0 EXISTING SEWER SYSTEM ANALYSIS METHODS

As-built drawings for existing sewer infrastructure were requested from the City to aid in the review of the downstream portions of the system. The City was able to provide as-bults for the 10" main downstream of manhole II5 located in Stromberg Avenue east of Acheson Avenue. However, as-built drawings were not available from the City for any other portions of the system in the vicinity of the project.

Due to the lack of as-built information, the City's Geographic Information System (GIS) was utilized to identify manholes, clean outs, and sewer mains (see Exhibit SS-1). The City's GIS provides information about the size, approximate location, and pipe material; however, pipe slope and inverts are not available.

Utilizing the City's GIS, tributary areas were identified for all sewer mains upstream of the project site (East side of Highway 101, see Exhibit SS-2) along with tributary areas for the project site area to the first manhole downstream, LL-5, in Eye Street, (West side of Highway 101, see Exhibit SS-2). The tributary areas were divided into subareas based on zoning as identified on the City's GIS. Zoning coefficients were developed based primarily on Los Angeles County Sanitation Districts (LASD) methodology and applied to estimate wastewater flows generated. A peak factor of 2.5 and an infiltration and inundation (I&I) rate of 800 gpd/acre were applied to determine the peak cumulative flow in the 8" pipe directly upstream of manhole LL-5 located in Eye Street.

Manning's equation was applied to the existing 8" pipe between manholes LL-6 and LL-5, downstream of the site, to determine the flowing full pipe capacity. The diameter and slope of this pipe was based on the recent utility survey prepared by Points West Survey Company dated August 8, 2022. The total estimated flow generated was compared to the 100% full flow pipe capacity to estimate pre and post development sewer capacities.

3.0 EXISTING SEWER SYSTEM ANALYSIS RESULTS

Pre-development flow analysis, measured in cubic feet per second (cfs) shows the residential area on the east side of Highway 101 with a flow of 0.25 cfs, after application of the peaking factor generates a peak flow of 0.62 cfs, addition of I&I produced a total estimated peak flow of 0.69 cfs.

Pre-development flow analysis for the project area on the west side of the Highway 101 shows a flow of 0.12 cfs, peak factor flow, 0.30 cfs, and after adjustment for I&I, 0.33 cfs. The total pre-development tributary flow is 0.37 cfs, peaking flow, 0.92 cfs and with I&I addition, 1.01 cfs. It is important to note, this is an estimate of full buildout conditions of the tributary areas based on current zoning. While it is reasonably conservative, it does not take into account Auxiliary Dwelling Units (ADUs), zoning changes, or potential impacts from parcel divisions under the provisions of Senate Bill 9 (SB9), all of which could increase density and associated flow rates.

The system capacity was evaluated on the line between MH LL-6 (on-site) and LL-5 (Eye Street). The pipe is an 8" asbestos cement (AC) pipe with a slope of 1.84% (0.0184 ft/ft). Flowing full pipe capacity is 1.64 cfs with a 4.7 ft/sec velocity. The peak pre-development flow is running at 62% of flowing flow capacity. Per discussions with the City, the system should be designed to a maximum of 75% of the flowing full capacity, or 1.23 cfs. Results are found in Table 1.

The system is below estimated capacity at regular flow, peak flow, and even with the addition of I&I.

4.0 PROPOSED PROJECT ANALYSIS METHODS

The proposed flow generation for the new facility was calculated based on a flow generation of 50 gallons per student per day. To develop a gallon per capita per day (gpcd) rate for the proposed development, analysis of available flow data from existing student housing projects on the Cal Poly Humboldt campus was performed. The data set was based on an actual City of Arcata water usage bills for meters serving Creekview housing complex, a site consisting of four residence buildings and a common area. Data was available from late 2012 to mid-2022, however only data through 2019 was utilized. This was done to account for any anomaly generated by Covid restrictions. The data displayed a pattern of very low usage in the months of January, May, June, July and August. These months all correspond to the University's vacation periods, and were also excluded from the data analysis.

The water usage data showed 16,541,674 gallons were used over a time period of 1,725 days leading to a usage rate of 9,589 gal/day. This facility has a total population of 288 students resulting in an estimated water usage rate of 33 gallons per resident per day. A conservative adjustment factor (safety factor) of 1.5 was applied to achieve the estimated final water usage rate of 50 gallons per resident per day.

This project is anticipated to provide housing for 964 students, resulting in a flow of 0.07 cfs. As with predevelopment, a peak factor of 2.5 was applied, yielding a peak flow for the proposed site of 0.18 cfs. Since this project will be new construction, no additional I&I is anticipated. Results are found in Table 2.

5.0 PROPOSED SEWER SYSTEM ANALYSIS RESULTS

Subsequently the undeveloped contributing portion of the existing site was deducted from the predevelopment analysis and the increased flow due to the proposed project construction was added. Results are found in Table 2.

Post-development flow analysis shows that the residential area on the east side of Highway 101, when combined with the proposed project site and existing zoning on the west side of Highway 101, will generate an anticipated peak flow rate of 0.99 cfs. The addition of I&I will bring this peak flow to 1.07 cfs at full build out and an estimated net increase of 0.06 cfs.

The system capacity was evaluated along the main between manholes LL-6 (on-site) and LL-5 (Eye Street). The pipe is an 8" AC (n=0.013) with a slope of 1.84% (0.0184 ft/ft). Flowing full capacity of this pipe is 1.64 cfs with a 4.7 ft/sec velocity. The combined post-development flow is anticipated to be at 65% of the flowing full capacity at an acceptable velocity. The City has indicated that the maximum peak design flow should be limited to a maximum of 75% flowing full rate, or 1.23 cfs.

6.0 CONCLUSION

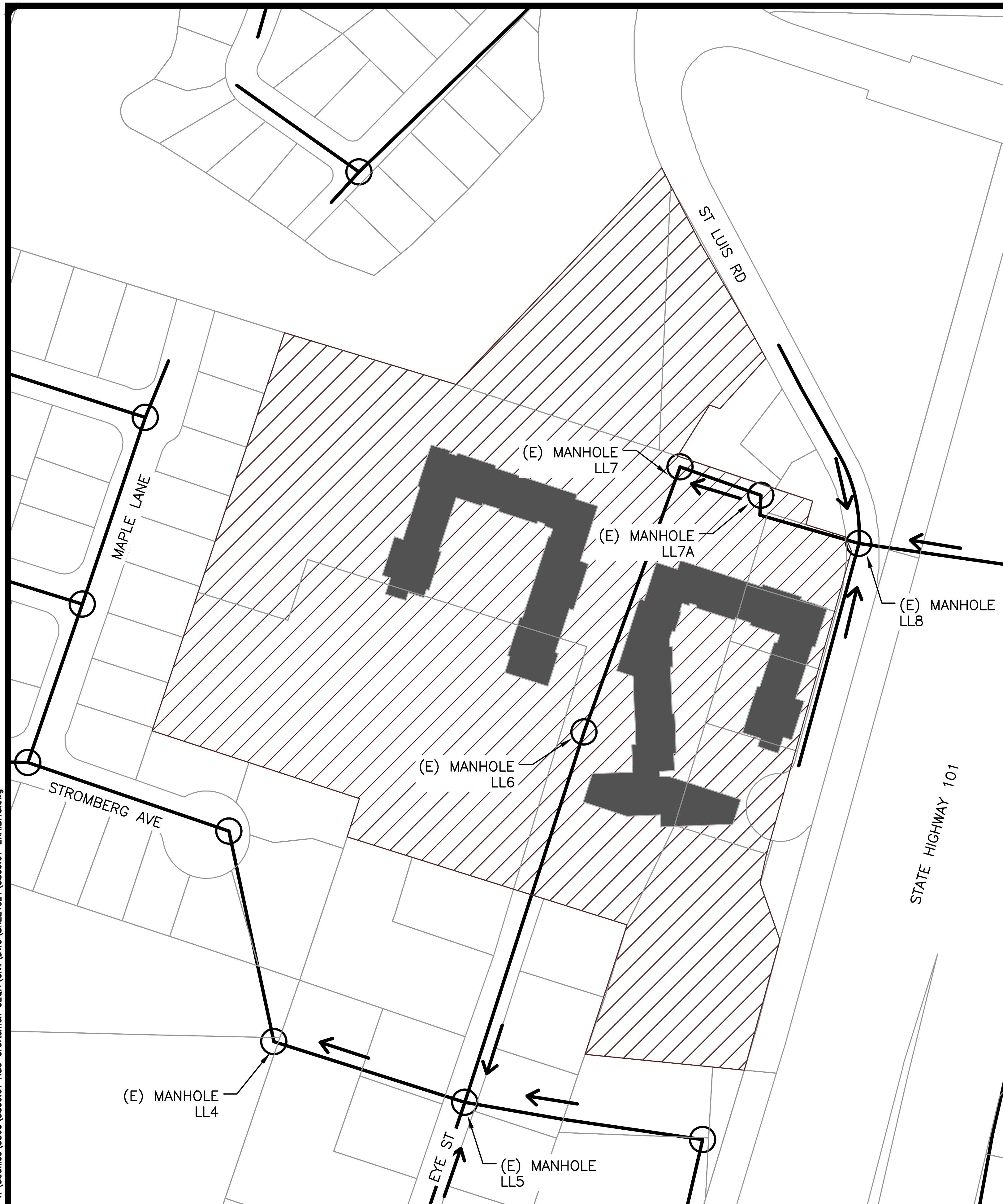
The proposed project appears to have a minor impact on downstream sewer infrastructure by increasing the peak flow in downstream pipes. However, to be more assured that the many assumptions made in this report are valid, it would be necessary to complete a more thorough study of the system, as a whole, that is beyond the scope of this report. Additional work that may be required includes:

- Locate as-built improvement plans for all lines.
- As-built surveys, as needed, to determine invert elevations, pipe slopes and Manhole locations.
- Flow monitoring during wet weather to quantify I&I impacts to the upstream system.

Prior to development, Cal Poly Humboldt will verify existing flows within the pipe to confirm adequate capacity. If at that time, flows in excess of 75% are identified, Cal Poly Humboldt could work with the City to implement improvements.

EXHIBITS

TABLES



SCALE: 1"= 150'

0 150 225 300

LEGEND

PROJECT AREA

PROPOSED BUILDING FOOTPRINT, CONCEPTUAL

APN

EXISTING SEWER LINE

EXISTING MANHOLE

FLOW DIRECTION

NOTES:

- DATA SOURCED FROM ARCATA PARCEL FINDER SHAPEFILES FOR SEWER MAIN LINE, MANHOLES, AND PARCELS
- PROPOSED BUILDING FOOTPRINT BASED ON PRELIMINARY MAPPING PROVIDED BY SCB

ABBREVIATIONS

(E) EXISTING

Preliminary

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LACO

EUREKA • UKIAH • SANTA ROSA • CHICO

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CRAFTSMAN STUDENT HOUSING PROJECT

