Mountain Townhomes Project

Draft Initial Study/Mitigated Negative Declaration

January 2023 | 08391.00005.001

Prepared for:

City of Mount Shasta
305 N Mt. Shasta Boulevard
Mount Shasta, CA 96067

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ADA	Americans with Disabilities Act
ADWF	average dry weather flow
amsl	above mean sea level
APE	Area of Potential Effects
APN	Assessor's Parcel Number
ARSC	Archaeological Research and Supply Company
Basin Plan	San Joaquin River Basins
BBTS	Black Butte Transfer Station
BMPs	Best Management Practices
C-1	Downtown Commercial
C2F6	perfluoroethane
C3F8	perfluoropropane
C4F10	perfluorobutane
C4F8	perfluorocyclobutane
C5F12	perfluoropentane
C6F4	perfluorohexane
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention Program
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire
Cal/OSHA	California Occupational Safety and Health Administration
CAP	Criteria air pollutants
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring
CBSC	California Building Standards Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CF4	perfluoromethane
CGC	California Government Code
CGS	California Geology Survey
CH4	methane
Chloroethene	Vinyl Chloride
City	City of Mt. Shasta
CIWMA	California Integrated Waste Management Act

ACRONYMS AND ABBREVIATIONS (cont.)

CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO2	carbon dioxide
CO2e	carbon dioxide equivalent
CO	carbon monoxide
COR	City of Redding
CPUC	California Public Utilities Commission
CR	Central Residential
CRHR	California Register of Historical Resources
CRI	Color Rendering Index
CUP	Conditional Use Permit
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
dB	decibels
dbh	diameter at breast height
DOC	Department of Conservation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FMMP	Farmland Mapping and Monitoring Program
ft	feet
GHG	greenhouse gases
GPY	gallons per year
GSP	Groundwater Sustainability Plans
GWP	Global Warming Potential
H2S	Hydrogen Sulfide
HELIX	HELIX Environmental Planning, Inc.
HFC	hydrofluorocarbons
HUD	House and Urban Development
HVAC	heating, ventilation, and air conditioning
Hz	Hertz

ACRONYMS AND ABBREVIATIONS

I-5	Interstate-5
IBC	International Building Code
IESNA	Illuminating Engineering Society of North America
IM	Implementation Measures
In/sec	inches per second
IS/MND	Initial Study/Mitigated Negative Declaration
ISWMRA	Integrated Solid Waste Management Regional Authority
kWh	kilowatt-hour
Lbs	pounds
Ldn	day-night average sound level
LID	low-impact development
LRA	Local Responsibility Areas
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Levels
MGD	million gallons per day
MGY	million gallons per year
Mg/m3	milligrams per cubic meter
MLD	most likely descendant
MND	Mitigated Negative Declaration
MUTCD	Manual on Uniform Traffic Control Devices
MRZ	Mineral Resources Zones
MSMC	Mt. Shasta Municipal Code
Mt	Mount
MWELO	Model Water Efficiency Landscape Ordinance
N2	nitrogen
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEHR	National Earthquake Hazards Reduction
NF3	Nitrogen trifluoride
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO2	Nitrogen Dioxide
NOI	Notice of Intent
NOx	nitrogen oxide
NPAB	Northeast Plateau Air Basin
NPDES	National Pollutant Discharge Elimination System

ACRONYMS AND ABBREVIATIONS (cont.)

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSLU	Noise Sensitive Land Uses
O2	oxygen
O3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OSHA	Occupational Safety and Health Administration
PFC	perfluorocarbons
PM2.5	Particulate Matter 2.5
PM10	Particulate Matter 10
ppb	parts per billion
ppm	parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
Project	Mountain Townhomes project
PRVs	pressure-reducing valves
PWWF	peak wet weather flow
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
RHNA	Regional Housing Needs Allocation
R-L	Resource Lands
RMP	Risk Management Plan
ROW	Right-of-way
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RWQCB	Regional Water Quality Control Board
sf	square feet
SB	Senate Bill
SCAPCD	Siskiyou County Air Pollution Control District
SCEHD	Siskiyou County Environmental Health Division
SF6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SHMA	Seismic Hazards Mapping Act
SMARA	Surface Mining and Reclamation Act
SMARTS	Storm Water Multiple Application and Report Tracking System
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO2	Sulfur Dioxide
SO4	sulfate
SRA	State Responsibility Area

ACRONYMS AND ABBREVIATIONS (cont.)

STAGE	Siskiyou Transit and General Express
SUSWMP	Standard Urban Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TNM	Traffic Noise Model
µg/m3	micrograms per cubic meter
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	Vehicles Miles Traveled
WDRs	waste discharge requirements
WOUS	Waters of the U.S.
WWTP	wastewater treatment plant

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INITIAL STUDY INFORMATION SHEET

1.	Project title:	Mountain Townhomes
2.	Lead agency name and address:	City of Mount Shasta 305 N Mt. Shasta Boulevard Mount Shasta, California 96067
3.	Contact person and phone number:	Kyle Rathbone, Contract Planner (916) 660-2256
4.	Project location:	735 Chestnut Street, Mount Shasta, Siskiyou County
5.	General plan designation:	Central Residential
6.	Zoning:	Downtown Commercial (C-1)

1.0 INTRODUCTION

1.1 Initial Study

The City of Mount (Mt.) Shasta (City), as Lead Agency, has prepared this Initial Study to provide the general public and interested public agencies with information about the potential environmental impacts of the proposed Mountain Townhomes project (project). This Mitigated Negative Declaration (MND) has been prepared in accordance with California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21000 et seq., and the CEQA Guidelines, California Code of Regulations Section 15000 et seq. Details about the proposed project are included in Section 3.0 (Project Description) of this Initial Study.

An Initial Study is conducted by a Lead Agency to determine whether a project may have a significant effect on the environment. In accordance with CEQA Guidelines Section 15063, an Environmental Impact Report (EIR) must be prepared if an Initial Study indicates that the proposed project under review may have a potentially significant impact on the environment which cannot be initially avoided or mitigated to a level that is less than significant. A negative declaration may be prepared if the Lead Agency also prepares a written statement describing the reasons why the proposed project would not have a significant effect on the environment and therefore why it does not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a negative declaration is to be prepared for a project subject to CEQA when:

a) The Initial Study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or

b) The Initial Study identifies potentially significant effects, but:

    1) Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and

    2) There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.

If revisions are adopted in the proposed project in accordance with CEQA Guidelines Section 15070(b), including the adoption of mitigation measures included in this document, an MND is prepared.

1.2 Purpose and Document Organization

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to evaluate the potential environmental impacts of the proposed project. This document is divided into the following sections:

1.0 Introduction – This section provides an introduction and describes the purpose and organization of the document.

2.0 Project Background – This section provides information on all technical studies provided for the project.

3.0 Project Description – This section discusses the proposed project in detail.

4.0 Environmental Factors Potentially Affected – This section identifies which environmental subject areas would be potentially affected by this project. Environmental subject areas with a check mark indicate that the proposed project would result in a "Potentially Significant Impact" or "Less than Significant with Mitigation Incorporated" for that environmental subject area.

5.0 Determination – This section provides a determination if the project will or will not have a significant impact on the environment. This section determines if the appropriate CEQA document is a negative declaration, MND, EIR, or nothing further is required as the environmental impacts of the project were previously analyzed in a prior CEQA document and potential significant impacts have been avoided or mitigated.

6.0 Environmental Initial Study Checklist – This section provides a description of the environmental setting and impact analysis for each of the environmental subject areas. Project impact analysis is provided in response to subject-specific questions for each environmental subject area, and an impact determination is made for each question. Impact determinations may be "no impact," "less than significant impact," "less than significant impact with mitigation incorporated," or "potentially significant impact" in response to the questions included in the environmental checklist for each environmental subject area.

7.0 References – This section identifies documents, websites, people, and other sources consulted during the preparation of this Initial Study.

8.0 Initial Study Preparers – This section identifies who worked on this MND.

2.0 PROJECT BACKGROUND

The following project specific technical reports, assessments, and/or surveys were used in preparation of this Initial Study and are incorporated by reference:

- Air Quality and Greenhouse Gas emissions analysis using CalEEMod, November 2022, prepared by HELIX Environmental Planning, Inc.
- Aquatic Resources Expanded Delineation Report, prepared by Natural Investigations Company, Inc. (Natural Investigations Company 2022a)
- Botanical Survey Report, prepared by Natural Investigations Company, Inc. (Natural Investigations Company 2022b)
- Biological reconnaissance survey, November 2022, conducted by HELIX Environmental Planning, Inc.
- Cultural Resources Investigation of the Mount Shasta DANCO Property Final Report, prepared by Archaeological Research and Supply Company (Archaeological Research and Supply Company 2022)
- Noise analysis using U.S. Department of Transportation's Traffic Noise Model version 2.5, January 2023, prepared by HELIX Environmental Planning, Inc.

3.0 PROJECT DESCRIPTION

3.1 Project Location

The project would be located on a 1.15-acre parcel located at 735 Chestnut Street, City of Mt. Shasta, Siskiyou County, California. The project site consists of one parcel (Assessor's Parcel Number [APN] 057-112-010) located along the northwestern edge of downtown City of Mt. Shasta and within south-central Siskiyou County, California. Interstate 5 (I-5) is approximately 0.3 mile west of the project site, and Union Pacific Railroad (UPRR) tracks are located approximately 325 feet (ft) west of the project site. The project is located north of the intersection of Chestnut Street and Ivy Street, east of N. Mt. Shasta Boulevard. The project site is located in Section 16 of Township 40 North, and Range 4 West of the U.S. Geological Survey (USGS) 7.5-minute "City of Mount Shasta" quadrangle map. Refer to Figure 1 for a Site Vicinity Map and Figure 2 for an Aerial Map. All Figures are presented in Appendix A.

3.2 Project Setting and Surrounding Land Uses

The 1.15-acre project site is undeveloped open space. The area in which the project is located is characterized by residential and commercial development. The project is bounded by Alder Alley right-of-way (ROW) to the northeast, Field Street ROW to the northwest, Chestnut Street to the west/southwest, and Ivy Street to the east/southeast. Alder Alley is a 20-ft-wide public ROW and is currently undeveloped with gravel and vegetation. Field Street is made up of an approximately 12-ft-wide graveled driveway within an 80-ft-wide ROW. The driveway accesses a single residential dwelling. Chestnut Street is made up of an approximately 25-ft-wide existing asphalt roadway with no curbs or sidewalks, and a 20-ft-wide space between the edge of pavement and property lines is currently undeveloped with gravel and vegetation. Ivy Street includes an approximately 40-ft-wide asphalt roadway with a roll-curb with gutter on the project site of the street. The approximately 20-ft-wide space between the edge of the curb and the property lines is currently undeveloped with gravel and vegetation. Neighboring land uses are summarized in Table 1 below.