2905 ST LOUIS RD, ARCATA, CALIFORNIA

SS-1 SEWER INFRASTRUCTURE EXHIBIT

JOB NO. 8806.01

DATE AUG 2022

DESIGNER

CHECKED CCM

DRAWN LBC

SHEET 1 of 1

Date: Aug 24, 2022, 5:11pm User ID: lacobrc

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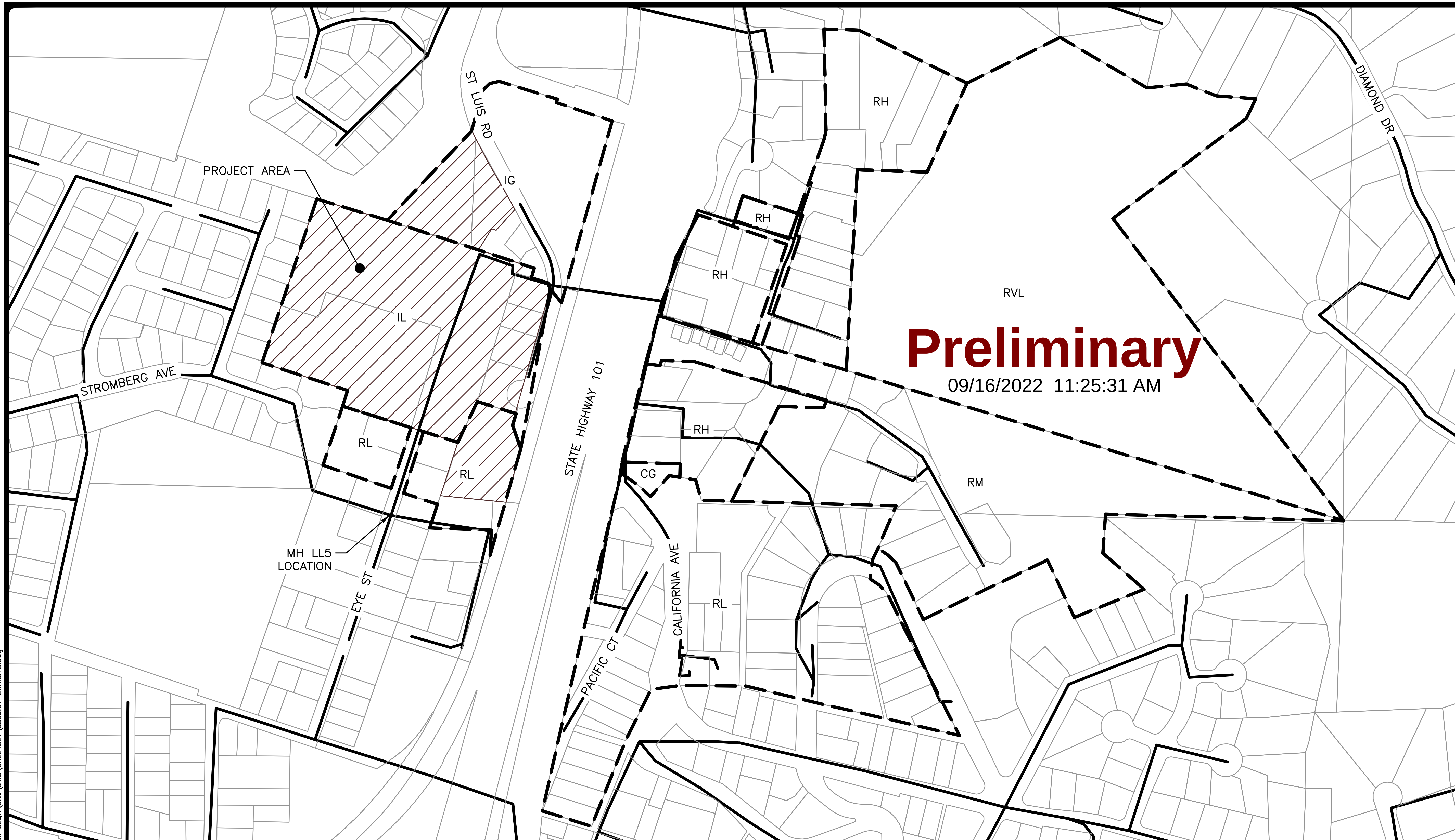

SCALE: 1"= 300'

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NOTE:
DATA SOURCED FROM ARCATA PARCEL FINDER SHAPEFILES FOR SEWER MAIN LINE, CITY ZONING, AND PARCELS

ABBREVIATIONS

RH	RESIDENTIAL HIGH DENSITY
RM	RESIDENTIAL MEDIUM DENSITY
RL	RESIDENTIAL LOW DENSITY
RVL	RESIDENTIAL VERY LOW DENSITY
CG	COMMERCIAL GENERAL
IG	INDUSTRIAL GENERAL
IL	INDUSTRIAL LIMITED
MH	MANHOLE

LEGEND

PROJECT AREA

APN

ZONING AREA DELINEATION

SEWER LINE

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CRAFTSMAN STUDENT HOUSING PROJECT
2905 ST LOUIS RD, ARCATA, CALIFORNIA
SS-2 SEWER AREA STUDY EXHIBIT

JOB NO. 8806.01
DATE AUG 2022
DESIGNER
CHECKED CCM
DRAWN LBC
SHEET 1 of 1

Date: Aug 24, 2022, 5:11pm User ID: lacobrc
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CRAFTSMAN STUDENT HOUSING PROJECT
PROJECT NUMBER 8806.01
9/1/2022
TABLE 1 SANITARY SEWER CAPACITY CALCULATION SPREADSHEET ~ EXISTING SYSTEM

PRE-DEVELOPMENT WASTEWATER FLOW ANALYSIS TO MANHOLE LL5

EAST SIDE HWY 101*	AREA (SQ FT)	AREA (ACRES)	ZONING COEFFICIENT (CFS/ACRE)**	FLOW (CFS)	PEAK FACTOR	PEAK FLOW (CFS)	I&I GENERATION (GAL/ACRE-DAY)***	TOTAL ESTIMATED FLOW (CFS)	PIPE SIZE (IN)	PIPE SLOPE (%)****	PIPE CAPACITY (100% FULL) (CFS)*****	VELOCITY (FT/SEC)	% FULL (TOTAL ESTIMATED FLOW/CAP-ACITY)
RVL	1,116,232	26	0.001	0.03	2.5	0.06	800	0.10					
RM	589,849	14	0.006	0.08	2.5	0.20	800	0.22					
RL	491,621	11	0.003	0.03	2.5	0.08	800	0.10					
RH	370,006	8	0.012	0.10	2.5	0.25	800	0.27					
CG	11,286	0.3	0.015	0.00	2.5	0.01	800	0.01					
EAST TOTAL	2,578,994	59		0.25		0.62		0.69					
WEST SIDE HWY 101*													
IG	214,741	5	0.015	0.07	2.5	0.18	800	0.19					
RL	135,056	3	0.003	0.01	2.5	0.02	800	0.03					
IL	415,851	10	0.004	0.04	2.5	0.10	800	0.11					
WEST TOTAL	765,648	18		0.12		0.30		0.33					
TOTAL TRIBUTARY FLOW		**77**		**0.37**		**0.92**		**1.01**	8	1.84	1.64	4.71	62%

* SEE SS-2 SEWER AREA STUDY EXHIBIT FOR COMBINED AREAS
**ZONING COEFFICIENTS PRIMARILY FROM LA COUNTY SANITATION DISTRICT, REVISED FOR LOCAL CONDITIONS
***I&I GENERATION FROM SONOMA COUNTY WATER AGENCY DESIGN CONSTRUCTION STANDARDS
****SLOPE 1.84% FROM UTILITY SURVEY AUGUST 2022
*****100% FULL CAPACITY FROM MANNINGS EQN CALCULATOR, "n"=0.013

CITY OF ARCATA ZONING KEY
RH, RESIDENTIAL HIGH DENSITY
RM, RESIDENTIAL MEDIUM DENSITY
RL, RESIDENTIAL LOW DENSITY
RVL, RESIDENTIAL VERY LOW DENSITY
CG, COMMERCIAL GENERAL
IG, INDUSTRIAL GENERAL
IL, INDUSTRIAL LIMITED

Preliminary
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CRAFTSMAN STUDENT HOUSING PROJECT
PROJECT NUMBER 8806.01
9/15/2022
TABLE 2 SANITARY SEWER CAPACITY CALCULATION SPREADSHEET ~ PROPOSED SYSTEM

PROPOSED SITE GENERATION			
SITE RESIDENTS (#)	FLOW GENERATION COEF. (GAL/STUDENT-DAY)******	FLOW (GAL/DAY)	FLOW (CFS)
964	50	48,200	0.07

POST-DEVELOPMENT WASTEWATER FLOW ANALYSIS TO MANHOLE LL5													
POST DEVELOPMENT WEST SIDE HWY 101*	AREA (SQ FT)	AREA (ACRES)	ZONING COEFFICIENT (CFS/ACRE)**	FLOW (CFS)	PEAK FACTOR	PEAK FLOW (CFS)	I&I GENERATION (GAL/ACRE-DAY)***	TOTAL ESTIMATED FLOW (CFS)	PIPE SIZE (IN)	PIPE SLOPE (%)****	PIPE CAPACITY (100% FULL) (CFS)*****	VELOCITY (FT/SEC)	% FULL (TOTAL ESTIMATED FLOW/CAP-ACITY)
IG	143,881	5	0.015	0.07	2.5	0.19	800	0.19					
RL	83,898	1	0.003	0.003	2.5	0.01	800	0.01					
SHP FLOW GEN	537,869	12		0.07	2.5	0.18	0	0.18					
PROPOSED WEST TOTAL				0.15		0.37		0.38					
TOTAL POST-DEVELOPMENT TRIBUTARY FLOW				**0.40**		**0.99**		**1.07**	8	1.84	1.64	4.71	65%

NET INCREASE OF TOTAL FLOW PRE-DEVELOPMENT TO POST-DEVELOPMENT	
0.06	(CFS)

* SEE SS-2 SEWER AREA STUDY EXHIBIT FOR COMBINED AREAS
**ZONING COEFFICIENTS PRIMARILY FROM LA COUNTY SANITATION DISTRICT, REVISED FOR LOCAL CONDITIONS
***I&I GENERATION FROM SONOMA COUNTY WATER AGENCY DESIGN CONSTRUCTION STANDARDS
****SLOPE 1.84% FROM UTILITY SURVEY AUGUST 2022
*****100% FULL CAPACITY FROM MANNINGS EQN CALCULATOR, "n"=0.013
******CAL POLY HUMBOLDT CREEKVIEW APARTMENTS EXISTING WATER USAGE DATA ANALYSIS 2013-2019

CITY OF ARCATA ZONING KEY
RH, RESIDENTIAL HIGH DENSITY
RM, RESIDENTIAL MEDIUM DENSITY
RL, RESIDENTIAL LOW DENSITY
RVL, RESIDENTIAL VERY LOW DENSITY
CG, COMMERCIAL GENERAL
IG, INDUSTRIAL GENERAL
IL, INDUSTRIAL LIMITED

Appendix G

Draft EIR Comment Letters

Letter I1

---------- Forwarded message ---------
From: **Glen Colwell** <gcolwell@sonic.net>
Date: Tue, Nov 1, 2022 at 11:18 AM
Subject: Public Comment re; Craftsman Mall - questions from an Arcata neighbor and HSU Alum
To: <Deirdre.Clem@humboldt.edu>

Hello Deidre,
Public Comment below regarding CPH Craftsman's Mall proposed Housing Project.

Begin forwarded message:

From: Glen Colwell <gcolwell@sonic.net>
Date: September 8, 2022 at 10:58:57 AM PDT
To: michael.fisher@humboldt.edu
Subject: Craftsman Mall - questions from an Arcata neighbor and HSU Alum

Hi Mr. Fisher,

I am a resident and property owner in north Arcata, and a 1982 grad of HSU (IA&T). As such, I am cautiously optimistic about the conversion of HSU to CPH, and the potential "town and gown" benefits that may result.

Because we live close to the Craftsman's Mall property, and will be affected by any development that happens on that site, we have closely followed the proposed private development that came before the City of Arcata a few years ago and was withdrawn by the developer, and now CalPoly Humboldt's plan.

I'm contacting you to better understand why and how CSU planners arrived at the current design. After the build-out of new student housing near the College Creek field, which is visually attractive, the design of the Craftsman's Mall student housing buildings seems like an homage to Soviet era East German public housing. I1-1

Sadly, I'm sure it's too late at this point for a redesign, and I am aware that Arcata community residents and the City of Arcata have no say in projects built on State property. Nevertheless, for whatever it may be worth, I'm adding my two cents; Please do better!

And PLEASE don't do the same thing on the property recently purchased near Foster Avenue!

If you can help me understand how the Craftsman's Mall "Institutional Style" building design came to pass, I'd greatly appreciate it. I1-1 Cont.

Also, is there any avenue for public comment on this project or for the Foster Avenue? I1-2

I look forward to your reply.

Best regards,
Glen Colwell
2280 Western Ave
Arcata CA
707-836-6595

Letter
I2

---------- Forwarded message ---------
From: **Margaret T Kelso** <margaret.kelso@humboldt.edu>
Date: Tue, Nov 29, 2022 at 12:24 PM
Subject: Impact of Student Housing Report
To: <Deirdre.Clem@humboldt.edu>

Hello Deirdre,

Thank you for taking public comments about the proposed Student Housing on the Craftsman site.

I have to admit that I feel hopeless that anything I say or anyone says will make any difference in the university's plans. After a lengthy negotiation with neighbors and the developers that were formerly involved in creating the Village, all agreements were thrown out when the University bought the property. The sheer size of the currently proposed structure is overwhelming. From the drawings, it looks like this building might be the largest in Humboldt county. I2-1

But I wish to reiterate my primary concern: safety. The traffic circle that unites Foster, Sunset and Jay Street is already dangerous and the addition of even more pedestrians, bicyclists, skateboarders and cars from both the new Wellness Center and at least some traffic from the dormitory will be even more so. (I realize the plan tries to direct traffic over St. Louis Road.). If there is any way that construction of this dorm can be moved to the current campus grounds, then I urge you to do so. It would solve so many issues.

Thank you,
Margaret Kelso
Resident in Sunset
Former Humboldt Professor.

Letter I3

---------- Forwarded message ---------
From: **Fred Johansen** <fredjohansen28@gmail.com>
Date: Wed, Nov 30, 2022 at 12:39 PM
Subject: Craftsman's Mall Dorm EIR
To: <Deirdre.Clem@humboldt.edu>

To: Diedre Clem

Craftsmans Mall EIR

On November 15th Cal Poly Humboldt held an open meeting to present their EIR plan for the Craftsmans Mall Dorms. There were three presenters and four attendees from the public. The EIR is published online at the Cal Poly website.

I was very interested in the proposed project to see how it was laid out, transportation to and from the Dorms, and how it will affect our neighborhood. Myself and one of my neighbors have emailed comments to Diedre and they are included in the Appendices to the EIR.

The Project

https://facilitymgmt.humboldt.edu/sites/default/files/combined_deir_with_appendices_1.pdf is the location of the EIR

The new dorms as planned will house 964 students and have parking for 340 cars. No outdoor decks are included in the seven story buildings. The two housing units are separate with the north one facing north and south and the other east and west with supporting services located between them. I3-1

The main entrance to the Dorm Complex will be a new road exiting St. Louis Rd. midway along Mad River Lumber. St. Louis Rd. then continues to the southern end of the Mad River Lumber Property. This is a major positive step to provide a safe entrance for students and services to the Dorms. It provides a stop sign where the new road enters St. Louis Rd. That slows the traffic entering St. Louis Rd. which during the day has 30 plus semi trucks entering and leaving Mad River Lumber giving the students leaving the dorms time to look down St. Louis Rd. and then to proceed safely. Today those semi's sometimes stop in St. Louis Rd. to wait to load or unload at the mill. Those semi's will now wait in a safe location in the road but out of the traffic coming into and out of the Dorm complex. Map at pg. 2-14 and it is the Conceptual Site Plan

Transportation Problems

The Plan is for students who walk, bicycle and e-transportation to travel to the separate, main campus on the new Trails by Rails path to Foster Ave. This will include pedestrian, bicycle, e-bikes and e-scooters the most direct access to the University. This will be the most risky path for students to travel due to the three intersections, the circle where Sunset Ave and Foster Ave converge, the major intersection where Foster Ave. crosses the bridge over U. S. 101, and the new Foster Ave. and L. K. Wood circle intersection. All three of these intersections have received improvements for traffic and pedestrian safety due to the 2017 Central Arcata Traffic Study.

Since that study based on an 800 bed proposal for dorms at the time of the study several additions have taken place. They are the addition of the new Opendoor facility, the always open drive way to the newly developed Arcata High School Athletic Fields, parking on the 101 bridge and of course the new circle at L.K.Wood. The circle entrance at Foster Ave. and Sunset Ave. is dangerous because of sight lines at the entrance of Foster that doesn't allow traffic entering from Foster Ave. to see the entrance of Sunset Ave. to the circle. Note: a stop sign is needed at this juncture.

If students feel that the danger and delay on this main route is due to vehicular traffic at the three intersections they will then reverse their path to St. Louis Rd. and then to L.K. Wood. I3-1 Cont.

The Coalition for Responsible Transportation Priorities (CRTP), Humboldt Bay Keeper, and the Northcoast Environmental Center responded to the EIR with a letter. The third bullet in the letter is this:

We also appreciate the NOP's acknowledgement that the project could result in impacts related to "potential traffic hazards on local roadways." We request that the EIR acknowledge that a significant increase in vehicular traffic can result in traffic hazards as well as what CEQA Guidelines refer to as "incompatible uses." In other words, if 2 vehicular traffic increases significantly on a particular roadway which lacks adequate and sufficient bicycle and pedestrian facilities (including closely spaced safe crossings), the overall level of vehicular use could become incompatible with walking, biking and rolling, resulting in a significant impact under CEQA.

The increase of traffic is causing concern from my neighbors. My wife and another professor walked daily to the University over the 101 overpass and both had near misses with inattentive drivers before and after the traffic modifications were completed from the 2017 Central Arcata Traffic Study.

Each of these intersections is complex with as few as four car and four pedestrian routes coming into them and as many as six entering and leaving the intersection in the middle. Compound this with e-bikes traveling at up to 30 mph, bicycles, e-scooter and pedestrians with earbuds in and it will be very exciting.

My concern here is that the additional traffic in these three busy intersections to Cal Poly Humboldt will be seen by students as a less desirable route to the university. The alternative will be for them to travel to the university by way of L.K. Wood.

In the plan as it exists today that will put the students walking and biking walking along the front of Mad River Lumber. Again this is an Industrial site with 30 or my logging, lumber and Chip trucks entering and exiting every working day. Since the Rails by Trails will pass behind Mad River Lumber it would be convenient for it to have a path from the Rails by Trails route to the Bridge over L.K. Wood

I3-1 Cont.

Then the route should be via the Rails by Trails under the L.K. Wood overpass to the otherside of L.K. Wood so that they wouldn't have to walk along Mad River Lumber and the, in and outgoing semi-trucks. It is important that this addition be included in the Rails by Trails project. It would secure a safe access to the University that would be usable by pedestrians, bicycles, e-bikes and e-scooters.

I'm hoping that this additional project can be included. I am really excited to see that the new entrance was included and it will make this a safer project for everyone who enters and leaves the new dorms.

Note:
I am very pleased with the proposed dorms. I hope that as the project progresses the charging stations will have the solar included. This is a time of great change and e-bikes, e-scooters are showing up in many cities in California. Seeing a young person, texting, going on an e-scooter and e-bike took my breath away. It really looks like fun but when I do I won't be texting or have earbuds in.

I3-2

I am also forwarding this to Karen Diemer.
Thanks, Fred Johansen

ARCATA FIRE DISTRICT

Letter L1

Via E-Mail

Deirdre Clem
Facilities Management
California Polytechnic University, Humboldt
1 Harpst Street
Arcata, CA 95521
Email: Deirdre.Clem@humboldt.edu

RE: Cal Poly Humboldt Student Housing Project Draft Environmental Impact Report (State Clearinghouse No. 2022030008)

Dear Ms. Clem:

The Arcata Fire District (AFD or District) provides fire services within a 62 square mile District that has a resident population of approximately 36,000 residents living in five communities: the City of Arcata; Bayside; Manila; McKinleyville; and Jacoby Creek. The City of Arcata, including the Cal Poly Humboldt campus, is the largest community served by AFD with a population of about 18,000. Fire services include fire prevention and suppression, emergency medical services, rescue, hazardous materials response, and public assists among others. AFD responds to approximately 3,300 incidents per year; about eight percent are fires and about 50 percent are medical. The District has 20 fire suppression employees, only seven of which are typically on duty at any time, including one duty chief, operating from three stations (McKinleyville, Mad River, and Arcata), each with one engine staffed with two firefighters.

The AFD and its predecessors have provided fire protection to the University since 1913. AFD provides full-service emergency response to the Cal Poly Humboldt campus as the entirety of the main campus is located within the District boundary. AFD and Cal Poly Humboldt have partnered for over 20 years in conducting joint training with University Police and Housing staff.

The AFD is supportive of the transformation from Humboldt State University to Cal Poly Humboldt. The AFD is also supportive of Cal Poly Humboldt's plans to increase enrollment and increase the proportion of on-campus housing for students. However, the AFD feels that it is essential that plans and designs for expanded student housing, academic, and instructional buildings be implemented in a manner within with AFD's capacity to provide services under safe conditions commensurate with industry standards. L1-1

While California Environmental Quality Act (CEQA) case law clarifies that funding impacts associated with a project are not CEQA impacts, physical changes and the ability to adequately serve those changes most definitely are. The Draft Environmental Impact Report (DEIR) determination of significance must be whether new impacts, including substantial new housing construction, would significantly reduce acceptable fire service staffing ratios, response times and other life safety performance objectives. Not only will existing property tax revenues supporting fire services be lost, due to Cal Poly status as exempt from property tax, there will be a future lack of District revenues to address project related changes. The physical services impact from a constrained District, due to the applicant's actions and directly attributable to the project, must be considered significant, as noted in this comment letter. L1-1 Cont.

The DEIR does not provide an adequate fire protection services baseline or adequately analyze potential impacts of substantially increased services needs and response to multi-story buildings and approximately 1,000 new student residents. These omissions, as described below, must be addressed and the DEIR recirculated. As part of preparing a revised DEIR, Cal Poly Humboldt should coordinate closely with AFD regarding existing fire service capabilities and needed firefighting personnel, facilities, and equipment necessary to respond to the proposed project. L1-2

Population and employment together comprise the "service population" of a fire department. Together with service area building types, the service population's geographic distribution, and adequate fire response and life-saving resources are all critical factors that must be analyzed to determine significant effects on fire protection services.

The DEIR includes errors and misstatements regarding population and housing within the City of Arcata and as a result, the evaluation of population and housing related impacts is inadequate.

Further, the DEIR cumulative impacts analysis relies upon the inadequate analysis of fire services, population and housing and also omits important probable future development projects in the vicinity of the project site that have some relation to the environmental impacts of construction and operation of the proposed project. L1-3

The DEIR analysis should disclose the changes to the service population and building types that would result from the proposed project and important probable future development projects in the project vicinity must be described and analyzed to determine the potential for significant environmental impacts of new or physically altered governmental facilities, and the potential effects on acceptable service ratios, response times or other performance objectives.

In comparison to national consensus-based standards, AFD has provided a summary of existing service demands and service levels (including from automatic and mutual aid partners), and expected service demands from the project,. The attached Exhibit 1 should be used as the basis of analysis in the DEIR to determine the potential for significant environmental impacts of new or physically altered governmental facilities, and the potential effects on acceptable service ratios, response times or other performance objectives. Exhibit 1 should also be used to develop mitigations to ensure that adequate fire services are available to the proposed project. L1-4

The following are more specific DEIR comments as well corrections to individual DEIR sections.

SECTION 3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

EFFECTS FOUND NOT TO BE SIGNIFICANT

Hazards and Hazardous Materials (pages 3-3 and 3-4)

The narrative contained in the final paragraph on page 3-3, that extends to page 3-4 and is repeated on page 3-5 in a description of wildfire risk, incorrectly states that "the project site is not located within a High or Moderate Fire Hazard Severity Zone." The Office of the State Fire Marshal publishes maps of Fire Hazard Severity Zones (FHSZ) for State Responsibility Area (SRA) and recommended Fire Hazard Severity Zones for Local Responsibility Area (LRA). FHSZ maps for LRA in Humboldt County can be found at the following link https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/fhsz/fire- L1-5 hazard-severity-zones-maps/. These maps indicate that the project site (specifically Assessor's Parcels 505-022-011, 503-372-002, -003, -004, -005, -006) are mapped as Moderate FHSZ and are directly adjacent to High FHSZ. In addition, the entire project site is Wildland Urban Interface (Wildland Urban Interface mapping is available from the California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) https://frap.fire.ca.gov/mapping/gis-data/).

The project site and the City of Arcata are within the Humboldt Bay Area Planning Unit of the Humboldt County Community Wildfire Protection Plan (CWPP), last updated in 2019, which is a comprehensive plan to inspire and guide actions to mitigate the potential for wildfire loss in all vulnerable communities in Humboldt County. The CWPP identifies only a limited wildland fire history for the Humboldt Bay Area Planning Unit, which includes the project site, but describes the October 2017 "Blue Fire" in the City of Blue Lake, igniting on the same day as the tragic fires in Sonoma County, which came very close to being the catastrophic event that local firefighters are most concerned about. The Blue Fire was caused by downed power lines and occurred in an area mapped as Moderate and High FHSZ during Red Flag Warning conditions with winds gusting to 20 miles per hour. The fire was contained relatively quickly due to the presence of air firefighting resources in the area at another fire in Humboldt County. These conditions occur on rare occasions within the Planning Area, which includes the project site, but are expected to occur with greater frequency in the future and when they are coupled with climate change and drought the consequences can be disastrous. The California's Fourth Climate Change Assessment - North Coast Regional Report states that "(f)uture wildfire projections suggest a longer fire season, an increase in wildfire frequency, and an expansion of the area susceptible to fire." L1-5 Cont.

Given the presence of documented wildland fire hazards at the project site, to which approximately 1,000 students are proposed to be exposed, these hazards will likely only increase over time. The DEIR should fully evaluate the potential for the project to "expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands," per CEQA Guidelines Appendix G, VIII(h). Further, a Fire Hazard and Risk Assessment should be prepared for the project based on guidance contained in the Governor's Office of Planning and Research Fire Hazard Planning Technical Advisory. This assessment is particularly important given that the Cal Poly campus and surrounding area is largely classified as High FHSZ, located less than 1,250 feet from the project site, and does not have a plan to lessen hazards associated with wildland fire.

3.9 POPULATION AND HOUSING

3.9.2 Environmental Setting

POPULATION AND POPULATION GROWTH

The DEIR incorrectly states that the Humboldt County Association of Governments (HCAOG) develops regional population, employment, and housing forecasts for the county and the individual cities and communities within the county. The HCAOG Regional Housing Needs Plan (RHNP) does not include any reference to planned growth in student enrollment at Cal Poly. The following edits addressing errors and what AFD considers to be omission or inaccuracies, must be made to the population and population growth description on page 3.9-4: L1-6

> As part of its regional planning functions, HCAOG **is required to adopt a RHNP that allocates a share of the regional housing need to each city and county**

to aid in the preparation of housing elements ~~develops regional population, employment, and housing forecasts for the county and the individual cities and communities within the county~~. The housing elements of the City's and County's respective general plans each incorporate **the Regional Housing Needs Allocation (RHNA)** ~~projected population and housing estimates~~ from HCAOG into their overall planning efforts. **The Department of Finance, Demographic Research Unit, prepares population projections for the state and each county. No regional population projection is prepared for cities or communities within the county.** A discussion of population trends in the city and county are discussed below. L1-6 Cont.