TABLE 1
NEIGHBORING LAND USES

Direction	Land Use
North	Alder Alley ROW, Field Street ROW, Open Space, Single-Family Residential
East	Ivy Street, Single- and Multi-Family Residential
South	Ivy Street, Chestnut Street, Single- and Multi-Family Residential, Commercial
West	Chestnut Street, N. Mt. Shasta Boulevard, Single-Family Residential, Hotel, Commercial, UPRR Tracks

The topography of the project site is relatively flat with an elevation of approximately 3,582 ft above mean sea level (amsl) at its center and slopes generally southwest at an average of 4 percent. The lowest portion of the property is near the intersection of Ivy Street and Chestnut Street. Drainage runs west off the parcel into unnamed watercourses which drain into Cold Creek, then Lake Siskiyou. The project site appears to have been disturbed in the past, and most of the soil appears to be fill material. The northwestern edge of the parcel appears to be largely undisturbed, except for the channelization of a stream. This undisturbed area is labeled Field Street ROW partial vacation, approximately 40 ft wide, and has an area of approximately 5,000 square feet (sf).

3.3 Project Characteristics

The proposed project would include the construction of 24 affordable dwelling units in three (3) buildings, a community building, a manager's unit, ancillary structures, and parking areas on a vacant infill property along the northwestern edge of downtown Mt. Shasta. Refer to Figure 3 in Appendix A for a Site Plan.

Buildings

The proposed project includes the construction of five (5) total buildings, labeled A through E. Buildings A through C would be two (2) stories in height, and Buildings D and E would be one (1) story in height. In total, the proposed project would include 25 dwelling units. The proposed density would be 25 units on 1.15 acres for a density of 21.7 units per acre. The residential area would cover a total of 26,042 sf, and the common building area would cover 1,804 sf, for a total building area of 27,846 sf (approximately 0.64 acre). Each building is described in more detail below, and dwelling units are described in Table 2.

Building A

Building A would be 7,583 sf and would be two (2) stories in height. The total height of the building would be approximately 30 ft. Building A would be a multi-family residential building and would include seven (7) dwelling units, labeled A1-A7. Each unit would include a laundry hookup, heating, cooling, a full kitchen, and a full bathroom. Building A, including the ground floor and second floor roof, would include a standing metal roof with photovoltaic array.

Building B

Building B would be 7,116 sf and would be two (2) stories in height. The total height of the building would be approximately 30 ft. Building B would be a multi-family residential building and would include seven (7) dwelling units, B1-B7. Each unit would include a laundry hookup, heating, cooling, a full kitchen, and a full bathroom. Building B, including the ground floor and second floor roof, would include a standing metal roof with photovoltaic array.

Building C

Building C would be 9,906-sf and would be two (2) stories in height. The total height of the building would be approximately 30 ft. Building C would be a multi-family residential building and would include ten (10) dwelling units, C1-C10. Each unit would include a laundry hookup, heating, cooling, a full kitchen, and a full bathroom. Building C, including the ground floor and second floor roof, would include a standing metal roof with photovoltaic array.

Building D

Building D, the Community Building, would be 1,804 sf and would be one (1) story in height. The total height of the building would be 17 ft and 9 inches. Building D would include indoor amenities such as a multipurpose common room, a kitchen, a laundry room, a fitness room, a restroom, and a manager's office. Building D would also include two (2) large uncovered and one (1) covered patios. Building D would include a standing metal roof with photovoltaic array.

Building E

Building E, the manager's unit, would be 1,437 ft and would be one (1) story in height. The total height of the building would be 17 ft and 4 inches. Building E would be the manager's residence and would include one (1) residential unit, E1. The unit would include a laundry hookup, heating, cooling, a full kitchen, and a full bathroom. Building E would also include a patio. Building E would include a standing metal roof with photovoltaic array.

Dwelling Units

The proposed project would provide dwelling units in Buildings A, B, C, and E. The units would include two (2) 1-bedroom units, thirteen (13) 2-bedroom units, and ten (10) 3-bedroom units for a total of 58 bedrooms provided across the 25 dwelling units. The 1-bedroom units would be 544 sf; the 2-bedroom units would range between 947 sf and 1,130 sf; and the 3-bedroom units would range between 1,156 sf and 1,437 sf. A breakdown of each proposed unit is provided in Table 2 below.

TABLE 2
TOTAL DWELLING UNITS

Building	Unit #	Bedrooms	Total Square Feet (sf)
A	A1	3	1,206
A	A2*	3	1,156
A	A3**	2	947
A	A4	2	956
A	A5	2	956
A	A6**	3	1,156
A	A7*	3	1,206
B	B1	2	1,130
B	B2	2	956
B	B3	2	956
B	B4	2	956
B	B5	2	956
B	B6	2	956
B	B7*	3	1,206
C	C1	2	1,006
C	C2	2	956
C	C3	3	1,291
C	C4**	1	544
C	C5	2	956
C	C6	2	956
C	C7	3	1,291
C	C8	1	544
C	C9**	3	1,156
C	C10*	3	1,206
E	E1	3	1,437
Total Units		**Total Bedrooms**	**Total Square Feet (sf)**
25		58	26,042

* ADA-Adaptable Unit
** ADA-Accessible Unit

Outdoor amenities associated with the proposed project include a playground, picnic tables, viewing benches, lawn areas, landscaping, and pedestrian sidewalks. The buildings wrap around the core common areas, so that the building arrangement and massing provide shelter from train and other noise sources for the ruse of outdoor patios, playscapes, and garden areas. These outdoor spaces would have views of Mt. Shasta and protection from the prevailing winds. There would be openings between buildings through which these views are shared and pedestrian access provided.

Parking and Circulation

The proposed project would include 26 off-street parking spaces surrounding the townhomes and would include 22 on-street, angled parking spaces located along Chestnut Street and Ivy Street. Of the on-street parking, the project would include sixteen (16) diagonal parking spaces on Chestnut Street, and six (6) diagonal parking spaces on Ivy Street. However, the on-street parking spaces are not included in the calculation of the number of off-street parking spaces as required by the General Plan Land Use Code.

Residential projects with four (4) or more dwellings units are required to provide 1.5 parking spaces per unit, plus one space per each five units to be reserved for recreational vehicles, per Section 15.44.050 (B) of the Mount Shasta Municipal Code. However, as this project is an affordable housing project and exceeds the 20 percent minimum units for low-income, the project only requires 0.5 spaces per unit for a total of 12.5 spaces, rounded up to 13 parking spaces required. The project would include 26 off-street parking spaces and exceed the requirement of 13 parking spaces.

Of the 26 off-street parking spaces, 21 parking spaces would be canopied with a carport structure. The ends of the carports would have post and slat detailing to fit the aesthetics of the buildings as well as screen vehicles from the street. These spaces would be accessed from the parking aisle that crosses the property perpendicular from Chestnut Street. The other five (5) off-street parking spaces would be uncovered and would be accessed from Alder Alley. Of the 26 parking spaces, there would be one (1) standard American with Disabilities Act (ADA) parking space and one (1) Van Accessible parking space. The project would include a total of 8,606 sf of parking space within the 50,000-sf lot size.

The proposed project would include two (2) main vehicle access driveways: one off Chestnut Street; and one off Alder Alley. The driveway would include a 20-ft wide ingress and egress point that is accessible by Alder Alley and would include a 20-ft-wide egress and ingress point that is accessible by Chestnut Street. The project site would include a 25-ft wide drive aisle that extends from Chestnut Street to Alder Alley.

Pedestrian circulation would consist of sidewalks located within the interior of the project site as well as pedestrian sidewalks along Chestnut Street and Ivy Street. A main pedestrian walkway would be located down the center of the site parallel to Chestnut Street that serves as the primary accessible route, following along the grade contour. This pedestrian “spine” would be lighted with bollard-style high-efficacy dark-sky compliant lighting and would connect to a primary entry door at each unit’s ground floor level. The sidewalks would wrap around each building to allow for pedestrian access to all five (5) buildings. The sidewalks would also allow access to the 26 on-site parking spaces and 22 off-site parking spaces along Chestnut and Ivy Street. The pedestrian sidewalks would allow access to the proposed landscaped areas, playground area, and seating areas located throughout the project site. A proposed pedestrian accessible curb cut would be located at the intersection of Ivy Street and Chestnut Street and would include a crosswalk to allow pedestrians to cross Ivy Street safely.

Trash and Recycling

A covered trash and recycling enclosure would be located at the end of one of the carports. The enclosure would be accessible by the pedestrian walkway with a 3-ft-wide person-gate and would have an 8-ft-wide service bi-part swing gate that would face the parking driveway. This would allow the hauler(s) to service the dumpsters from Alder Alley.

Grading and Drainage

The project site includes an existing 18-inch storm drain along Chestnut Street, along with two (2) existing storm drain inlets located on the intersection of Chestnut Street and Ivy Street and on the intersection of Chestnut Street and Field Street. Two (2) existing small drainage channels are located on the northern side of the project site along the Field Street ROW and along the eastern side of the project site off Ivy Street.

The proposed landscaping plan would support the goals of infiltration and stormwater treatment using shallow bioswales/detention basins and similar low-impact development (LID) techniques. Detention basins would be located throughout the site wherever an appropriately sized landscape area is available. This would include areas adjacent to Ivy Street and Chestnut Street. The landscaping plan would also improve the public ROW landscaped areas to include stormwater LID treatments. Along Chestnut Street, the existing conditions already function as stormwater swales with shallow infiltration ditches, while also being connected to existing drain inlets. The project improvements would enhance the performance of these existing features by incorporating appropriate plantings and controlled overflow outlets where necessary.

The proposed project would require over one (1) acre of grading on the project site.

Snow Management

Snow removal is required per the City of Mt. Shasta Municipal Code Chapter 12.24. Per the Municipal Code, the project would require 2,177 sf of snow storage area. The proposed project would provide 2,594 sf of snow storage area, with 2,073 sf designated for double covered parking and 998 sf designated for alley access parking. Snow storage would be provided in landscaped areas adjacent to the off-street parking. The landscaping would be designed to allow snow storage during the winter without impacting the viability of the plants in the spring, summer, and fall.

Utilities and Lighting

The proposed project would provide water, sanitary sewer, electrical, and cable/internet connections to the project site.