Regional Population

US Census and Department of Finance data indicate that the population in the City of Arcata has not "swelled," rather, growth in the City has been moderate and the projected future population in Humboldt County is projected to decline. The following edits - shown using strike through and underline, to address errors, and to address what AFD considers to be mischaracterizations - are requested to be made to the description of population and population growth on page 3.9-4:

> Humboldt County (County) is a rural county with a large land area and low population density. Per California Department of Finance (DOF) statistics, the county's population in 2022, inclusive of incorporated cities, is 135,168 residents, which represents a decrease of 1,295 compared to the County's 2020 population but an increase of 545 residents over 2010 county population (DOF 2021a, 2022). As of 2022, there are 62,771 households in Humboldt County with an average person-per-household ratio of 2.31 (DOF 2022).
>
> The City of Arcata is one of the primary population centers in the County. In 2010, City population was 17,231, and **increased** ~~then swelled~~ to 18,592 in 2020 **at an annual average rate of less than one percent per year,** before decreasing ~~slightly~~ in the years 2021 and 2022 to 18,059 (DOF 2021a, 2022). The city's population is largely determined by student enrollment at Cal Poly Humboldt. With 42 percent of residents being age 18-24, the City has the largest share of college-age adults in the County (City of Arcata 2019). Table 3.9-1 displays the current and historic populations of both the County and the City between 2010 and 2022. As shown in this table, the **rate of** population growth ~~experienced~~ in the City between 2010 and 2022 was almost 10 times that ~~experienced~~ in the County over that same period. **Most of the population growth in Humboldt County during that period (a total of 545 persons) likely occurred within the City of Arcata (which grew by 823 persons), while other areas of the County declined in population by a total of 283 persons.** L1-7
>
> **As indicated by the changes in population described above, very little population growth has occurred over the last twenty years in the County and only a small amount of growth has occurred in the City of Arcata**. ~~In terms of~~ **Based on Department of Finance** population projections (2019 baseline, published in 2021), countywide population is anticipated to ~~fluctuate somewhat~~ **decline by an average of nearly 200 persons per each year** over the next ~~20~~ **18** years ~~but would experience an incremental decline in overall population~~ from its current 134,623 residents to 130,791 by 2040 (DOF 2021b).

Revised population projections based on the 2020 Census are expected in July 2023. L1-7 Cont.

HOUSING UNITS AND VACANCY

The use of percentages or absolute values alone when describing past changes in housing or population in the DEIR, without including both together with appropriate context, can exaggerate the actual level of change. The following edits, shown using strike through and underline, to address errors, and to address what AFD considers to be omission or inaccuracies, are requested to be made to the description of housing units and vacancy on page 3.9-5 and following pages:

Regional Housing

Humboldt County

> According to DOF, there were a total of 62,120 housing units in the county in 2020, which is an increase of 561 over the county's total housing units in 2010 (DOF 2021a)**, a total increase of less than one percent in ten years**. The number of housing units within the county did not increase between 2020 and 2022 (DOF 2022). Over 44,000 units were single-family housing (attached and detached) whereas approximately 22,000 housing units were multi-family housing, about 35 percent of the County's housing supply (DOF 2022).
>
> The housing vacancy rate is a measure of general housing availability and represents the percentage of all available housing units that are vacant or unoccupied at a particular time. A low vacancy rate, 5 percent or less, suggests that housing availability is low; conversely, a high vacancy rate (over 8 percent) may indicate a high number of housing units are available for occupancy, a high number of seasonal units are vacant, or there is an oversupply of housing. By maintaining a "healthy" vacancy rate between 5 percent and 8 percent, housing consumers have a wider choice of housing types and prices to choose from. As vacancy rates drop, shortages generally raise housing costs and limit choices. The county's housing vacancy rate usually exceeds the state's vacancy rate. In 2020, the vacancy rate of the county was 9.20 percent, while California's vacancy rate was ~~4.1~~ **6.7**percent. The County's vacancy rate increased to 9.9 percent in 2022 (DOF 2022). **It should be noted that COVID-19 pandemic may have had an effect on changes in vacancy rates, especially in areas with significant university populations, which were found to have housing disruptions or changes effecting over 20 percent of students in the far west institutional region, which includes Cal Poly Humboldt, according to the U.S. Department of Education Institute of Education Sciences 2019-2020 National Postsecondary Student Aid Study.** L1-8
>
> The County's average persons per household (pph) has been consistently lower than that of the State. In 2022, the household size of the county has averaged 2.31 persons per household compared to California's average of 2.81 persons per household in 2022 (DOF 2022).

City of Arcata

> According to DOF, there were a total of 8,502 housing units in the City of Arcata in 202**2**~~0~~ (DOF 2022), which is an increase of ~~561~~ **79** units over the city's total in

2020 and 780 units over the city's total in 2010 (DOF 2021a). Of those, 4,077 units were single-family housing (attached and detached), and 4,425 housing units were multi-family housing, about 52 percent of the City's housing supply (DOF 2022). The City's multi-family housing units represent approximately 20 percent of the County's total housing supply.

Arcata's annual vacancy rate between 2010 and the end of 2019 was stable at 4.4 percent. Since 2020, **the beginning of the COVID-19 pandemic,** the City's housing vacancy rate ~~has generally been~~ **increased to** over 6 percent. ~~In 2020, the City had 573 vacant housing units, representing a vacancy rate of 6.8 percent.~~ The vacancy rate grew to 7.8 percent in 2022 with 667 vacant units out of the total 8,502 units within the city (DOF 2022). **However, a more accurate representation of housing vacancies may be the historic rate, 4.4 percent, which excludes the anomalous COVID19 disruption and that indicates that housing availability in Arcata is low.** In 2022, the average household size in the City was 2.11 persons per household (DOF 2022). L1-8 Cont.

3.9.3 Environmental Impacts and Mitigation Measures

ISSUES NOT DISCUSSED FURTHER

Displace Substantial Numbers of Existing People or Homes

The DEIR analysis of whether the project would displace substantial numbers of existing people or homes uses a vacancy rate for the City of Arcata to compute available units that is likely skewed by COVID-19 as indicated in the requested edits above. The description of housing units and vacancy must be revised to demonstrate that there are likely to be substantially fewer available units than suggested. The DEIR must fully evaluate the displacement of substantial numbers of existing people or homes.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Directly or Indirectly Induce Substantial Unplanned Population Growth and Housing Demand

The DEIR incorrectly states that planned student enrollment increases contained in the 2004 Humboldt State University (HSU) Master Plan are considered in regional and local housing planning, including in Section 6.1.2 on page 6-2 relating Growth-Inducing Impacts of the Project. There is one reference to HSU in the HCOAG 2019 RHNA found in the Methodology section on page 8 stating that: "(t)he housing needs generated by the presence of a private university or a campus of the California State University or the University of California within any member jurisdiction. The City of Arcata accommodates the majority of the student housing needs based on its proximity to Humboldt State University (HSU). *No data or statistical information was provided to be incorporated into the RHNA methodology*." Although the City of Arcata describes current enrollment levels (2019) and includes programs to coordinate with Cal Poly to promote student housing opportunities, there is no reference in the 2019 Housing Element to Cal Poly, the 2004 HSU Master Plan, or projected increases in university enrollment or instructional or administrative staff, the Housing Element does not address projected Cal Poly Humboldt growth under the 2004 Master Plan. L1-9

Given that local and regional housing and population planning does not include the 2004 HSU Master Plan, the DEIR must be revised to reflect that the HCAOG RHNA and the Arcata

Housing Element do not reflect the 2004 HSU Master Plan or expected student enrollment increases.

The following edits, shown using strike through and underline, to address errors, and to address what AFD considers to be omission or inaccuracies, must be made to the housing units and vacancy description on page 3.9-5 and following pages:

> In terms of operational impacts, and as noted above, Cal Poly Humboldt currently faces a shortage of student housing, both on- and off-campus, as many students have had to take up residence within available rental housing, including single-family housing units. In addition, Cal Poly Humboldt's student population is expected to double from 5,862 to 11,724 FTES within the next seven years because of Cal Poly Humboldt's recent conversion to a polytechnic institution. Of note, the 2004 Master Plan for the campus anticipated a similar increase in student enrollment (up to 12,000 FTES), which ~~was also~~ **is not** reflected in HCAOG growth projections**,** for the region upon adoption of the Master Plan by CSU. The City's most recent Housing Element also identifies that "the addition of new homes for students is needed~~" as a result of~~**, however the Housing Element does not consider the potential impacts of** projected Cal Poly Humboldt growth under the 2004 Master Plan (City of Arcata 2019).

L1-9 Cont.

3.10 PUBLIC SERVICES AND RECREATION

3.10.1 Regulatory Setting – STATE

California Department of Forestry and Fire Protection (page 3.10-2)

The narrative description of California Department of Forestry and Fire Protection on page 3.10-2 in Section 3.10 Public Services and Recreation, 3.10.1 Regulatory Setting – State, does not properly reflect CAL FIRE's role within Humboldt County and Arcata Fire Protection District State Responsibility Area. "State responsibility Areas" (SRA) is the area of the state in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the state and CAL FIRE's primary responsibility is preventing and suppressing wildfires in SRA. CAL FIRE's response to incidents other than wildland fires in SRA is more nuanced than suggested in the above paragraph. California Public Resources Code Section 713 states that "(t)he department is responsible for the fire protection, fire prevention, maintenance, and enhancement of the state's forest, range, and brushland resources, contract fire protection, associated emergency services, and assistance in civil disasters and other non-fire emergencies." In addition, Public Resources Code Section 4114(b), states that "(t)he department may provide, when available and to the extent that it does not require additional funds, rescue, first aid, and other emergency services to the public in SRA." Although portions of the Arcata Fire Protection District are within SRA, the project site and the City of Arcata are not within SRA.

L1-10

In Humboldt County, CAL FIRE operates nine seasonal forest fire stations. Seasonal fire stations are in service during fire season and during non-fire season most stations are closed, with one exception discussed below. Some seasonal forest fire stations may be used by a very limited number of engine companies performing fuel reduction activities. The closest CAL FIRE stations to the project site are Trinidad, which is approximately 15 miles from Cal Poly Humboldt, and Fortuna approximately 26 miles from Cal Poly Humboldt. Local fire-related districts and non-district fire companies within Humboldt County operate effectively with CAL FIRE, often arriving before CAL FIRE to wildland fires in SRA and are regularly supported by

CAL FIRE in responses to structure fire and other incidents in communities throughout the County. CAL FIRE has an agreement with Humboldt County to maintain one fire engine company during non-fire season at the Trinidad Fire Station to provide structural fire protection to County Service Area No. 4. This engine covers an approximately 17,000-acre district serving the communities between Westhaven and Big Lagoon. The CAL FIRE Trinidad station is operated year-round, typically staffed with two wildland engines during fire season and one engine with a minimum of two firefighters during non-fire season.

L1-10 Cont.

FIRE PROTECTION

The following edits, addressing errors omissions and/or inaccuracies, are provided for the AFD current service levels description on pages 3.10-3 and 3.10-4:

Arcata ~~City~~ Fire District ~~Department~~

The project site and the City of Arcata are located within the Arcata Fire District (AFD). The AFD boundaries encompass 62~~5~~ square miles and extend west to the Pacific Ocean, north to the Clam Beach area, east to Essex, south to Indianola and west to Manila. The AFD protects a population of approximately 36,000 residents, including 5,700 Cal Poly students and approximately 1,200 faculty and staff members, about 20 percent of the AFD service population. The AFD is an all-risk fire department responsible for protecting life, property, and the environment from the hazards of fire and hazardous materials incidents and providing emergency medical services.

The AFD is governed by a five-member, independently elected Board of Directors and has a paid staff that includes one chief, ~~three battalion~~ one assistant chief~~s~~, nine captains, and ~~12~~10firefighters. In addition, the AFD ~~relies on a volunteer fire department consisting of approximately 25 firefighters~~ maintains a Volunteer Logistics Unit whose members are trained for and assigned to a variety of critical support tasks, freeing up firefighters for more demanding and/or dangerous assignments. All AFD firefighters are qualified, at a minimum, at ~~receive training to~~ the Firefighter I level. At a minimum, one ~~battalion~~ chief officer, three captains, and ~~four~~ three ~~paid~~ career firefighters are on duty at any given time (Schuette, pers. comm., 2022). In addition to providing fire protection and emergency services, the AFD works to educate the public about fire hazards and disseminate information on public safety.