<u>Water</u>

The project would tie into the existing City of Mt. Shasta water main line located on the northeastern boundary line along Alder Alley ROW and along the northwestern boundary line along Field Street ROW. Existing water meters are located at the intersection of Field Street ROW and Alder Alley ROW, the intersection of Field Street ROW and Chestnut Street, and the intersection of Chestnut Street and Ivy Street, as well as along Ivy Street, just east of the project site.

Sanitary Sewer

Additionally, the proposed project would tie into the existing City of Mt. Shasta sanitary sewer lines located along Ivy Street and located along the northern portion of the project site within the Field Street ROW partial vacation.

Electrical and Cable/Internet

The project would tie into the existing overhead power and phone lines located along Chestnut Street and the Field Street ROW partial vacation. An existing telephone pole is located at the intersection of Chestnut Street and Field Street ROW.

Lighting

The proposed project would include wall mounted lighting fixtures located at each unit entry in Buildings A-E. Bollards would be located along on-site pedestrian walking paths, and ceiling mounted lighting fixtures would be located under the 21 covered off-street parking spaces. The applicant may include pole lights along Chestnut and Ivy Streets for additional lighting for the project site.

Landscaping

The project would be designed to have zero impact on existing wetlands and to maintain as many existing mature trees as possible. The proposed landscaping plants and trees would be non-invasive and drought-tolerant throughout the year. Species would include locally or regionally native plants (mostly within bioswales and detention basins), and there would also be the inclusion of broadleaf trees providing shade and fall color. Additionally, the plantings would support the goals of infiltration and stormwater treatment using shallow bioswales/detention basins and similar LID techniques.

The proposed landscape plan would include street trees along the back of the on-street parking areas. This position would keep the trees out of the way of snow plows in the winter. Additional trees would be distributed throughout the site. The site includes existing trees, some of which are of mature age and size. Approximately 23 of these trees of mixed sizes would be removed as part of the project, however, approximately 30 trees of mixed sizes would be preserved. All of the trees located in the Field Street vacation area would be retained.
The landscape would include limited lawn area to reduce irrigation needs but would still provide some lawn play area. There would also be a playground quality wood-chip area and various interactive features including built-in seating. Landscape plantings would also be utilized to screen car-parking areas from outdoor activity areas.

Fencing and Signage

Most units would be provided with a semi-private outdoor space along the accessible pedestrian walkways. This space includes approximately 6-ft-tall fencing between units, and approximately 3- to 4-ft-tall “picket” fencing defining the edge along the pedestrian walkways.

A small monument sign with the name “Mountain Townhomes” would be located either on the corner of Chestnut and Ivy Street or on the vehicle ingress/egress entrance point along Chestnut Street.

Energy Efficiency

The proposed buildings would be designed and engineered to meet Advanced Framing standards as applicable within the building code. Each unit would be independently metered for its electrical use along with real-time energy monitoring display. Space heating and cooling would be provided by air-source heat pumps with equipment located in screened areas outside each unit. Solar photovoltaic panels would provide renewable electricity, with each unit receiving a credit toward their utility bill for their share of the energy that is sold to the electric utility company through a virtual net metering service. On-demand hot water heaters would provide water heating. The combination of these strategies, among others, would result in all-electric buildings that are energy efficient and comply with California Title 24 Building Energy Code standards.

3.4 Required Permits and Approvals

A listing and brief description of the approvals and/or regulatory permits required to implement the Mountain Townhomes project are provided below. This environmental document is intended to address the environmental impacts associated with the following discretionary actions and approvals.

City of Mt. Shasta

- **Conditional Use Permit**
- **Building Permit**
- **Grading Permit**
- **Design Review**
- **Consideration of the Environmental Document:** The City of Mt. Shasta will act as the Lead Agency as defined by CEQA and will have authority to determine if the environmental document is adequate under CEQA and the State CEQA Guidelines.
- **Project Approval:** The City of Mt. Shasta Planning Commission will consider approval of the project and the entitlements described above.

Agencies

- **California Department of Fish and Wildlife (CDFW):** The California Department of Fish and Wildlife requires a Lake and Streambed Alteration Agreement (LSAA) when a project activity may substantially adversely affect fish and wildlife resources. Fish and Game Code Section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW prior to beginning any activity that may do one or more of the following:
    - Divert or obstruct the natural flow of any river, stream, or lake;
    - Change the bed, channel, or bank of any river, stream, or lake;
    - Use material from any river, stream, or lake; or
    - Deposit or dispose of material into any river, stream, or lake.

- **Central Valley Regional Water Quality Control Board (CVRWQCB):** The State Water Resources Control Board, Division of Water Quality, requires that a Construction General Permit be obtained for projects that disturb more than 1 acre of soil. Typical conditions issued with such a permit include the submittal of and adherence to a Stormwater Pollution Prevention Plan (SWPPP), as well as prohibitions on the release of oils, grease, or other hazardous materials during construction. The project applicant and/or construction contractor would be required to file a Notice of Intent with the CVRWQCB.

3.5 General Plan Land Use Designation and Zoning

City of Mt. Shasta General Plan

The current City of Mt. Shasta General Plan was adopted by the City Council on August 22, 2007. The General Plan is the fundamental document governing land use development in the incorporated areas of the City. It includes numerous goals and policies pertaining to land use, circulation, housing, conservation, open space, parks and recreation, noise, public health and safety, and public facilities. The proposed project will be required to abide by applicable goals and policies included in the adopted General Plan.

The General Plan designation for the subject property is Central Residential (CR). CR is characterized by smaller, denser lots utilizing no less than 75 percent of the lot to create mixed use neighborhoods with commercial, social gathering, and residential spaces. CR areas focus on proximity and connections between neighbors. Open space in the central residential land use is structured with playgrounds, community gardens, and social gathering spaces like open plazas.

CR is the highest density of the residential land use designations with densities between 16 and 25 units per acre with an average of 35 people per acre. Housing types include live-work spaces, multiplex with 5 units or more, stacked triplexes, townhouses, cottage cluster or court housing, and courtyard buildings. The designation uses height rather than spreading out to achieve the unit density.

Permitted commercial uses within CR include those listed in Neighborhood Commercial. Special commercial uses are those listed in Active Commercial Center. Commercial uses may not exceed more than 30 percent of gross floor space of any structure in CR (City 2007).

Zoning

Zoning is Downtown Commercial (C-1). The purpose of the C-1 zoning district is to serve the commercial land use within the downtown of the City. The C-1 zone achieves multiple land use goals for the business community allowing the most flexibility in design and land use. The C-1 zoning district allows for the following uses:

A. A store, motel, office, bank, theaters, restaurant, or similar use, primarily conducted within a building, and not involving the use of significant amounts of hazardous substances, and not exceeding 10,000 square feet in floor area where all necessary public services and facilities are available, and the surrounding area is not environmentally sensitive.

B. Residential uses consistent with the R-3 zone district.

C. Residential uses within a commercial building.

D. Outdoor sales consistent with Section 18.23.

The C-1 zoning district allows for the following uses upon approval of a Conditional Use Permit (CUP):

A. Places of assembly or learning:

(1) Church or other places of worship or spiritual assembly.
(2) Community centers, or meeting places.
(3) Schools, public or private.

B. Veterinary offices with overnight boarding and hospitalization.

C. Large scale “big box” commercial uses consistent with Section 18.70 of the City of Mt. Shasta Municipal Code.

4.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology and Soils	☐ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☒ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒Tribal Cultural Resources
☐ Utilities and Service Systems	☒ Wildfire	☒ Mandatory Findings of Significance

5.0 DETERMINATION

On the basis of this initial evaluation:

☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect I) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Printed Name

For

6.0 ENVIRONMENTAL INITIAL STUDY CHECKLIST

The Lead Agency has defined the column headings in the environmental checklist as follows:

A. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

B. "Less Than Significant with Mitigation Incorporated" applies where the inclusion of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." All mitigation measures are described, including a brief explanation of how the measures reduce the effect to a less than significant level. Mitigation measures from earlier analyses may be cross-referenced.

C. "Less Than Significant Impact" applies where the project does not create an impact that exceeds a stated significance threshold.

D. "No Impact" applies where a project does not create an impact in that category. "No Impact" answers do not require an explanation if they are adequately supported by the information sources cited by the lead agency which show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project specific screening analysis).

The explanation of each issue identifies the significance criteria or threshold used to evaluate each question; and the mitigation measure identified, if any, to reduce the impact to less than significance. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [CEQA Guidelines Section 15063(c)(3)(D)]. Where appropriate, the discussion identifies the following:

a) Earlier Analyses Used. Identifies where earlier analyses are available for review.

b) Impacts Adequately Addressed. Identifies which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and states whether such effects were addressed by mitigation measures based on the earlier analysis.

c) Mitigation Measures. For effects that are "Less Than Significant with Mitigation Incorporated," describes the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

I. AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) 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). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

The City of Mt. Shasta is located in an area where the regional landscape includes numerous features of significant aesthetic value, including Mount Shasta Volcano, Castle Crags, Mount Eddy, and the Trinity Divide. The mountain slopes are densely forested. The slopes gradually, and in some cases abruptly, make a transition to the meadow areas of the Strawberry Valley floor. The pastoral setting of Strawberry Valley and other areas, even though largely intermixed with low-density residential and other development, provides a visually pleasing environment. In the City itself, the urban landscape in most cases has replaced the natural environment with a built environment dominated by buildings of varying architectural design, roadways and parking lots, and landscaping consisting of a variety of evergreen and deciduous trees and non-indigenous species (City 2007).

The project site is located along the northwestern edge of downtown City of Mt. Shasta. The topography of the project site is flat with an elevation of approximately 3,582 ft amsl at its center, and slopes generally southwest at an average of 4 percent. Drainage runs southwest off the parcel into unnamed watercourses which drain into Cold Creek before reaching Lake Siskiyou. The project site appears to have been disturbed in the past, and most of the soil appears to include fill material. The northwestern edge of the parcel appears to be largely undisturbed, except for the channelization of a stream.

The area in which the project is located is characterized by residential and commercial development. I-5 is approximately 0.34-mile west of the project site, and UPRR tracks are located approximately 300 feet west of the project site. The project is bounded by Alder Alley ROW, a dirt road, to the northeast, Field Street ROW, a gravel road, to the northwest, Chestnut Street, a paved road, to the west/southwest, and Ivy Street, a paved road, to the east/southeast.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to aesthetics that apply to the proposed project. The portion of I-5 passing through Mount Shasta City is designated the Volcanic Legacy Scenic Byway by the U.S. Forest Service, but the proposed project would not be visible from I-5 (National Park Service 2023).