L1-11

The AFD responded to ~~more than 2,500~~ approximately 3,300 calls for service in 2021 from three fire stations within its district (Schuette, pers. comm., 2022). Two of the stations are located in Arcata, and one is located in McKinleyville. The project site is located within ~~in~~ the response area for the Mad River Station, located at 3235 Janes Road in the City of Arcata, and the Arcata Station ~~Main Fire Hall~~, located at 631 9th Street in the City of Arcata, provides backup/support to the project site. The Mad River Station is approximately 1.5 miles northwest of the project site, and the Arcata Station ~~Main Fire Hall~~ is approximately 1.25 miles south of the project site. **AFD fire stations have up to three bedrooms, which is necessary to house the minimum desired staffing level of three personnel per station. The Mad River Fire Station is at capacity for housing fire equipment. Any new engine or ladder truck housed there would require a complete remodel of the apparatus bays.**

AFD staffing is not sufficient to respond to structure fire-related incidents without automatic and mutual aid assistance from neighboring fire departments. National consensus-based standards (National Fire Protection Association (NFPA) 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments) indicates that 14 firefighters arriving within eight minutes are necessary to staff the essential roles to safely carry suppression operations for a fire in a single-family dwelling. For a garden-style apartment or high-rise building, between 25 and 38 firefighters would be required (these building types represent the level of staffing required for a fire in a seven-story dormitory). With a daily staffing of seven firefighters, AFD relies on mutual aid for all fires. Due to distance, and the fact that most of AFDs mutual aid partners are volunteers (with the exception of career firefighters at Humboldt Bay Fire in Eureka and CAL Fire in Trinidad), a total of sixteen firefighters may be available at scene within 13 minutes and 38 firefighters may be available at scene in over 40 minutes. L1-11 Cont.

AFD has stated that even with the automatic and mutual aid resources that would augment District response to a fire in the building type proposed in this DEIR, there is not enough available firefighting resources on-duty and immediately available to evacuate and rescue occupants and contain a fire.

3.10.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: Result in Substantial Adverse Physical Construction-Related Impacts Associated with the Provision of or the Need for New or Physically Altered Fire Facilities to Maintain Acceptable Service Ratios

The analysis of impacts to fire services is cursory and appears to suggest that adequacy of fire service for any infill development is a simple binary question: if fire service is present, it must therefore be adequate. As is made clear by the edits below, AFD relies on mutual and automatic aid from neighboring fire departments for all fire-related incidents and the addition of tall and densely occupied housing units will require significant increases in staffing and require even greater levels of outside assistance. Given the need for additional personnel to maintain acceptable service ratios, the potential environmental effects of expanding AFD fire stations needs to be fully evaluated.

The following edits, shown using strike through and underline, to address errors, and to address what AFD considers to be omission or inaccuracies, are requested to be made to the analysis of the need for new or physically altered fire facilities to maintain acceptable service ratios on page 3.10-8: L1-12

The project would result in an increase in on-site population and ~~the~~ density of development on-site**, from a limited number of daytime employees and residents to approximate 1,000 residents and daytime employees**, which ~~could~~ would result in additional calls for service to the project site. ~~However,~~ The project site is located within the current service area of the AFD and would be designed and constructed in accordance with applicable requirements, including the California Fire Code. **The Arcata Fire District Mad River Station is located approximately 1.5 miles from the project site.** ~~Therefore, no additional fire protection facilities are anticipated to be necessary for~~ **As indicated in the introduction above,** AFD **does not have sufficient staffing to respond to fires in large structures such as those**

proposed for the project. AFD does not have sufficient personnel ~~to~~ to adequately serve the **proposed** project. ~~site, and no significant decrease in response time is expected. Impacts would be less than significant.~~

As noted above, fire protection and emergency medical services are currently provided to the project site by AFD**, in a manner commensurate with the demand for service (the project site contains one single family residence and low intensity commercial operations)**. Under the project, the project site would be redeveloped with a new student housing community composed of approximately 240 units with up to 964 student beds in two multi-story buildings in the central portion of the project site**, an approximately 2.8 percent increase in AFD service population**. **Changes in population are directly related to changes in service calls for fire departments. Based on historic population growth and incident data (AFD records show that as population rises over time, call for services rise in a generally proportionate manner),** ~~This~~ **the proposed significant** increase in population **at the project site would** ~~could~~ result in an increase in the number of calls for service, to which the AFD would respond, initially from the Mad River Station, approximately **1.5** mile**s** northwest of the project site. ~~Although the project would increase the on-site population, an increase in population by itself would not increase demand for fire protection services.~~ **The project involves an approximately 65-fold increase in service population at the project site and the introduction of building types different than existing buildings in the service area, which require special fire suppression training and substantially more firefighters than almost all other buildings served by AFD. Fire level of service is commonly evaluated using the Commission on Fire Accreditation, International Template for Standards of Response Coverage, which considers both service population (residents plus employees) and the geographic distribution of structures and fire stations.** ~~Typically, an expansion of geographic distribution, not simply an increase in population, impairs emergency response times and therefore potentially requires additional services and facilities.~~ **Significant increases in service population or the introduction of new building types that require special operations or levels of response that exceed current staffing, and changes in the distribution of development can impair response requiring additional services and facilities. The proposed project does not change the distribution of development, but substantially increases the service population for the AFD and introduces building types for which structure fires would far exceed current staffing levels, equipment, and training.** ~~As noted above, the project would not result in an expansion of the current service area of the AFD.~~

L1-12 Cont.

All new on-site buildings would be designed to meet minimum fire and emergency safety requirements identified in the California Building Code and California Fire Code and would include appropriate fire safety measures and equipment, including the use of fire-retardant building materials, inclusion of emergency water infrastructure (fire hydrants and sprinkler systems), installation of smoke detectors and fire extinguishers, emergency response notification systems, and provision of adequate emergency access ways for emergency vehicles. Further, adequate right-of-way for emergency vehicles would be provided around the proposed on-site structure with hydrants spaced according to applicable requirements. ~~As a result, development under the project would be adequately serviced by existing fire stations and facilities, and the project is not anticipated to result in a substantial increase in~~

~~service calls that would require new or expanded fire protection employees or facilities.~~ Additionally, due to the improvements in on-site circulation, including the provision of dedicated emergency access from the project site to Eye Street, the ability for AFD to respond to emergency calls for service to and through the project site may improve.

~~Therefore, although~~ **T**~~t~~he project ~~may~~ **would increase AFD service population by 2.8 percent increase and increase service population at the project site 65-fold and would likely** result in a ~~incremental~~ **proportional** increase in the number of service calls and place a greater demand on fire protection services**. Potential fires in project-related buildings require approximately six times the fire suppression staff than the AFD can support, and automatic and mutual aid assistance from neighboring departments would take approximately 40 minutes to arrive.** ~~it would not result in~~ **Given these circumstances,** ~~the need for~~ the **expansion or** construction of new fire protection facilities **may be needed** to **house additional firefighters to** maintain **current** ~~acceptable~~ service ratios **or to provide acceptable service ratios**. AFD ~~currently has sufficient~~ facilities **must be expanded and maintained** to adequately serve the **project site and the** population within its service area, for Impacts to be less than significant. L1-12 Cont.

SECTION 4 CUMLATIVE IMPACTS

4.2 CUMULATIVE SETTING

Table 4-2, Cumulative Projects List, does not include important probable future development projects in the vicinity of the project site that have some relation to the environmental impacts of construction and operation of the proposed project. The City of Arcata has devoted significant resources, time, and energy to the preparation of the Arcata Gateway Area Plan, where a second draft plan was released to the public in October 2022. The Gateway Area Plan is anticipated to be adopted in 2023, with development occurring between 2023 and 2045. The Arcata Gateway Area Plan implementation is reasonably foreseeable and therefore should be included in Table 4-2 and included in the cumulative impacts analysis.

The DEIR analysis states that “Cal Poly Humboldt's student population is expected to double from 5,862 to 11,724 FTES within the next seven years because of Cal Poly Humboldt’s recent conversion to a polytechnic institution. Of note, the 2004 Master Plan for the campus anticipated a similar increase in student enrollment (up to 12,000 FTES).” This indicates that, consistent with the 2004 Master Plan, Cal Poly Humboldt is committed to provide housing and academic/administrative facilities to accommodate up to 12,000 students in the next seven years, or by 2029. While the project description cites the current (2004) Master Plan many times, the DEIR limits the cumulative project list to only those Cal Poly Humboldt development projects that are “approved and pending,” without clearly defining what constitutes approved or pending. L1-13

In what appears to be a clear step towards implementing the 2004 Master Plan, Cal Poly Humboldt announced the purchase of the Creek Side Mixed Occupancy Residential Annexation Project site (“Creek Side Project”) on July 5, 2022 “to support any of a number of institutional priorities aligned with our polytechnic transformation” (https://now.humboldt.edu/news/property-acquisition-polytechnic-transformation). The Creek Side Project was approved by the City of Arcata in 2017 and subsequently annexed. It includes planned lots for 57 residential and 100 residential care units. The acquisition of the Creek Side Project site by Cal Poly to implement projects consistent with the 2004 Master Plan appears reasonably foreseeable, and/or a project consistent with City of Arcata planned land uses is reasonably foreseeable. As a result, the Creek Side Project must be included in Table 4-2 and evaluated as part of the cumulative impacts analysis. L1-13 Cont.

In addition, due to the rapid timeline for implementation of the housing and academic/administrative facilities to accommodate up to 12,000 students consistent with the 2004 Master Plan, Cal Poly must include any project listed in Table 4.1, Master Plan Proposed Facilities and Phasing, not just approved or pending, in the cumulative projects list and evaluate the cumulative effects of such projects in the DEIR.

4.3.9 Population and Housing

The cumulative population and housing impacts analysis states that the project would not "increase student enrollment at Cal Poly Humboldt" by artificially separating this project from the other projects on the cumulative project list and the 2004 Master Plan's objective to increase student enrollment. This statement must be clarified, the project alone may not increase student enrollment, however, other projects on the cumulative project list and other Master Plan elements are intended to encourage and accommodate planned student enrollment increases in the next seven years.

The DEIR conclusions in Section 4.3.9, Population and Housing, relate only to the student housing component of the proposed project and not to any on-site employees or additional Cal Poly or contract staff who may not be located on-site but will be needed to operate and maintain the proposed student housing project. The conclusion must consider all population and housing related impacts of the project, including student housing, direct increases in employment to operate and maintain the project, and projects from the cumulative list, as amended. The conclusion must acknowledge that increased student enrollment is not included in local or regional plans. L1-14

The following edits, address errors omission and/or inaccuracies, must be made to the cumulative impacts to population and housing analysis on pages 4-10:

> As described in Section 3.9, "Population and Housing," population within the City has increased by 4.79 percent since 2010 (refer to Table 3.9-1). In addition, the County's housing vacancy rate has been consistently higher than the State's vacancy rate, while the City's housing vacancy rate has generally remained at ~~just over 6~~ **approximately 3.4** percent**age points below the State vacancy rate. The City's normal vacancy rate was 3.6 percentage points below the State vacancy rate from 2010 to the beginning of 2020, prior to COVID-19 Cal Poly student disruptions, and 2.4 percentage points below the statewide average between 2020 and 2022**. Implementation of the project would not ~~increase student enrollment at Cal Poly Humboldt, nor would it~~ exceed growth projections for the campus as established in the current Master Plan for Cal Poly Humboldt. Rather, the project would provide additional student housing on Cal Poly Humboldt property and accommodate ~~an~~ **planned** ~~anticipated~~ increase in student enrollment within campus housing. The project would not represent a substantial contribution to potential housing demand or consume a substantial portion of the available housing stock; rather, it would reduce stresses on the local and regional housing market related to students living off-campus. For these reasons, the population and housing impacts related to implementation of the project would not result in a considerable

contribution to cumulative population and housing impacts, and the impact would be less than significant. L1-14 Cont.

4.3.10 Public Services and Recreation

PUBLIC SERVICES

The analysis in Section 3.10 and Section 4.3.10 relating to fire protection services does not acknowledge that, aside from the proposed project and other projects consistent with the 2004 Master Plan, increasing demands for fire-related services in Humboldt County are primarily related to economic and demographic changes and to housing subdivisions or housing development projects, which typically occur over an extended period of time.

L1-15

The proposed project, unlike typical private housing subdivisions, will not build-out over time based on demand and other local factors but instead will be occupied all at once, likely with new Cal Poly students, most of whom are not already part of the AFD service population.

The DEIR Section 3.10 direct fire-related impacts analysis must be revised to reflect existing service levels and adequate fire service levels required for a seven-story student housing project.

The fire protection services analysis is not adequate to make a determination of environmental impact and therefore cannot support the conclusion in the cumulative impacts section as to whether the proposed project, when considered with the full list of cumulative projects, would result in substantial adverse physical construction-related impacts associated with the provision of or the need for new or physically altered fire facilities to maintain acceptable service ratios. In addition, the cumulative analysis must incorporate the additional probable foreseeable project identified above and their contribution to potential impacts to fire services. This will result in a significant cumulative impact.

L1-16

As stated earlier, this DEIR does not provide an adequate fire protection services baseline or adequately analyze potential impacts of substantially increased services needs and response to multi-story buildings and approximately 1,000 new student residents and must also be revised to correct the errors, inaccuracies, and omission described above.

The AFD has provided significant new information not contained in the DEIR, without which the public and decision makers cannot assess the project's impacts or feasibility. To address these issues, Cal Poly Humboldt, in close coordination with the AFD, must prepare and recirculate a revised EIR.

Sincerely,

Randy Mendosa

Randy Mendosa
President, Board of Directors
Arcata Fire District

EXHIBIT 1

Required Staffing for Fire Suppression Operations

Evaluating the adequacy of staffing, equipment, and facilities, for fire protection, emergency medical, and hazard response for projects, such as the proposed Cal Poly Humboldt Student Housing is not simply a matter of concluding that if a fire department (district) is present, then it must therefore be adequate. To evaluate the adequacy of fire suppression staffing, the number of on-duty firefighters and available equipment and apparatus must be considered together with their geographic distribution. As described in detail below, most fire departments, including AFD, rely on mutual and automatic aid from neighboring departments for all fire-related incidents. The proposed Cal Poly project will require significant increases in AFD staffing and also greater levels of outside assistance to provide adequate service.

AFD Historical Fire Suppression Staffing

AFD was formed in 1944 and is staffed primarily by career firefighters, with support from a Volunteer Logistics Unit whose members are trained for critical support tasks, freeing up firefighters for specialized assignments, and very limited volunteer firefighting personnel. The District's ability to rely on volunteers for fire suppression operations has diminished over time from being an exclusive volunteer department prior to the 1960's, to hiring limited career staff with 30 to 40 volunteers in the 1970's through early 2000's, to a career department with less than a handful of non-suppression volunteers today. The following is a summary of AFD's historical firefighting staffing: L1-17

1976 to 2006:

- 3 Chief Officers; 7 paid firefighters, & 40 volunteer firefighters
  - Arcata Fire Station – Chief Officers during business hours
  - Mad River Fire Station – 1 firefighter on duty
  - McKinleyville Fire Station – 1 firefighter on duty

2006 to 2013:

- 4 Chief Officers; 15 paid firefighters, & 20 volunteer firefighters
  - Arcata Fire Station – Chief Officers during business hours
  - Mad River Fire Station – 2 firefighters on duty
  - McKinleyville Fire Station – 2 firefighters on duty

2013 to 2016:

- 3 Chief Officer; 18 firefighters, & 20 volunteer firefighters
  - Arcata Fire Station – Chief Officers during business hours, 2 firefighters on duty
  - Mad River Fire Station – 2 firefighters on duty
  - McKinleyville Fire Station – 2 firefighters on duty

2016 to 2020:

- 4 Chief Officers; 18 firefighters, & 10 volunteer firefighters
  - Arcata Fire Station – 2 firefighters on duty
  - Mad River Fire Station – 2 firefighters on duty
  - McKinleyville Fire Station – 2 firefighters & 1 Shift Chief officer on duty

2020 to 2022:

- 2 Chief Officers; 15 firefighters, & 4 volunteer firefighters available
  - Arcata Fire Station – 2 firefighters on duty
  - Mad River Fire Station – Unstaffed
  - McKinleyville Fire Station – Chief Officers during business hours, 2 firefighters on duty

2022 to present:

- 2 Chief Officers; 18 firefighters, & 1 volunteer firefighter
  - Arcata Fire Station – 2 firefighters on duty
  - Mad River Fire Station – 2 firefighters on duty
  - McKinleyville Fire Station –Chief Officers during business hours, 2 firefighters on duty

L1-17 Cont.

Consensus-Based Fire Response Standards

National consensus-based standards for fire suppression operations are established by the National Fire Protection Association (NFPA, 2020), and NFPA 1710 is applicable to AFD. AFD strives to meet NFPA standards, but budget constraints limit AFD's staffing options and regional mutual- and auto-aid is limited.

The following table lists the NFPA 1710[1] recommended number of appropriately trained personnel arriving within a specific period of time to perform critical tasks to suppress fires in different types of structures.

Single Family Dwelling Minimum of 14 firefighters	Critical Task	Needed Personnel
The initial full alarm assignment to a structure fire in a typical 2000 ft2 (186 m2), two-story, single-family dwelling without a basement and with no exposures must provide for a minimum of 14 members in 8 minutes (15 if an aerial device is used)	Command	1
	Pump Operator	1
	Fire Attack	2
	Backup	2
	Search	2
	Ventilation	2
	Rapid Intervention Crew	4
	Total	**14**

[1] NFPA, 2020. NFPA 1710. Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments

Strip Mall/Garden Style Apartment Minimum of 25 firefighters	Critical Task	Needed Personnel
The initial full alarm assignment to a structure fire in a typical open-air strip shopping center ranging from 13,000 ft2 to 196,000 ft2 (1203 m2 to 18,209 m2) in size must provide for a minimum of 25 members in 8 minutes (26 if an aerial device is used).	Command	1
	Fire Attack (3 teams)	6
	Backup	3
	Pump Operator (2 pumps)	2
	Search (2 teams)	4
	Ventilation (2 teams)	4
The initial full alarm assignment to a structure fire in a typical 1200 ft2 (111 m²) apartment within a three-story, garden-style apartment building must provide for a minimum of 25 members (26 if an aerial device is used).	Rapid Intervention Crew	4
	Safety	1
	Total	**25**

High-Rise Minimum of 38 firefighters	Critical Task	Needed Personnel
The initial full alarm assignment to a fire in a building with the highest floor greater than 75 ft (23 m) above the lowest level of fire department vehicle access must provide for a minimum of 38 members in 10 minutes (39 if the building is equipped with a fire pump).	Command	2
	Pump (FDC)	1
	Fire Attack (2 Teams)	4
	Hose team Floor above	2
	Rapid Intervention Crew	4
	Search (2 teams)	4
	Fire Floor Supervisor	2
	Floor above Supervisor	2
	Evacuation (2 teams)	4
	Elevator Control	1
	Safety	1
	Interior Staging Officer	1
	Rehab	2
	Ventaliation	4
	Lobby Control	1
	Equipment Transport	2
	External Staging	1
	Total	**38**

L1-17
Cont.

- **Single-Family Residential Structure.** NFPA 1710 recommends that 14 firefighters, arriving within eight minutes, are necessary to staff the essential roles to safely carry suppression operations for fires in single-family dwellings.
- **Low-Rise Apartments and Commercial Structures.** For more complicated structure fires (multi-family residential buildings and commercial buildings), NFPA 1710 recommends 25 firefighters to fill essential roles, arriving within eight minutes, are required.
- **High-Rise Structures.** NFPA does not establish staffing standards for fires in what may be referred to as "mid-rise" buildings, or buildings roughly four to seven stories. However, firefighting in mid-rise buildings presents most, if not all, of the same challenges as high-rise buildings (defined as by the International Building Code as a "building with an occupied floor located more than 75 feet above the lowest level of fire department vehicle access"). While there are no explicit NFPA response standards for mid-rise buildings, AFD concludes that it would be prudent to treat operations for fires in the proposed student housing buildings, mid-rise residential structures, like fires in high-rise buildings. NFPA 1710 recommends that 38 firefighters to fill essential roles arriving within ten minutes are required for a high-rise fire.

Mutual and Automatic Aid is Essential

AFD alone does not have adequate staffing for structure fires and relies on automatic and mutual aid from neighboring fire departments for all fires. All on-duty AFD firefighters (six firefighters and one chief officer) would be expected to arrive on scene for any structure fire on campus. The first two engines would arrive within approximately 5 minutes, the third engine and chief officer arriving 5 minutes later. Since AFD does not have sufficient staffing, mutual or automatic aid partners are required. Because neighboring fire stations are remote and staffed by volunteers, it typically takes an additional thirteen or more minutes for sufficient staffing (~15 firefighters) from up to four aid partners to respond to a single-family residential structure fire in the City of Arcata. For a commercial or multi-family structure fires, it takes 19 or more minutes for sufficient staffing (~25 firefighters) from up to six aid partners. For a mid-rise fire for buildings between four to seven stories, it would take over 40 minutes for recommended staffing levels (~38 firefighters) from up to eleven response partners.

Whether an aid partner can arrive in a timely manner depends upon their staff availability at the time of the incident. Apart from Humboldt Bay Fire, AFD's aid partners are almost entirely staffed by volunteers. In any given circumstance it is uncertain whether the aid partners will be appropriately staffed at the time of the automatic or mutual aid request. Volunteers often work in Eureka or Arcata and may not be available to report to their respective rural station during work hours. This effects response times and whether or not the aid partner can respond. Also important in evaluating aid partner capacity is staffing, apparatus, equipment, and training. Career departments assure essential qualifications and training levels of all firefighters. Volunteer departments, however, have differing minimum qualifications and training and experience levels. Whereas career firefighters are likely able to perform any task required at scene, volunteer firefighters may not be able to. Further, although all firefighters may be exposed to mid-rise fire suppression operations in their basic firefighter certification training, volunteer departments may never drill on the required skills for operating within mid-rise or high-rise buildings. As is the case across the nation, volunteer firefighter recruitment and retention are in decline and AFDs aid partners struggle to maintain staffing levels.

L1-17 Cont.

AFD Current Responses to Cal Poly Humboldt

The AFD covers a geographic area of approximately 62 square miles, protecting a population of approximately 36,000 residents, including 5,700 Cal Poly Humboldt students and approximately 1,200 faculty and staff members, about 20 percent of the AFD service population. Calls for service at the Cal Poly Humboldt campus usually are to student housing, and AFD effectively responds with a joint response from University Police and Facilities staff. On average, approximately 4 percent of incidents for the District are to the Cal Poly Humboldt campus. Actual responses to the Cal Poly campus range from 2 to 5 percent per year. Although the percentage of total responses is lower than the percentage of total service population, the campus contains the largest buildings that pose the greatest hazard to the most people (student housing and large classroom/lab buildings) within the district and the highest potential fire operations risk for AFD firefighters.

AFD Fire Service Funding

AFD is authorized to operate as a *Limited Purpose California Special District*, the focus being fire protection and emergency response services. State law provides only limited authority for FPDs to establish new funding sources. AFD is funded through an allocation of ad valorem property taxes (based on the assessed value of land, buildings, and fixtures), a special tax approved by voters, and a special assessment on property approved by landowners (both based on the use of property and together referred to hereafter as the AFD fire service direct charges). In comparison to most career fire departments in California that serve California State University campuses, the AFD receives a very small proportion of the property tax revenue collected within the District. Pursuant to the regulations for the implementation of Proposition 13, the proportion of property tax revenue that AFD receives was permanently fixed based on the amount of property tax revenue received by the district in 1977, when there were only 10 paid employees. The special assessment was most recently reauthorized and increased by District property owners in 2006. The special tax was approved in November 2020 and has allowed AFD to re-open a third station which had been closed due to inadequate funding. There are no other on-going revenue sources available to AFD. The AFD fire service direct charges are the largest of any in Humboldt County. As a result, there is little chance that the property owners/voters of the AFD would approve a higher fire service direct charge to support increased Cal Poly Humboldt fire protection services.

Although actual assessed value information is not available for Cal Poly Humboldt land, buildings, and fixtures, AFD has prepared a rough estimate of total assessed value. Based on this estimate, if Cal Poly Humboldt were subject to property tax, the allocation of annual property tax revenue received by AFD would be approximately $267,127 per year. AFD does not suggest that the total annual funding for fire service direct charges and estimated property tax revenue would be sufficient to fund the recommended staffing levels for buildings on the Cal Poly Humboldt campus or the proposed student housing project. This information is only provided to show that the staffing levels needed to respond to structure fires at Cal Poly Humboldt are high and the revenue that is currently available from the University through fire service direct charges and the special services agreement is insufficient to support such services and inequitable.

L1-17
Cont.