STATE

California Scenic Highway Program

The California Scenic Highway Program, administered by the California Department of Transportation (Caltrans), was established in 1963 to preserve and protect the natural beauty of scenic highway corridors in the State. The Scenic Highway System includes a list of highways that have been designated as scenic highways as well as a list of highways that are eligible for designation as scenic highways. Local jurisdictions can nominate scenic highways for official designation by identifying and defining the scenic corridor of the highway and adopting a Corridor Protection Program that includes measures that strictly limit development and control outdoor advertising along the scenic corridor.

California Building Standards Code

Title 24 of the CCR, also known as the California Building Standards Code (CBSC), is based on the International Building Code (IBC) used widely throughout the country. The CBSC has been modified for California conditions to include more detailed and/or more stringent regulations. Part 11 of the CBSC is the Green Building Standards Code, also known as CALGreen. Section 5.106.8 (Light Pollution Reduction) of the CALGreen Code includes standards and restrictions for outdoor lighting systems. The intent of this requirement is to minimize light pollution in an effort to maintain dark skies and to ensure that newly constructed projects reduce the amount of backlight, uplight, light, and glare from exterior light sources.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and Implementation Measures (IMs) that apply to the proposed project:

Open Space and Conservation Element		
Goals	OC-7	Protect the scenic resources of the Mt. Shasta area.
Policies	OC 7.1	Promote the protection of the scenic beauty of the Mt. Shasta area through appropriate zoning, development standards, and the development review process involving lands in both the City and outside the City limits. The County is encouraged to support and help implement this policy.
IM	OC 7.1 (b)	Establish and enforce standards for new development to protect visible hillside and ridges. These standards will address screening, design, and setbacks from the tops of ridges.

Discussion

a) Have a substantial adverse effect on a scenic vista?

Less than significant impact. Scenic vistas are defined as expansive views of highly valued landscapes from publicly accessible viewpoints. Scenic vistas include views of natural features such as mountains, hills, valleys, water courses, outcrops, and natural vegetation, as well as man-made scenic structures. The City of Mt. Shasta is located in an area of substantial scenic variety and beauty. The landscape includes numerous features of significant aesthetic value, including the Mount Shasta Volcano, Castle Crags, Mount Eddy, and the Trinity Divide. Other scenic features, more immediate to the planned area, include Spring Hill, Quail Hill, and Black Butte. However, the project site would not be located within a Scenic View Shed as outlined in Figure 5-6 in the City's General Plan (City 2007).

The project would introduce new structures on the site, which would add a vertical element to the immediate viewshed. The project site would be visible to individuals living and working in the area and to travelers on adjacent roadways, including Chestnut Street, Ivy Street, Field Street ROW, Alder Street ROW, and N. Mt. Shasta Boulevard. The height of Buildings A-C would be 30 ft, and Buildings D and E would be between 17- and 18-ft in height. Figure 4 included in Appendix A shows the site elevations in comparison to trees, streets, and pedestrians. The project has been designed to be consistent with the City's General Plan Housing Element goals and policies while also implementing the City's Land Use Codes and Design Guidelines.

The project would be designed with openings between buildings through which the views of Mount Shasta are shared and pedestrian access provided. Additionally, the buildings and outdoor amenities proposed on-site, including a playground, picnic tables, viewing benches, lawn areas, landscaping, and pedestrian sidewalks, would be designed to retain the natural viewsheds of the surrounding area.

Under General Plan Implementation Measures OC-7.1(a) and OC-7.1(b), new development should be located outside of scenic vistas and off of prominent slope exposures and ridge lines. The proposed project would not be in conflict with these measures because it would not be within a scenic vista area identified in Figure 5-6 of the City's General Plan or on a slope or ridge line, nor would it intrude into the view plane of important scenic features. For these reasons, the proposed project would not have a substantial adverse effect on a scenic vista. The impact would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No impact. There are no state or locally designated scenic highways in the vicinity of the proposed project (Caltrans 2022). I-5 is located west of the project site and is designated eligible for a scenic highway designation but is not officially designated scenic (Caltrans 2022). Additionally, the portion of I-5 passing through Mount Shasta is designated the Volcanic Legacy Scenic Byway by the U.S. Forest Service; however, the proposed project would not be visible from I-5 and would therefore have no impact. Implementation of the proposed project would not adversely affect scenic resources within a designated scenic highway. Therefore, no impact would occur, and no mitigation would be necessary.

c) In non-urbanized 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). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than significant impact. The existing visual character of the area surrounding the project site is characterized by commercial and residential development. Development of the multi-family apartment complex on the project site would be consistent with the surrounding suburban land uses and development. While the proposed project would result in a change in visual character as the site is currently vacant, the proposed land uses are consistent with the overall suburban development in the vicinity, and the proposed developments are expected to integrate into the existing and planned development within the area. Figure 4 included in Appendix A shows the site elevations in comparison to trees, streets, and pedestrians. The project would be consistent with the City's General Plan Housing Elements goals and policies while also implementing the City's Land Use Codes and Design Guidelines, as discussed in question a).

Construction of the proposed project would temporarily cause visual impacts due to the use of construction equipment and grading/earthwork; however, this would cease when the project is complete. The three (3) main residential buildings, Buildings A, B, and C would be positioned adjacent to and fronting the new sidewalks along Ivy Street and Chestnut Street. This positioning would respond to the small-town character of front porches rather than parking area being part of the streetscape. This is also identified as a goal in the Design Guidelines for Multi-Family Dwellings. Pursuant to Mt. Shasta Municipal Code (MSMC) Chapter 18.60 (Architectural Review), the City of Mt. Shasta Design Guidelines apply to all new projects that require a building permit. Compliance with the City's Design Guidelines would be confirmed during plan review of the final building and site plans submitted with the Building Permit application. Implementation of the approved design features would be verified by the City's Building Official and City Planner prior to issuance of a Certificate of Occupancy for the building. Therefore, with compliance and implementation of the City's Land Use Codes and Design Guidelines and the City's General Plan Housing Element goals and policies, impacts would be less than significant.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less than significant impact. As discussed under the Regulatory Context above, the CALGreen Code includes requirements and restrictions intended to minimize light pollution in an effort to maintain dark skies. The City's Design Guidelines also require that lighting be adequately shielded from adjacent properties and designed to minimize the potential for unnecessary lighting of the night sky.

The proposed project would include wall mounted lighting fixtures located at each unit entry in Buildings A-E. A main pedestrian walkway would be located down the center of the site parallel to Chestnut Street that serves as the primary accessible route, following along the grade contour. This pedestrian "spine" would be lighted with bollard-style high-efficacy dark-sky compliant lighting and would connect to a primary entry door at each unit's ground floor level. Additionally, ceiling mounted lighting fixtures would be located under the 21 covered off-street parking spaces. The applicant may include pole lights along Chestnut Street and Ivy Street for additional lighting for the project site. It is the responsibility of the City's Building Official to review construction documents, including electrical plans and specifications for exterior lighting, prior to issuance of a building permit to ensure that CALGreen

and City requirements for outside lighting conform to adopted standards. Therefore, impacts would be less than significant.

II. AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non- forest use?	☐	☐	☐	☒

Environmental Setting

No agricultural activities or timber management occur on or near the project site, and the project site is not designated for those land uses. The California Important Farmland Finder Interactive Map prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Department of Conservation (DOC) classifies the project site as urban and built-up land (DOC 2022a). Urban and built-up land is defined by the California Department of Conservation as land occupied by structures or infrastructure with a building density of at least one unit to one and one-half acres, or approximately six structures to a 10-acre parcel. Other land is defined by land that is not included in any other category, which includes areas not suitable for agricultural uses.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to agriculture or forest resources that apply to the proposed project.

STATE

California Farmland Mapping and Monitoring Program

The FMMP was established in 1982 to provide data to decision makers to assist them in making informed decisions for the best utilization of California's farmland. Under the FMMP, the DOC is responsible for mapping, monitoring, and reporting on the conversion of the State's farmland to and from agricultural use. Important Farmland Maps are updated and released every two years. The following mapping categories, which are determined based on soil qualities and current land use information, are included in the FMMP: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, grazing land, urban and built-up land, other land, and water.

Williamson Act

The Williamson Act (California Land Conservation Act of 1965) was enacted as a means to protect agricultural uses in the State. Under the Williamson Act, local governments can enter into contracts with private landowners to ensure that specific parcels are restricted to agricultural and related open space uses. In return, landowners receive reduced property tax assessments. The minimum term for a Williamson Act contract is ten years, and the contract is automatically renewed for one-year terms unless the landowner files a notice of nonrenewal or a petition for cancellation. When a notice of non-renewal is filed, the annual tax assessment gradually increases over a ten-year period until it reaches the market value tax rate, at which time the contract is terminated. The landowner may also petition the local government to immediately cancel the contract. If the cancellation is approved, the landowner must pay a cancellation fee, and the property is thereafter taxed at its current market value.

Forest Land and Timberland

PRC Section 12220(g) defines Forest Land as "land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." PRC Section 4526 defines timberland as "land, other than land owned by the federal government, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees." Government Code Section 51104(g) defines Timberland Production Zone as "an area which has been zoned pursuant to [Government Code] Section 51112 or Section 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h)."

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Open Space and Conservation Element		
Goals	OC-4	Encourage and conserve lands for agricultural purposes.
	OC-5	Encourage and conserve lands for timber purposes.
Policies	OC 4.1	Allow agricultural production lands to remain available for agriculture and rural uses
	OC 5.1	Allow timber production lands to remain available for the harvest and replanting of timbe resources, as well as rural and recreation use.

Discussion

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No impact. According to the Important Farmland in California map published by the FMMP, the project is designated as Urban and Built-Up Land (DOC 2022a). Neither the project site nor surrounding properties are designated as prime farmland, unique farmland, or farmland of statewide or local importance.

Additionally, the project site is not zoned agricultural use or enacted into a Williamson Act contract. The project site is not identified as an agricultural preserve in the General Plan and is not subject to a Williamson Act contract, nor are any surrounding properties. The project site is vacant and zoned C-1 (Downtown Commercial) in the Mt. Shasta Land Development Code, which is intended to serve as the commercial land use district for areas within the city's downtown commercial area. This zoning district is not intended for agricultural uses. The proposed project would not conflict with existing zoning or convert the property from agricultural use. No impacts would occur, and no mitigation would be necessary for questions a) and b).

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No impact. According to the City's and County's General Plans, the project site and surrounding area are not designated as timberland and are not zoned for timberland production. Therefore, the proposed project would have no impact on timberland or cause rezoning of timberland. As stated under Regulatory Context above, "forest land" is defined in PRC Section 12220(g) as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

However, the project site does not support 10 percent native tree cover of any trees species. In addition, the project site and surrounding area are not designated as forest land. Therefore, there would be no impact.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No impact. The proposed project is a multi-family residential development that would not necessitate or result in the conversion of on- or off-site farmland or forest land. The entirety of the proposed project would occur on the one 1.15-acre parcel zoned for commercial uses. Therefore, no impacts would occur, and no mitigation would be required.

III. AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) 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?	☐	☐	☐	☒
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

HELIX Environmental Planning, Inc. conducted air quality modeling (California Emissions Estimator Model [CalEEMod]) for the proposed project based on the site plan. Air quality modeling output files and quantitative results are presented in Appendix B.

Environmental Setting

The City of Mt. Shasta and the project site are located in a region identified as the Northeast Plateau Air Basin (NPAB), which principally includes Siskiyou, Modoc, and Lassen counties. This large air basin is divided into local air districts, which are charged with the responsibility of implementing air quality programs. While the other counties in the air basin are identified as currently being in nonattainment for exceeding state criteria pollutant levels for particulate matter, Siskiyou County and the City of Mt. Shasta are identified as being in attainment or unclassified for all federal and state air quality standards (CARB 2017).

The local air quality agency affecting Mt. Shasta is the Siskiyou County Air Pollution Control District (SCAPCD). In the local air district, the primary sources of air pollution are wood-burning stoves, wildfires, farming operations, unpaved road dust, managed burning and disposal, and motor vehicles. The project

site is currently vacant and does not have a land use in place that produces emissions or emits air quality–impacting emissions. The SCAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural and nonagricultural burning. Other district responsibilities include monitoring air quality, preparing air quality plans, and responding to citizen air quality complaints.

The nearest sensitive receptors to the project site are multi-family residential homes located across Ivy Street, approximately 65 feet south of the project site.

Regulatory Context

FEDERAL

Federal Ambient Air Quality Standards

The U.S. Environmental Protection Agency (USEPA), under the federal Clean Air Act (CAA), establishes maximum ambient concentrations for criteria air pollutants (CAP), known as the National Ambient Air Quality Standards (NAAQSs). Ambient air quality is described in terms of compliance with state and national standards, and the levels of air pollutant concentrations considered safe, to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as people with asthma, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. The EPA has established NAAQS for seven air pollution constituents. As permitted by the Clean Air Act, California has adopted more stringent air emissions standards (California Ambient Air Quality Standards, or CAAQS) and expanded the number of regulated air constituents.

The NAAQSs are established to protect the health and welfare of the populace with a reasonable margin of safety. Table 3 identifies the seven CAPs as well as characteristics, health effects and typical sources for each CAP:

TABLE 3
FEDERAL CRITERIA AIR POLLUTANTS

Pollutant	Characteristics	Primary Effects	Major Sources
Ozone (O3)	Ozone is a colorless or bluish gas formed through chemical reactions between two major classes of air pollutants: reactive organic gases (ROG) and oxides of nitrogen (NOX). These reactions are stimulated by sunlight and temperature; thus, ozone occurs in higher concentrations during warmer times of the year.	• Respiratory symptoms. • Worsening of lung disease leading to premature death. • Damage to lung tissue. • Crop, forest, and ecosystem damage. • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.	Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.

Pollutant	Characteristics	Primary Effects	Major Sources
Carbon Monoxide (CO)	Carbon monoxide is an odorless, colorless gas produced by the incomplete combustion of carbon containing fuels, such as gasoline and wood. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of carbon monoxide.	• Chest pain in patients with heart disease. • Headache. • Light-headedness. • Reduced mental alertness.	Motor vehicle exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide (NO2)	Nitrogen dioxide is a reddish-brown gas formed when nitrogen (N2) combines with oxygen (O2). Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition. Of the seven types of nitrogen oxide compounds, NO2 is the most abundant in the atmosphere and is related to traffic density.	• Respiratory symptoms. • Damage to lung tissue. • Worsening of cardiovascular disease. • Precursor to ozone and acid rain. • Contributes to global warming and nutrient overloading which deteriorates water quality. • Causes brown discoloration of the atmosphere.	Automobile and diesel truck exhaust, petroleum-refining operations, industrial sources, aircraft, ships, railroads, and fossil-fueled power plants.
Sulfur Dioxide (SO2)	Sulfur dioxide is a colorless, nonflammable gas that results mainly from burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries.	• Respiratory symptoms. • Worsening of cardiovascular disease. • Damage to a variety of materials, including marble, iron, and steel. • Damages crops and natural vegetation. • Impairs visibility. • Precursor to acid rain.	Petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and large ships, and fuel combustion in diesel engines.
Particulate Matter (PM2.5 and PM10)	Particulate matter is a major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols that are small enough to remain suspended in the air for a long period of time. Particulate matter with a diameter of 10 microns or less (PM10) are inhalable into the lungs and can induce adverse health effects. Fine particulate matter is defined as particles that are 2.5 microns or less in diameter (PM 2.5). Therefore, PM2.5 comprises a portion of PM10.	• Premature death. • Hospitalization for worsening of cardiovascular disease. • Hospitalization for respiratory disease • Asthma-related emergency room visits. • Increased symptoms, increased inhaler usage	Dust- and fume-producing Construction activities, power plants, steel mills, chemical plants, unpaved roads and parking lots, woodburning stoves and fireplaces, wildfires, motor vehicles, and other combustion sources. Also a result of photochemical processes.

Pollutant	Characteristics	Primary Effects	Major Sources
Lead	A heavy metal that occurs both naturally in the environment and in manufactured products.	• Impaired mental functioning in children • Learning disabilities in children • Brain and kidney damage. • Reproductive disorders. • Osteoporosis.	Lead-based industrial production (e.g., battery production and smelters), recycling facilities, combustion of leaded aviation gasoline by piston driven aircraft, and crustal weathering of soils followed by fugitive dust emissions.

STATE

State Ambient Air Quality Standards

The California CAA establishes maximum concentrations for the seven federal CAPs, as well as the four additional air pollutants identified below. The four additional standards are intended to address regional air quality conditions, not project-specific emissions. These maximum concentrations are known as the CAAQSs. The California Air Resources Board (CARB) has jurisdiction over local air districts and has established its own standards and violation criteria for each CAP under the CAAQS. For areas within the State that have not attained air quality standards, the CARB works with local air districts to develop and implement attainment plans to obtain compliance with both federal and State air quality standards.

- **Visibility-Reducing Particles.** Visibility-reducing particles vary greatly in shape, size, and chemical composition, and come from a variety of natural and manmade sources. Major sources include wildfires, residential fireplaces and woodstoves, windblown dust, ocean sprays, biogenic emissions, dust and fume-producing construction, industrial and agricultural operations, and fuel combustion. Primary effects include visibility impairment, respiratory symptoms, and worsening of cardiovascular disease.

- **Sulfate (SO4).** Sulfate is oxidized to sulfur dioxide (SO2) during the combustion process and is subsequently converted to sulfate compounds in the atmosphere. Major sources include industrial processes and the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. Primary effects include respiratory symptoms, worsening of cardiovascular disease, damage to a variety of materials, including marble, iron, and steel, damage to crops and natural vegetation, and visibility impairment.

- **Hydrogen Sulfide (H2S).** Hydrogen sulfide is a colorless gas with the odor of rotten eggs. Major sources include geothermal power plants, petroleum refineries, and wastewater treatment plants. Primary effects include eye irritation, headache, nausea, and nuisance odors.

- **Vinyl Chloride (chloroethene).** Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. It is also listed as a toxic air contaminant because of its carcinogenicity. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites due to microbial

breakdown of chlorinated solvents. Primary effects include dizziness, drowsiness, headaches, and liver damage.

Table 4 provides the federal and State ambient air quality standards:

TABLE 4
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	National Standards
Ozone (O3)	8 hour	0.070 (137µg/m3)	0.070 ppm (137µg/m3)
	1 hour	0.09 ppm (180 µg/m3)	--
Carbon Monoxide (CO)	8 hour	9 ppm (10 mg/m3)	9 ppm (10 mg/m3)
	1 hour	20 ppm (23 mg/m3)	35 ppm (40 mg/m3)
Nitrogen Dioxide (NO2)	1 hour	0.18 ppm (339 µg/m3)	100 ppb (188 µg/m3)
	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	0.053 ppm (100 µg/m3)
Sulfur Dioxode (SO2)	24 hour	0.04 ppm (105 µg/m3)	0.14
	3 hour	--	--
	1 hour	0.25 ppm (665 µg/m3)	75 ppb (196 µg/m3)
	Annual Arithmetic Mean	--	0.030 ppm
Particulate Matter (PM10)	Annual Arithmetic Mean	20 µg/m3	--
	24 hour	50 µg/m3	150 µg/m3
Particulate Matter-Fine (PM2.5)	Annual Arithmetic Mean	12 µg/m3	12 µg/m3
	24 hour	--	35 µg/m3
Sulfates	24 hour	25 µg/m3	--
Lead	Calendar Quarter	--	1.5 µg/m3
	30 Day Average	1.5 µg/m3	--
	Rolling 3-Moth Average	None	0.15 µg/m3
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m3)	--
Vinyl Chloride (chloroethene)	24 hour	0.01 ppm (26 µg/m3)	--
Visibility-Reducing Particles	8 hour	--	--

Source: CARB 2017
Notes: mg/m3=milligrams per cubic meter; ppm=parts per million; ppb=parts per billion; µg/m3=micrograms per cubic meter

Toxic Air Contaminants

Toxic air contaminants (TAC) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs can cause long-term chronic 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), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The Health and Safety Code (§39655[a]) defines TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." All substances that are listed as hazardous air pollutants pursuant to subsection (b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) are designated as TACs. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2022a). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California's population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2022a).

Mobile Source Strategy

CARB's Mobile Source Strategy, adopted in 2016, describes the State's strategy for containing air pollutant emissions from vehicles, and demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risks from transportation emissions, and reduce petroleum consumption over the next fifteen years.

Senate Bill 210 (2019), Heavy-Duty Vehicle Inspection and Maintenance Program

SB 210, signed by the Governor on September 20, 2019, recognizes that communities near highways and roads with high levels of truck traffic bear the burden of heavy-duty trucks that are not maintained. According to CARB, as of 2016, heavy-duty trucks operating in the State emitted nearly 60 percent of all NOX emissions from on-road mobile sources. Heavy-duty diesel trucks are also the largest source of diesel particulate matter emissions in the State.

Under the Heavy-Duty Vehicle Inspection and Maintenance Program heavy-duty diesel trucks will have to pass a smog check to ensure vehicle emission controls are maintained in order to register or operate in California. Upon implementation of the Program, CARB must provide mechanisms for out-of-state owners of heavy-duty vehicles to establish and verify compliance with State regulations for heavy-duty diesel trucks prior to entering the State.