Unique Characteristics of Cal Poly Humboldt's Location

There are 23 CSU campuses in California. Except for Cal Poly Humboldt and Sonoma State University, fire services to CSUs are provided by city fire departments or countywide fire departments/districts. City fire departments are typically funded through the city general funds, which may be supported by property tax, sales tax, real property transfer tax, transient occupancy tax, vehicle license in-lieu revenue, business license tax, utility user tax, etc., and in addition the city may have special funds available as well such as a special tax or assessment for fire service. Depending upon how the countywide fire department or district was formed, it may have access to a similar range of general revenue sources as a city fire department or the district may have substantially more revenue than a smaller fire district due to its geographic size and urban density. City fire departments and countywide fire departments/districts are much more likely to have the funding necessary to support NFPA response standards than individual fire districts, especially those in rural areas. **AFD HAS THE LOWEST LEVEL OF FUNDING OF ANY FIRE DEPARTMENT PROTECTING A CSU CAMPUS.**

Recommendations Actions to be Evaluated by Cal Poly

The following are recommended actions by Cal Poly Humboldt to support adequate response levels by AFD to the Cal Poly campus and should be evaluated as part of close coordination between Cal Poly Humboldt and AFD. Actions are not ranked in priority order, the list of actions is not exhaustive, and in some instances actions may or may not be mutually exclusive:

- **Evaluate Existing and Needed Future Service Levels.** Fund a Commission on Fire Accreditation, International Template for Standards of Response Coverage analysis of AFD fire service capabilities and needed capabilities for buildout of Cal Poly Humboldt.
- **Building Design.** Design buildings and parking structures to be of a size and configuration (height, occupancy levels, building density, materials, fire protection infrastructure, access and egress) commensurate with AFD capacity.
- **Funding to Support Adequate Response Levels.** Cal Poly Humboldt should commit to providing regular annual funding to support the level of staffing necessary to support adequate response levels for the entire student population and faculty, including mid-rise fire suppression operations if this building configuration is adopted by CPH.
- **High-Rise Firefighting Training.** If CPH ultimately decides that mid-rise buildings are an unavoidable option, then extensive and ongoing training will be required. AFD and its aid partners perform only limited high-rise firefighting training. Additional funding and coordination are needed to adequately train and prepare firefighters. L1-17 Cont.
    - Ongoing regional high-rise specific training is essential for AFD and its aid partners to allow AFD firefighters to carry out training and be available to respond to incidents.
    - Special facilities are required to allow realistic training. A 5-7 story training drill tower for ladder and rope work and advancing hose lines is needed. In this training building firefighters can fight live fires providing enough area to allow firefighters to conduct drills.
- **Equipment and Facilities Improvements.**
    - Due to firefighter staffing requirements, apparatus purchase costs, and maintenance requirements, AFD has not retained a ladder truck. The proposed project would trigger the need for a truck equipped with a long aerial device (length to be determined based on the final building design and configuration). Funding for firefighting staff, training, apparatus, and maintenance will be required to purchase and operate a truck with an adequate length aerial.
    - One or more existing fire stations may need to be expanded to accommodate additional duty staff and new firefighting apparatus.

Letter O1

December 1, 2022

Deirdre Clem
California State Polytechnic University, Humboldt
Planning, Design & Construction
Facilities Management
1 Harpst Street
Arcata, CA 95521

RE: Comments on Student Housing Project Draft Environmental Impact Report (DEIR) (SCH Number 2022030008)

Dear Ms. Clem:

The Coalition for Responsible Transportation Priorities (CRTP) has reviewed the Student Housing Project Draft Environmental Impact Report (DEIR) (SCH Number 2022030008). We recognize the urgent need for student housing and the appropriateness of the location near both the Cal Poly Humboldt campus and downtown Arcata. Therefore, we support this project in concept. However, we have identified certain deficiencies in the DEIR, and we therefore submit these comments so that the document can be amended and the project improved before final adoption.

Impact on Vehicle Miles Traveled

The DEIR concludes that the project will not have a significant impact on vehicle miles traveled (VMT) under CEQA Guidelines Section 15064.3(b), but does not provide sufficient information to support the per capita VMT estimate for future project residents nor to justify the selected significance threshold. O1-1

The DEIR uses the Humboldt County Association of Governments (HCAOG) Travel Model to estimate the project's per capita VMT. However, the document nowhere reveals what inputs were used to generate the estimate. Appendix E, the Transportation Impact Study, merely says that "the proposed project was input into the HCAOG Travel Model." However, the DEIR is unclear about key details which would affect VMT, including:

- At p.2-17, the DEIR says that there will be an on-site "bus/shuttle stop." Yet at p.3.11-10, it says "existing transit services would adequately accommodate any increase in demand" and "the project would not alter any existing transit stops." Whether there will be an on-site transit stop, and what kind (bus or shuttle), on what route, and with what connections, are all key details influencing the likelihood of transit ridership that the DEIR does not provide. We further note that the project cannot commit to an on-site bus stop without prior consultation with the relevant transit agency (Arcata & Mad River Transit Service or Humboldt Transit Authority). O1-2
- In various places, the DEIR says that the project will provide "indoor" bike parking (e.g., pp.1-1, 2-13), while in others it does not specify that the parking will be indoors (e.g., p.2-8). This may seem like a minor discrepancy, but in fact, the availability of specifically indoor (i.e., weather-protected and secure) bike parking is critical to facilitating resident bike ownership and use. O1-3

- At p.2-18, the DEIR states that reducing peak-hour traffic by providing flexible work schedules is a VMT reduction measure. In fact, changing the timing of trips may reduce congestion, but it has no effect on VMT. O1-4
- Scoping comments submitted by us as well as those submitted by Caltrans point out the key influence of free residential parking on VMT. However, the DEIR makes no mention of the relationship between parking and VMT. Although the project is not subject to the City of Arcata's land use regulations, it is notable that the project provides substantially more parking than required by those regulations, suggesting it may result in higher per capita VMT. O1-5
- The DEIR suggests that the project's design will encourage bicycle and pedestrian transportation, but also admits that "based on the conceptual nature of the site plan, it is not possible to conclude that pedestrian and bicycle safety in the vicinity of the project site would be sufficient" (p.3.11-12). Unsafe, uncomfortable, or merely inconvenient conditions for walking or biking make these modes much less likely to be used, and the DEIR does not provide sufficient information to judge likely mode choice. See below for additional discussion of this issue. O1-6

The DEIR notes that VMT modeling results were also used in the assessment of air quality, greenhouse gas, and energy impacts, heightening the importance of providing sufficient justification for the results. The EIR must specify the inputs used to obtain the VMT estimate for the project, and must provide enough detail about transit service and the site plan to judge the appropriateness of those inputs. O1-7 We further strongly urge Cal Poly Humboldt to reduce the number of parking spaces provided and increase housing proportionately. O1-8

Additionally, the baseline per capita VMT calculation used in the DEIR to calculate the significance threshold is not appropriate. The DEIR uses countywide per capita VMT as the baseline. As we pointed out in our scoping comments, the baseline should include only the Arcata-Eureka-McKinleyville area, which "encompasses both the vast majority of the university's student and employee residential catchment area as well as all areas potentially feasible for the development of future student housing." HCAOG, whose Travel Demand Model the DEIR employed, made exactly the same request. Yet the DEIR ignored both comments and used countywide VMT as a baseline instead.

The attempted justification for this choice is misleading at best. The DEIR points out that the limits of the analysis area "should not be arbitrarily truncated at political boundaries" (p.3.11-9). This is not what we nor HCAOG suggested, but exactly what the DEIR itself does by using county boundaries. The DEIR also points out that many students live outside the city limits of Arcata, which is exactly why we and HCAOG suggested using the greater Humboldt Bay region. Very few students live in remote eastern and southern Humboldt, where per capita VMT is very high. Using the county boundaries for the baseline VMT calculation is almost as arbitrary as using the entire state. O1-9

In addition to providing justification for its project VMT calculation, the EIR must adjust its threshold calculation to a more reasonable and restricted geography.

Consistency with Transportation Plans and Policies
The DEIR notes that the California State University (CSU) system has adopted policies promoting low-carbon transportation modes such as walking, biking and public transit, and committing to transportation demand management (TDM) and VMT reductions (pp.3.6-6, 3.11-3). These are also identified in the DEIR as purposes of the student housing project (p.2-20). However, the DEIR provides O1-10

no analysis to justify how or whether the project will be consistent with several of the adopted policies, including:

- CSU TDM Manual Objective 1A (developing TDM policies)
- CSU TDM Manual Objective 1B (monitor to ensure TDM effectiveness)
- CSU TDM Manual Objective 3B (use financial incentives for non-single occupancy vehicle modes)
- Cal Poly Humboldt Climate Action Plan TRA Strategy 1.1 (establish a TDM plan)
- Cal Poly Humboldt Climate Action Plan TRA Strategy 1.2 (adjust parking policies, programs and infrastructure)*
- Cal Poly Humboldt Climate Action Plan TRA Strategy 1.4 (alternative transportation programs)*
- Cal Poly Humboldt Climate Action Plan TRA Strategy 1.5 (public transportation)*

O1-10 Cont.

The measures marked with an asterisk (*) are not even mentioned in the DEIR. The DEIR concludes correctly that without mitigation, the project would conflict with policies promoting active transportation due to potential safety conflicts in the surrounding area. However, the DEIR fails to address consistency with policies related to parking, financial incentives, improvement of public transportation, and implementation and monitoring of TDM plans. On its face, the project's abundant parking would seem to conflict with CSU TDM and Cal Poly Humboldt Climate Action Plan parking policies. Furthermore, the DEIR states at p.4-8 that the project is only "likely" to include TDM strategies. Without a firm commitment to TDM strategies as required by the above-referenced policies, the project would not pass the consistency step.

When considering the adopted Regional Transportation Plan (RTP), the DEIR also fails to assess the project's consistency with that plan's Safe and Sustainable Transportation Targets, despite those targets being central to the RTP and being specifically called out in HCAOG's scoping comment letter. O1-11

Transportation Safety

The "conceptual site plan" (DEIR Figure 2-9) presents an island of buildings and landscaping surrounded by streets and parking lots, and does not make clear how people walking, biking or rolling will have safe, comfortable and convenient access to and from the buildings through these vehicle-dominated spaces. The DEIR repeatedly describes "interconnected pedestrian and bicycle paths" on-site (e.g., pp.2-17, 3.11-10, 3.11-13), which we appreciate, but does not explain how these paths will connect to off-site facilities. The text also claims that there will be a "central concourse/promenade" that connects to off-site facilities (pp.2-13, 2-18, 3.11-13), and asserts that on-site paths will "direct student residents north to the L.K. Wood Boulevard-US 101 overcrossing or east to the future extension of the Annie & Mary Rail Trail project" (p.2-17), but the conceptual site plan does not show any such connections. O1-12

Additionally, the DEIR claims that the project will provide "signage" to prevent people walking and biking from using the planned southern emergency entrance to access Eye and Jay Streets (p.2-18). However, this will be one of the most direct paths of travel from the project to campus, downtown Arcata, and other major destinations, and signage will be unlikely to deter usage. As noted in the DEIR, Eye Street has no bicycle or pedestrian facilities (pp.3.11-7, 3.11-8). O1-13

We appreciate the DEIR's acknowledgement that there will be significant impacts to bicycle and pedestrian safety (Impacts 3.11-1 and 3.11-3). We also appreciate the proposed mitigation measures, including providing sidewalks along St. Louis Road and high visibility crosswalks and signage at other O1-14 locations. However, these measures are insufficient to fully mitigate the impact. First, St. Louis Road must also be provided with bicycle facilities between the project site and the Highway 101 overpass, as suggested by Caltrans in their scoping comments.

Second, despite the DEIR's claims, it is unlikely that most project residents will walk or bike north from the site. As noted above, the most important destinations, including campus, are south and east. Thus, the project should also anticipate pedestrian and bicycle use of Eye Street and provide bicycle and pedestrian facilities and traffic calming improvements there. The project must also include mitigation measures to address the intersections at Sunset Ave/G Street/H Street/Highway 101 ramps, and Sunset Ave/LK Wood Blvd/Highway 101 ramps, which are widely recognized as the most dangerous in the city for people walking, biking and rolling. Project residents using Eye Street or the future Annie & Mary trail to travel between the project site and campus—the most direct routes available—will be forced to navigate these intersections. We acknowledge that plans are under way at the City of Arcata to improve safety at the LK Wood intersection, but we are aware of no current plans for the G/H Streets intersection. O1-14 Cont.

Alternatives Analysis
Although the DEIR analyzes a project alternative identified as "on-campus student housing," the only on-campus location considered is a sports field. The DEIR should analyze the alternative of building student housing on an on-campus parking lot. These cover large areas of campus and would help achieve project objectives related to transportation, energy and greenhouse gases by managing vehicle parking.

The alternatives analysis concludes that the environmentally superior alternative is the no-project alternative, and excluding that, the lower density project alternative. Part of the basis for this conclusion, however, is flawed. The DEIR concludes that the no-project alternative would "result in reduced transportation and circulation impacts" (p.5-8), and that the lower-density alternative "may also reduce vehicle trips and VMT" (p.5-10). This is inconsistent with the rest of the DEIR and very likely incorrect. Even after correcting for the VMT analysis deficiencies identified above, it is likely that the project will still produce lower VMT per capita than the area average. Therefore, a no-project or lower-density project alternative would result in higher VMT per capita, and thus a greater transportation impact under CEQA Guidelines Section 15064.3(b). O1-15

Aesthetics
The majority of impacts identified in the DEIR as both significant and unavoidable fall under the category of aesthetics. Aesthetic impacts are highly subjective, and we object to the DEIR's characterization of the aesthetic impacts of the project.

The DEIR admits that Highway 101 is not a designated scenic highway in this location, yet still concludes that the project will "damage scenic resources within a state scenic highway" (p.3.1-14). Similarly, the DEIR concludes that the project will "substantially degrade the existing visual character or quality of public views of the site and its surroundings" (p.3.1-14). O1-16

The project will replace a dilapidated industrial structure, vastly improving views of the site. And from the highway, the project will not block or impede any natural vistas at all. It strains credulity to imagine these as significant aesthetic impacts. The conclusion of significant impacts seems to rely largely on the assumption that larger buildings and denser development are inherently less aesthetically appealing that low-density development. We object strongly to this subjective characterization.