Senate Bill 44 (2019), Medium- and Heavy-Duty Vehicles: Comprehensive Strategy

SB 44 requires CARB to update the State's Mobile Source Strategy no later than January 1, 2021, to include a comprehensive strategy to reduce emissions from medium- and heavy-duty vehicles in order to meet federal ambient air quality standards and reduce GHG emissions from this sector. The Bill also requires CARB to establish emission reduction goals for 2030 and 2050 for medium- and heavy-duty vehicles.

California Energy Code

The California Energy Code (Part 6 of the CBSC), also known as the State's Energy Efficiency Standards, was established by the California Building Standards Commission in 1978 with a goal of reducing California's energy consumption for residential and nonresidential buildings.

The Standards include mandatory measures related to building envelopes, mechanical systems, indoor and outdoor lighting, and electrical power distribution. Section 120.1 of the State Energy Code includes requirements for ventilation and indoor air quality. Section 120.1(c) requires all occupiable spaces in nonresidential buildings to implement air filtration systems to clean the outside and return air prior to its introduction into occupied spaces. For all newly constructed nonresidential buildings over 10,000 square feet, building commissioning must be included in the design and construction process to verify that the building's energy systems and components meet State Energy Code requirements for energy efficiency.

LOCAL

Siskiyou County Air Pollution Control District

The SCAPCD has the responsibility of enforcing federal and state air quality regulations in Siskiyou County. It also issues rules and regulations setting specific standards of operation, defining permit requirements, and setting emission limits. For new or modified stationary sources, the SCAPCD has defined 250 pounds (lbs)/day as the threshold of significance for NOX, PM2.5, PM10, and SO2 emissions, and 2,500 lbs/day as the threshold of significance for CO emissions (Rule 6.1). Siskiyou County is currently designated in attainment or unclassified status for all federal and state criteria pollutants; therefore, the County is not required to have a local air quality attainment plan.

The SCAPCD is responsible for addressing emissions from stationary sources through permits and local rules (CARB 2022b). Rule 4.1, Visible Emissions, and Rule 4.2, Nuisance, address what is prohibited from being discharged into the atmosphere. Rule 4.1 states that a person shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than three minutes in any one hour which is 1) as dark or darker in shade as designated as No. 2 on the Ringlemann chart as published by the United States Bureau of Mines, or 2) of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subjection A. Rule 4.2 states that no person shall discharge from any source whatsoever, such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of person or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. The SCAPCD would be required to comply with all local rules and policies.

City of Mt. Shasta General Plan

The City's General Plan includes the following Goal and Policy that apply to the proposed project:

Open Space and Conservation Element		
Goals	OC-11	Strive to maintain clean air in the planning area.
Policy	OC-11	Work with the County to maintain attainment status in the planning area.

Discussion

a) Conflict with or obstruct implementation of the applicable air quality plan?

No impact. The project site lies within the boundaries of the NPAB. While the other counties in the air basin are identified as currently being in nonattainment for exceeding state criteria pollutant levels for particulate matter, Siskiyou County and the City of Mt. Shasta are identified as being in attainment or unclassified for all federal and state air quality standards (CARB 2017). As such, there is not an air quality plan that is applicable to the proposed project. There would be no impact.

b) 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?

No impact. Implementation of the proposed project would generate air emissions during project construction and operation. The projected criteria pollutant emissions were estimated using the CalEEMod Version 2020.4.0. The site-specific inputs and model assumptions and results are included in Appendix B.

Construction

The CalEEMod Version 2020.4.0 was used to quantify project-generated construction emissions. The model output sheets are included in Appendix B. Construction activities were assumed to commence as early as July 2023 and be operational in 2025. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod; and/or, (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

Implementation of the proposed project would result in short-term criteria air pollutant emissions from construction and site preparation activities. ROG and NOx emissions would be the result of construction worker vehicle trips, delivery of materials, and construction equipment exhaust. PM10 would be generated during site preparation, excavation, road paving, and from exhaust associated with construction equipment. The project's estimated construction emissions compared to SCAPCD standards are shown in Table 5. As indicated by the data, the proposed project's construction emissions would not exceed the standards. Construction impacts would be less than significant.

TABLE 5
CONSTRUCTION EMISSIONS

Construction Period	Unmitigated Emissions (pounds per day)				
	ROG	NOx	CO	PM10	PM2.5
Winter	87.3	14.5	14.1	7.8	4.0
Summer	87.3	14.5	14.1	7.8	4.0
SCAPCD Significant Thresholds	250	250	2,500	250	250
Exceed Threshold?	No	No	No	No	No

Source of emissions estimates: CalEEMod output (Appendix B).

Operation

Operational air quality impacts would include emissions from project-generated traffic and project operations, including trips from residents and maintenance trips. The predicted maximum daily emissions associated with the project operations compared to SCAPCD thresholds are summarized in Table 6. The proposed operational emissions would not exceed the SCAPCD thresholds, and therefore operational impacts would be less than significant.

TABLE 6
OPERATIONAL EMISSIONS

Construction Period	Unmitigated Emissions (pounds per day)				
	ROG	NOx	CO	PM10	PM2.5
Winter and Summer	40.1	2.3	57.4	8.3	7.1
SCAPCD Significant Thresholds	250	350	2,500	250	250
Exceed Threshold?	No	No	No	No	No

Source of emissions estimates: CalEEMod output (Appendix B).

Because Siskiyou County is in attainment for all monitored air quality standards and the proposed project would not exceed thresholds, no cumulatively considerable net increase of criteria pollutants would result from the project. Therefore, no impacts would occur.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact. CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptor locations. Examples of these sensitive receptor locations are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptor sites to the project site are muti-family housing buildings approximately 65 feet south of the project site, across Ivy Street. The school nearest to the project site is Northern Unites-Siskiyou Charter School, located approximately 0.2 mile southeast of the project site at 427 Alder Street. The nearest hospital is the Mercy Medical Center Mt. Shasta, located approximately 850 ft west of the project site at 914 Pine Street.

Implementation of the project would result in the use of heavy-duty construction equipment, haul trucks, and construction worker vehicles. These vehicles and equipment would generate the TAC DPM. Generation of DPM from construction projects typically occurs in a localized area (e.g., at the project site) for a short period of time. Because construction activities and subsequent emissions vary depending on the construction activity (e.g., grading, building construction), the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. During some equipment-intensive activities such as grading and excavation, construction-related emissions would be higher than other less equipment-intensive activities such as building construction.

The use of diesel-powered construction equipment would be temporary and episodic. The duration of exposure would be short, and exhaust from construction equipment dissipates rapidly. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. Additionally, construction activities would occur in an area of less than 5 acres.

Construction projects on a site of such size represent less than significant health risk impacts due to limitations on the off-road diesel equipment able to operate and thus a reduced amount of generated diesel PM, and the reduced duration of construction activities compared to the development of larger sites.

The project would comply with SCAPCD Rule 4.1 and 4.2 and would incorporate dust control management practices including, but not limited to: covering or watering all material excavated, stockpiled, or graded materials, sweeping or washing paved streets adjacent to the construction site that are used by project construction vehicles and/or equipment, suspending all land clearing, grading, earth moving, or excavating activities when winds are expected to exceed 20 miles per hour, limiting vehicle speed to 15 miles per hour on unpaved roads. Incorporation of dust control management practices would minimize the health risk from dust emissions.

Furthermore, through conditions of approval, construction would be subject to mandatory compliance with CARB regulations limiting the idling of heavy-duty construction equipment to no more than 5 minutes, which would further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. For these reasons, DPM generated by construction activities, in and of itself, would not be expected to expose sensitive receptors to substantial amounts of air toxics, and impacts would be less than significant.

Once operational, the project would not be a significant source of TACs. The proposed project would not attract mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed project would not include stationary sources that emit TACs. Therefore, operational activities would not expose sensitive receptors to substantial amounts of air toxics, and impacts would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than significant impact. Odors associated with diesel exhaust and ROG from application of asphalt and architectural coatings would be emitted during project construction. The odor of these emissions is objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not be at a level that would affect a substantial number of people. Further, construction activities would be temporary. As a result, impacts associated with temporary odors during construction are not considered significant.

As a residential development, operation of the project would not result in odors affecting a substantial number of people. Solid waste generated by the project would be collected by a contracted waste hauler, ensuring that any odors resulting from on-site waste would be managed and collected in a manner to prevent the proliferation of odors. The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

IV. BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☒	☐	☐
c) 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?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Environmental Setting

The project site is an undeveloped lot in a pocket of undeveloped land along the northwestern edge of downtown Mt. Shasta. The project site abuts one undeveloped and one partially developed lots to the north and northwest and occurs along Chestnut Street and East Ivy Street. Surrounding land uses include private residences, apartment complexes, commercial buildings, and a hospital. The project site is not associated with any current land use, and historic aerial imagery and topographic maps show no alteration in the use or condition of the property dating back to pre-1993 (NETR 2022). Prior to 1993, the project site was heavily vegetated with trees and shrubs as far back as 1955 (NETR 2022). The topography of the project site is generally flat with rocky soil. There is a gradual downward slope from northeast to southwest. The site is predominantly disturbed grassland, with riparian vegetation dominating the northeastern and northwestern margins of the project site. Riparian vegetation is

associated with two small perennial drainages which are culverted under roadways and are tributary to Cold Creek, which is tributary to the Sacramento River via Lake Siskiyou.

Regulatory

FEDERAL/STATE

State and Federal Endangered Species Act

Special status species are protected by state and federal laws. The California Endangered Species Act (CESA; California Fish and Game Code Sections 2050 to 2097) protects species listed as threatened and endangered from harm or harassment. This law is similar to the Federal Endangered Species Act of 1973 (FESA; 16 USC 1531 et seq.) which protects federally threatened or endangered species (50 CFR 17.11, and 17.12; listed species) from take. Both laws include a process for issuance of permits for incidental take of listed species through consultation with the agency having jurisdiction over the protected species. Incidental take is a take resulting as an unintended consequence of an otherwise lawful action.

California Code of Regulations and California Fish and Game Code

The official listing of endangered and threatened animals and plants is contained in the California Code of Regulations Title 14 § 670.5. A state candidate species is one that the California Fish and Game Code has formally noticed as being under review by California Department of Fish and Wildlife (CDFW) for inclusion on the state list pursuant to Sections 2074.2 and 2075.5 of the California Fish and Game Code. CDFW also designates Species of Special Concern that are not currently listed or candidate species. Legal protection is also provided for wildlife species in California that are identified as “fully protected animals.” These species are protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fishes) of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species at any time. Incidental take of fully protected species is not permitted except in conjunction with an approved Natural Community Conservation Plan that provides adequate coverage to the fully protected species (California Fish and Game Code Section 2835).

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (California Fish and Game Code Sections 1900 to 1913) requires all state agencies to use their authority to implement programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use other than changing from one agricultural use to another, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting and Migratory Birds

Nesting birds are protected by state and federal laws. California Fish and Game Code (§3503, 3503.5, and 3800) prohibits the possession, incidental take, or needless destruction of any bird nests or eggs; Fish and Game Code §3511 designates certain bird species, including all raptors, “fully protected”, making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. Under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USF §703-711), migratory bird species and their nests and eggs that are on the federal list (50 CFR §10.13) are protected from injury or death, and project-related disturbance must be reduced or eliminated during the nesting cycle.

Jurisdictional Waters

Any person, firm, or agency planning to alter or work in the waters of the U.S. (WOUS), including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Section 401 of the CWA requires an applicant for a federal license or permit under Section 404 to also obtain a state certification that the discharge complies with other provisions of the CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California. The extent of USACE jurisdiction under the CWA is determined by USACE according to published definitions that are informed by statute, regulatory practice, and judicial rulings.

Waters of the State are protected by state laws including Section 1600 et seq. of the California Fish and Game Code, and the Porter-Cologne Water Quality Control Act. Waters of the State generally have a broader definition than WOUS. Alteration of a lake or stream as defined in the California Fish and Game Code requires the execution of a Streambed Alteration Agreement with CDFW. Actions that would result in a discharge of pollutants into waters of the State must be permitted by the RWQCB pursuant to Porter-Cologne.

LOCAL

City of Mt. Shasta General Plan

The City of Mt. Shasta has incorporated biophilic design into the general plan to integrate nature into the built environment. No Habitat Conservation Plan, Natural Community Conservation Plan, or other local, regional, or state habitat conservation plan has been approved for the City of Mt. Shasta.

City of Mt. Shasta Tree Ordinance Chapter 12.10

Requirements related to biological resources include protection of existing City trees and specify measures necessary to protect City trees. Chapter 12.10 of the Mt. Shasta Municipal Code, the City Tree Ordinance, regulates the cutting or modification of protected trees. Chapter 12.10 is applied only within the General Plan designations for commercial or industrial zones or their equivalent in other zoning definitions. The project site is situated within Downtown Commercial (C-1) per the General Plan for the City of Mt. Shasta. A City or “street” tree is herein defined as all trees, shrubs, bushes, and all other woody vegetation which are located within public rights-of-way, or within City owned areas. Upon the receipt of an application to remove a street tree, the Director of Public Works shall determine whether such tree should be removed.

Methods

Information used in preparation of this Initial Study comes from the following sources:

- Desktop review of regionally-occurring special-status species and habitats with potential to occur in the project site and/or be affected by the proposed project;
- Biological reconnaissance wildlife survey performed by HELIX in November 2022;
- Botanical surveys performed by Natural Investigations Company, Inc. on January 31, March 17, and July 8, 2022;

- Surveys for aquatic resources were performed by Natural Investigations Company, Inc. on January 31, and May 20, 2022;
- Aquatic Resources Expanded Delineation Report for the Development of Project at 735 Chestnut Street, City of Mt. Shasta, California, prepared by Natural Investigations Company, Inc., dated June 6, 2022 (Natural Investigations Company 2022a, Appendix C);
- Botanical Survey Report for the Housing Development of Project at 735 Chestnut Street, City of Mt. Shasta, California, prepared by Natural Investigations Company, Inc., dated July 14, 2022 (Natural Investigations Company 2022b, Appendix D);

The results of the biological database and records searches for the project site are compiled in Appendix E.

Species were considered to be special-status if they fall into one or more of the following categories:

- Listed as endangered or threatened under the FESA (including candidate species and species proposed for listing);
- Listed as endangered or threatened under the CESA (including candidate species and species proposed for listing);
- Fully Protected under the California Fish and Game Code;
- Designated as a Species of Special Concern by the CDFW;
- Special Animals List includes species that are tracked in the California Natural Diversity Database (CNDDB) and/or,
- Having a California Rare Plant Rank of 1, 2 or 3.

To determine the potential for special-status species or their habitats to occur in the project site and vicinity, the most current lists of regionally-occurring special-status species known to occur or having the potential to occur on the "*City of Mt. Shasta*, CA" USGS 7.5-minute topographic quadrangle and the eight surrounding quadrangles were obtained from the following databases: the CNDDB database maintained by CDFW (CDFW 2022), the California Native Plant Society (CNPS) database (CNPS 2022), and the Information for Planning and Conservation online system maintained by the U.S. Fish and Wildlife Service (USFWS) (USFWS 2022). These lists were reviewed to determine which of the regionally-occurring special-status species have the potential to occur in the project site and vicinity and/or be affected by the proposed project (refer to Appendix E for the species lists).

The potential for each regionally-occurring special-status species to occur in the project site and vicinity and/or be affected by the proposed project was determined based on a comparison of the life history requirements, known ranges (geographic and/or elevational), and reported occurrences of the special-status species to the habitats on the project site noted during the biological reconnaissance survey as well as other factors such as local knowledge of such species distribution(s) and professional judgement by HELIX biologists. All special-status plant species database searches, botanical surveys and determinations were conducted by Natural Investigations Company, Inc. which are documented in the botanical survey report provided in Appendix D.

A biological reconnaissance for wildlife was conducted by professional biologist Patrick Martin of HELIX on November 29, 2022, to assess current conditions at the project site, and the current presence/location, and/or extent of biological resources in the project site. The biological reconnaissance survey was accomplished by walking meandering transects through the project site to obtain 100 percent visual coverage of the site. Habitats and aquatic resources were previously classified by Natural Investigations Company, Inc., although all previously documented habitats and aquatic resources were verified by HELIX during the November 2022 reconnaissance survey.

Biological Communities/Land Cover Types

Biological communities/land cover types (hereafter referred to as "habitat types") present on the project site include annual grassland, Montane riparian forest, and blackberry scrub. These habitat types are described below. Habitat nomenclature is Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995).

Grassland

Grassland habitat on the project site is comprised largely of perennial grasses and annual and perennial herbs. Historic maps indicate that this area was once a wetland. However, the project site was altered at some point in the past and the observed soils consist of well-drained gravelly fill material. The dominant species across this habitat is bulbous bluegrass (*Poa bulbosa*). Other plants common in this habitat type include Bermuda grass (*Cynodon dactylon*), spearmint (Mentha spicata), sweet pea (*Lathyrus latifolius*), redstemmed filaree (*Erodium cicutarium*), English plantain (*Plantago lanceolata*), dandelion (*Taraxacum officinale*), California dandelion (*Agoseris grandiflora*), sheep sorrel (Rumex acetosella), smooth cat's ear (*Hypochaeris glabra*) and various other species. This vegetation can be classified as the Holland Type "Non-native Grassland."

Montane Riparian Forest

The northwestern portion of the project site is characterized by a dense canopy of mature and immature trees. Forest vegetation consists of black cottonwood (*Populus angustifolia*) with occasional water birch (*Betula occidentalis*) and incense cedar (*Calocedrus decurrens*). Shrub layer within the forest is dominated by Himalayan blackberry (*Rubus armeniacus*) with an understory of sweet pea, periwinkle (*Vinca major*), common rush (*Juncus effusus*), horsetail (*Equisetum* sp.), and other grasses and herbs. A small creek is present just outside the northwestern parcel boundary. The segment of forest adjacent to this creek has wetland soils. The forested habitat within the project site can be classified as the Holland Type "Montane Black Cottonwood Riparian Forest".

Blackberry Scrub

Narrow bands of blackberry scrub were observed along the margins of the project site. The composition of the scrub vegetation includes Himalayan blackberry, water birch, willow (*Salix* sp.), California rose (*Rosa californica*), sweet pea, rush, Fuller's teasel (*Dipsacus fullonum*), common mullein (*Verbascum thapsus*) and broad-leaved cattail (*Typha latifolia*). Most of the blackberry scrub is underlain by wetland soils. This vegetation can be classified as the Holland Type "Great Valley Riparian Scrub" or as "63-906.01 Himalayan Blackberry Riparian Scrub" (CDFW 2022)".

Wildlife

The project site provides habitat for disturbance-tolerant wildlife species typical of urban and suburban areas. Most wildlife observations were immediately off-site in adjacent vegetated habitat. Species observed using the habitats in the project site include California scrub jay (*Aphelocoma californica*), western bluebird (*Sialia mexicana*), Bewick's wren (*Thryomanes bewickii*), American robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*), and American crow (*Corvus brachyrhynchus*). Scat from American black bear (*Ursus americanus*) was also observed in the project site.

Special-status Plant Species with Potential to Occur

A botanical study was conducted by Natural Investigations Company, Inc. and provided in Appendix D. The CDFW, USFWS and CNPS lists included a total of 21 regionally-occurring special-status species that were reviewed for the potential to occur on the project site or otherwise be impacted by the proposed project (Appendix D). Botanical surveys were conducted in January 31, March 17, and July 8, 2022, and were timed to coincide with the optimal blooming period for special-status plant species identified with potential to occur in the project site. No special-status plant species were observed during botanical surveys (Natural Investigations Company, Inc. 2022).

Special-status Wildlife Species with Potential to Occur

The CDFW and USFWS lists included a total of 46 regionally-occurring special-status species that were reviewed for the potential to occur on the project site or otherwise be impacted by the proposed project (Appendix E). A CNDDB records search showed nine special-status species within one mile of the project site. Suitable aquatic habitat is not present for special-status amphibians that occur near the project site that include foothill yellow-legged frog (*Rana boylii*) and Cascades frog (*Rana cascadae*) since suitable deep-water habitat is absent from the project site. Drainages in the project site are too shallow and small to provide suitable larval development or overwintering habitat for adults. Foraging habitat for western bumble bee (*Bombus occidentalis*) and Suckley's bumble bee (*Bombus suckleyi*) are present in the project site; however, suitable overwintering habitat for queens and suitable hive habitat is absent since soils are shallow and rocky throughout the project site. Other species with nearby occurrences require expansive riparian habitat or mature dense forests with old growth, snags and cavities, which are not present in the project site.

No special-status wildlife species are expected to occur on the project site; however, suitable habitat is present for North American porcupine (*Erethizon dorsatum*) and silver-haired bat (*Lasionycteris noctivagans*), which are known to occur in the region and occupy riparian habitat or forest edge habitat. These species are discussed in the following sections.