Solar Photovoltaics and Electric Vehicle Charging

The DEIR describes the project as “PV-ready,” meaning it will not have solar panels installed, but theoretically could in the future. Solar panels are already required on most multifamily housing by state building codes, and CSU policies cited in the DEIR call for dramatically increasing both on-site renewable energy generation and renewable electricity procurement. Consistency with adopted renewable energy plans therefore requires the project to actually include photovoltaic panels when constructed. O1-17

Similarly, the DEIR states that 10% of project parking spaces will be “EV ready” (p.2-13). We strongly urge that the project actually construct the electric vehicle charging infrastructure, rather than waiting until some unidentified future date.

Conclusion

In sum, while we support this project in concept, the following changes to the project/DEIR are required:

1. Address deficiencies in the VMT analysis and adopt a more appropriate threshold of significance.
2. Reduce on-site parking and commit to TDM strategies to ensure compliance with adopted plans and policies. O1-18
3. Provide additional off-site safety improvements for bicyclists and pedestrians to mitigate for reasonably foreseeable impacts.
4. Address deficiencies in the alternatives analysis which bias the final conclusion.
5. Reconsider conclusions of significant aesthetic impacts.
6. Include PV panels and EV charging equipment in the project.

Thank you for your consideration.

Sincerely,

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Letter PH1

Fred Johansen: Thanks for having this meeting and thanks for including my e-mail in the comments that I sent earlier. I've been looking at the transportation and I so hope that this is going to be a successful project for the university. I really would not like to hear that someone had run into a logging truck or someone was killed crossing the freeway on the bridge. And I still am very concerned with that. Here's how I kind of see this is going: the students will initially walk and bicycle, most of the students, I'm hoping, will cross using the rails to trail to the main intersection at the circle where it leads to the bridge. The problem is there that the, where the trails to rails comes out is above the circle. So, getting students to cross at the circle is going to be kind of interesting because I know when I'm in a hurry I'm more liable to go across the road there. I know my wife when she was working at the university, it's always an issue crossing over to the bridge from Sunset. And she had several close calls with people just driving rather than looking for pedestrians. And we know that that's going to be an impacted intersection with the 2017 traffic study. Has there been any? So what I'm looking at is, OK, that becomes impacted. Students decide that that's so impacted for going to school that they're going to go back over St. Louis Road and to LK Wood. And I want to commend you, thank you for putting in the road to the center of the North End of your project. I think that's going to make it a lot safer. But it looks to me that the sidewalk that the city is putting in is on the eastern side. It would make a lot more sense if it's on the western side. There is an entrance that's going to come out of the lumber mill there that is going to be dangerous for them to cross. And then crossing across LK Wood and going to school, that's another, you know, maybe there's going to be a need for some traffic mitigation on LK Wood. So, I am concerned about the traffic. And have you discussed this? Are there more discussions ongoing with the city of Arcata? About these issues? PH1-1

Mike Fisher: I'll take a first stab at this Chris maybe you could talk a little bit more to our study, but we, thank you Fred. We absolutely have been talking to the city of Arcata, certainly in development of the of the Sunset Bridge and the future of that to make it more pedestrian friendly. I hear your comments around ingress and egress from the site itself. We talk on a biweekly basis with the city staff on just making sure that we're addressing some of these issues. Chris, let me hand it over to you to talk a little more about the study.

Chris Mundhenk: Sure, and thank you for the comment, Fred. I'll just note pretty quickly that in the transportation section we do take a look at safe routes for bike and ped to Campus from the project site and there is mitigation provided in the EIR that will provide additional facilities to the north to make sure that there is safe access for students to use to cross over US 101 to the north and get to campus. That is written into the mitigation measure of the EIR.

Mike Fisher: Thank you. Chris, can you see the Q&A?

Chris Mundhenk: Yes.

Mike Fisher: Why haven't you notified nearby property owners of this meeting by mail? I live on Madrone and my neighbors haven't been notified. PH1-2

Chris Mundhenk: We did. There are several options under CEQA that allow for what is considered proper noticing. One of those is publishing in a newspaper, which we did do. We also noticed anyone who had previously expressed interest in the project, including people who had attended either of the scoping meetings, so the noticing was in accordance with California Environmental Quality Act.

Mike Fisher: Natalie Calderon, I see your question here. I apologize, we've been chatting in the Q&A portion. Let me see if you can still see the screen. I'm just going to roll back to this part that captures your question best. What you see on the top part of the image is Granite Ave or that really the housing area on campus, this is Sunset Ave that goes from campus to the Sunset community. We are northwest of our campus, so it is off site by about 1/2 a mile. And we're located just on the adjacent side of the highway. Hopefully that orients you a little bit on what we're looking at. Thank you, Natalie. PH1-3

Other questions or comments?
Anne Carlisle, I see your comment here. When your neighbors are in the dark, understood. I appreciate that comment. We'll have to look at our strategies and make sure that we're doing better outreach. I will also say that we do have intention on being part of a future Planning Commission meeting. We are looking for a spot on the agenda with the City of Arcata. We'll be talking about this project and others. We also intend to go to other meetings, partnered with City Council, go to going to where meetings are already happening. So do expect that from us in the future and thank you for relating that for us. PH1-4

Other questions or comments? I see another question coming in. Has there been discussion of any added transportation plans for students living on this off-site area, such as bus or shuttle for disabilities? We have had those discussions. We feel that mobility to and from campus, from this site and others within the area is going to be critical to the success of the university. And so, beyond this project scope, if you've ever been to campus, as we grow our parking problems will continue to be there and understanding transportation demand strategies is going to be paramount to alleviating both the parking issues and increasing equity in mobility for students that are outside of the campus. I can say with certainty that bus and shuttles have been looked at in partnership with Arcata Rapid Mass Transit and then also with Humboldt Transit Authority. We're looking for solutions well in advance of the delivery of this project. So hopefully that does answer your question: we are examining that. Thank you for the comment, Anne. PH1-5

Any other questions or comments out there? OK. Well, thank you once again I appreciate your time this evening. Please do stay involved. I do appreciate the input. We do appreciate the input. Much is happening at the university and we're doing our best to make sure we can create these opportunities for communication. So, thank you and we'll see each other again soon. Have a good evening.

Letter S1

California Department of Transportation

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December 5, 2022

1-HUM-101-86.94
Cal Poly Humboldt Student Housing
SCH#2022030008

Ms. Dierdre Clem
California State Polytechnic University, Humboldt
Planning, Design, & Construction
Facilities Management
1 Harpst Street
Arcata, CA 95521

Dear Ms. Dierdre Clem:

Thank you for giving Caltrans the opportunity to comment on the Draft Environmental Impact Report (EIR) to develop student housing for California State Polytechnic University, Humboldt (Cal Poly Humboldt). The project would include the development of up to 964 student beds in approximately 240 apartment-style, student residence units. The project site is located near the intersection of the St. Louis Road and U.S. Highway 101 (US 101) overcrossing, approximately 0.5 mile north of Cal Poly Humboldt. We offer the following comments for your consideration: S1-1

Hydrology
With respect to the physical improvements at the Craftsman Mall/project site, we note that Caltrans has a two-foot diameter culvert at US 101 postmile 87.26 that discharges to the area that is planned as parking in the southeast corner of the planned project. The expectation is that storms will become more intense with climate change which may result in the need to increase the diameter of this culvert to accommodate an increase in storm water runoff. If stormwater quantities do increase over time, Caltrans will continue to accept and convey storm water at this location. We note that storm water will be retained on-site, however we suggest that the parking and water conveyance facilities be designed to ensure that the potential increase in flow rates can be accommodated. S1-2

The DEIR discusses the cumulative effects from Cal Poly Humboldt's enrollment increases on transportation and it notes the location and scale of other campus educational and student housing facilities. We have not evaluated the potential impacts of increased stormwater runoff from increased development on campus as this review appears to be for the proposed new housing to the west of 101 only. The cumulative impacts of additional stormwater runoff with Cal Poly Humboldt S1-3 infrastructure improvements do not appear to have been addressed. We offer to work with Cal Poly Humboldt to evaluate any needed improvements to US 101 cross drains as a result of increased impervious surfaces. S1-3 Cont.

Transportation

As it relates to State priorities to reduce Vehicle Miles Traveled that result from new development, we support the project objectives as described in E.S.2.3, particularly with respect to providing additional housing near existing and planned mobility infrastructure (i.e., pedestrian and bicycle facilities and transit) to reduce vehicle trips, vehicle miles travelled, and parking demand; and to support and advance Cal Poly Humboldt's educational mission by guiding the physical development of housing proximate to campus to accommodate gradual student enrollment growth up to a future enrollment of 12,000 full-time-equivalent students per the 2004 Master Plan while preserving and enhancing the quality of campus life.

We concur with the conclusions of the Vehicle Miles Traveled (VMT) assessment; that the student housing project is expected to result in insignificant levels of VMT. We recognize and appreciate Cal Poly Humboldt's efforts to contribute toward the State's Greenhouse Gas (GHG) emission reduction goals and to incorporate multimodal travel into the design and mitigation for the project. We offer to partner with Cal Poly Humboldt, the City of Arcata, and other local transportation stakeholders to ensure that students have safe and accessible modes of travel to and from the University campus. S1-4

The following insights are offered for further consideration with the proposed mitigation efforts or as part of Cal Poly Humboldt's ongoing transportation center/Travel Demand Management (TDM) program. The recommendations are not CEQA-required mitigation measures for this project, but may contribute towards other campus-expansion projects:

- The DEIR Appendix A, NOP project description on page 5 (pdf p. 300) proposes a bus/shuttle stop along the project site, as stated here: ...In addition, the project would include creation of a bus/shuttle stop at the St. Louis Road turnaround, located along the eastern boundary of the project site." (DEIR App A, p.5, pdf p. 300)." While the concept from the NOP was not carried through to the DEIR project concept and mitigation, we encourage Cal Poly Humboldt to provide a transit bus or shuttle stop for the project site, with or without coordinated HTA service. The transit facility should include an all- weather bus shelter, signage, lighting, ADA and other improvements.

- Cal Poly Humboldt is encouraged to work with Caltrans and the City of Arcata to further improve a connection between the Annie & Mary Trail and campus, as well as pedestrian and bicycle access along Sunset Avenue at LK Wood Boulevard and H Streets should be considered.

- As part of the mitigation proposal to provide a connected bicycle and pedestrian facility to LK Wood Blvd via St. Louis Road, we recommend extending the southbound bike lane from St Louis Road beyond where the bike lane ends at Granite Ave to the intersection at Sunset Ave. If there is an intent for cyclists destined for the University campus to exit LK Wood right-of-way at Granite Ave, please consider working with the City of Arcata to provide an intersection crossing treatment to protect bicyclists making left turns across uncontrolled travel lanes in the north- and southbound directions.

- We encourage Cal Poly Humboldt to add a parking study and parking management to the suite of existing Travel Demand Management (TDM) measures already employed for students, faculty, and staff.

S1-4 Cont.

Feel free to contact me with questions or for further assistance with the comments provided at (707) 684-6879 or by email at: <jesse.robertson@dot.ca.gov>.

Sincerely,

Jesse G. Robertson

Jesse Robertson
Transportation Planning
Caltrans District 1

e-copy: State Clearinghouse
Marianne Lowenthal, Ascent Environmental
Netra Khatri, City Engineer, City of Arcata
Greg Pratt, General Manager, Humboldt Transit Authority

Letter S2

From: **Roman, Isabella@DTSC** <Isabella.Roman@dtsc.ca.gov>
Date: Wed, Dec 7, 2022 at 12:42 PM
Subject: Student Housing Project DEIR Comment
To: Deirdre.Clem@humboldt.edu <Deirdre.Clem@humboldt.edu>

Hello,

I had a comment for the Cal Poly Humboldt Student Housing Project. I had the comment drafted, but didn't get around to sending it until now. I realize I'm now outside the comment period, but thought I'd send you my comment anyway, in case you can include it. See my comment below: S2-1

Hello,

I represent the Department of Toxic Substances Control (DTSC) reviewing the Draft Environmental Impact Report (DEIR) for the Student Housing Project. S2-2

The DEIR states that the site was used as a lumber mill until the 1970s. The DEIR does not provide much information about lumber mill operations, especially not in relation to potential contamination at the site. Past land uses could have resulted in hazardous materials releases within the project area that should be investigated for public health protection. Past land uses could indicate the need for conducting a Phase 1 Environmental Site Assessment (ESA), Phase 2 ESA or other environmental sampling activities.

Please feel free to reach out if you have any questions or concerns.

Sincerely,

Isabella Roman (she/her/hers)
Environmental Scientist

Site Mitigation and Restoration Program

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Department of Toxic Substances Control

700 Heinz Avenue, Berkeley, California 94710

California Environmental Protection Agency

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