North American Porcupine (CDFW Special Animals List)

North American porcupine is a native mammal tracked by CNDDB that is a common resident of forest habitats in the Sierra Nevada and Cascade Mountain ranges, from Kern County north to Oregon. Porcupine populations tend to be localized, but are most common in montane conifer, Douglas-fir, alpine dwarf-shrub, and wet meadow habitats (Zeiner *et al.* 1990). Porcupine is less common in hardwood-conifer, montane and valley foothill riparian, aspen and sage brush habitats. This species requires a forest with a good understory for feeding and requires forests during the winter. In arid locations, this species is limited to riparian habitats (Zeiner *et al.* 1990). Porcupines are herbivores that feed primarily on herbs, fruits and foliage. The winter diet consists of twigs and bark (Zeiner *et al.* 1988-

1990). Adults use caves, hollow logs and trees for cover and denning (Zeiner *et al.* 1990). Young are capable of defending and caring for themselves at two weeks old (Zeiner *et al.* 1990). This species could occupy the riparian margins of the project site where the understory is dense. There is one historic CNDDB reported occurrences within a one-mile radius of the project site that represents a collection in 1958 (CDFW 2022). There is potential for direct and indirect effects to North American porcupine if this species were to den within or adjacent to the project site.

Silver-haired Bat (CDFW Special Animals List)

Silver-haired bat is a native species tracked by CNDDB. This species is insectivorous and roosts in hollow trees, beneath exfoliating bark, in abandoned woodpecker holes, and rarely under rocks. The species primarily occurs in coastal and montane forests, feeding over streams, ponds and open brushy areas (Zeiner *et al.* 1990). Young are typically born from May through July and are volant 36 days after birth (Zeiner *et al.* 1990). Each litter may consist of 1–2 young. There is one historic CNDDB reported occurrence within a one-mile of the project site reported in 1958 (CDFW 2022). There is potential for direct and indirect effects to silver-haired bat if this species were to roost within or adjacent to the project site.

Suitable roosting habitat is present for this species in trees in the project site. Although potential roosting habitat is not situated adjacent to larger bodies of water, water sources are present in the vicinity of the project site, including streams and private ponds. The project site provides both roosting habitat and foraging habitat along woodland edges over grassland. This species could roost in tree cavities or snags and exfoliating bark and could forage over the project site. There is potential for direct and indirect effects to silver-haired bat if this species were to roost within or adjacent to the project site.

Protected Trees

Trees, shrubs, and woody vegetation that could be considered a City or “street” tree that are located within public ROW or City owned areas may require approvals from the Director of Public Works to remove a street tree. The only tree on City property to be removed is a 17-inch diameter at breast height (dbh) Ponderosa Pine located along Ivy Street. No trees are slated for removal on the portion of Field Street proposed for vacation. All other trees planned for removal are located on the project parcel and not within City owned areas.

Jurisdictional Waters

All aquatic resource determinations were conducted by Natural Investigations Company, Inc. which are documented in the aquatic resources delineation report provided in Appendix C. A total of 0.112 acre of aquatic resources have been delineated in the project site which includes two unnamed riverine wetlands (0.021 acre and 400 linear feet), three seasonal marshes (0.075 acre), and two ditches (0.016 acre). Potential jurisdictional waters of the U.S. include two unnamed riverine wetlands and associated wetlands above the ordinary high water mark that include: unnamed riverine wetlands (0.021 acre and 400 linear feet) and two seasonal marshes (0.074 acre). Two ditches (0.016 acre) and one isolated seasonal marsh (0.001 acre) were determined not to be potentially jurisdictional waters of the U.S. since the two ditches are isolated and appear to be part of a stormwater control feature and the seasonal marsh is isolated. All aquatic resources are potential waters of the State.

Discussion

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

North American Porcupine

Less than significant impact with mitigation incorporated. The proposed project would result in direct and indirect impacts to habitat suitable for North American porcupine. Non-denning individuals, if present in the project site at the commencement of construction, are mobile and would be expected to leave unharmed. If this species is using the project site or adjacent riparian habitat for denning at the time of construction, construction activities and construction-related disturbance (e.g., grading, vegetation removal, noise, vibration, increased human activity) could adversely affect porcupine or young by direct harm or by causing individuals to leave the den under suboptimal conditions and exposing them to stress and an increased potential of mortality, which would be a potentially significant impact. To avoid potential impacts to this species, Mitigation Measure BIO-01 should be implemented:

Mitigation Measure BIO-01: Avoid and Minimize Impacts to North American Porcupine

If project (construction) ground-disturbing or vegetation clearing and grubbing activities commence during the birthing season for North American porcupine (April 1 – July 30), a qualified biologist shall conduct a pre-construction survey for North American porcupine dens no more than 7 days prior to initiation of project activities. The survey area shall include suitable denning habitat within the project boundary which include caves, hollow logs, snags, burrows or dense foliage. If no active dens are identified, no further mitigation is required.

If active dens are identified, the following is required:

A suitable buffer (e.g., 100-feet) shall be established by a qualified biologist around active dens, and no construction activities within the buffer shall be allowed until a qualified biologist has determined that the den is no longer active (i.e., the young have left, the adults have relocated the pups to a new den, or the den has failed).

Silver-haired Bat

Less than significant impact with mitigation incorporated. If silver-haired bats are roosting in the project site at the time of construction, construction activities and construction-related disturbance (e.g., noise, vibration, increased human activity) could adversely affect silver-haired bat by direct harm, loss of roost tree(s), or by causing individuals to leave the roost under suboptimal conditions and exposing them to stress or increased chance of predation, which would be a potentially significant impact. To avoid potential impacts to this species, the following measure is recommended:

Mitigation Measure BIO-02: Avoid and Minimize Impacts to Silver-haired Bat

A qualified wildlife biologist shall conduct surveys for special-status bats at dusk to maximize detectability to determine if bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging

period), inspection for suitable habitat, bat sign (e.g., guano) during day surveys, or use of ultrasonic detectors (e.g., Anabat®, etc.) during dusk emergence surveys. The type of survey will depend on the condition of the potential roosting habitat. If no bat roosts are found, then no further study is required.

- If evidence of bat use is observed, then the relative number and species of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts.

- If roosts are determined to be present and have the likelihood to be disturbed by construction, then a qualified biologist will determine if the bats should be excluded from the roosting site before work adjacent to the roost occurs. Exclusion cannot occur during the maternity period in which construction will be delayed, as necessary. A mitigation program addressing exclusion methods and roost removal procedures will be specified and implemented prior to development if exclusion is recommended. Exclusion methods may include use of one-way doors at roost entrances (bats may leave, but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats.

Nesting Birds

Less than significant impact with mitigation incorporated. Common bird species protected by the MBTA and/or Fish and Game Code may nest in or near the project site. All vegetation communities in the project site provide suitable nesting habitat for a variety of common bird species that are protected from disturbance during the nesting season by the MBTA and/or Fish and Game Code. If active nests are present at the time of construction, construction activities may result in injury or death of individual birds (e.g., shrubs or other vegetation containing active nests are removed), or harassment which may cause nesting birds to abandon active nests resulting in the loss of eggs or young. Any harassment, injury, or death of nesting birds, their nestlings, or eggs would be considered a significant impact.

Mitigation Measure BIO-03: Avoid and Minimize Impacts to Nesting Birds

If project (construction) ground-disturbing and grubbing activities commence during the avian breeding season (February 1 through August 31), a qualified biologist shall conduct a pre-construction nesting bird survey no more than 14 days prior to initiation of project activities and again immediately prior to construction. The survey area shall include suitable raptor nesting habitat within 500-feet of the project boundary (inaccessible areas outside of the project site can be surveyed from the site or from public roads using binoculars or spotting scopes). Pre-construction surveys are not required in areas where project activities have been continuous since prior to February 1, as determined by a qualified biologist. Areas that have been inactive for more than 14 days during the avian breeding season must be re-surveyed prior to resumption of project activities. If no active nests are identified, no further mitigation is required. If active nests are identified, the following measure is required:

- A suitable buffer (e.g., typically 300-500-feet for raptors; and 50-100-feet for passerines and non-passerines) shall be established by a qualified biologist around active nests and no construction activities within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest, or the nest has failed). Encroachment into the buffer may occur at the

discretion of a qualified biologist. Any encroachment into the buffer shall be monitored by a qualified biologist to determine whether nesting birds are being impacted.

b) 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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than significant impact with mitigation incorporated. The proposed project would result in permanent removal of less than 0.2-acre of riparian habitat along unnamed drainages that provide instream shade of aquatic habitats. Riparian habitat is regulated by CDFW under the SAA program and is considered a sensitive natural community. The project applicant should obtain an LSAA from CDFW for proposed impacts to riparian vegetation. The LSAA will include general and project-specific conditions for protection of aquatic and riparian resources during construction. Impacts to riparian habitat may require compensatory mitigation through purchase of riparian credits at a CDFW-approved mitigation bank or through planting of native riparian trees on the project site as part of landscaping. With implementation of Mitigation Measure BIO-04, potential impacts to riparian habitat would be less than significant.

Mitigation Measure BIO-04: Regulatory Permitting

If it is determined prior to construction that impacts to jurisdictional waters and/or riparian habitat cannot be avoided, then the project proponent shall apply for any necessary permits from the USACE, CDFW, and the RWQCB. Impacts to jurisdictional waters and/or riparian habitat shall be mitigated in accordance with agency requirements to ensure no net loss of acreage or functions and values of waters of the U.S. and State. The project applicant will coordinate with CDFW and, if needed, apply for a Lake and Streambed Alteration Agreement if riparian habitat along the unnamed drainages on-site would be impacted by project construction activities.

c) 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?

No impact. Wetlands subject to USACE and RWQCB jurisdiction under Sections 404 and 401 of the CWA as well as subject to CDFW jurisdiction under Section 1600 of the Fish and Game Code occur within or immediately adjacent to the project site. The site plan for the project indicates that all potentially jurisdictional waters of the U.S. and State will be avoided, and no direct impacts to federally protected wetlands as defined by Section 404 of the Clean Water Act are anticipated. If any impacts to these features are expected, then a formal aquatic resources delineation should be submitted to the appropriate resource agencies to determine the extent of jurisdiction. If any aquatic resources are determined to be jurisdictional, the project proponent will be required to apply for appropriate permits to fill aquatic resources and any mitigation measures contained in the permits will require implementation prior to filling any on-site features or habitats deemed subject to regulation. Therefore, there would be no impact to state or federally protected wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than significant impact. The project site is undeveloped land which has experienced disturbance in the past, but generally consists of both native and nonnative vegetation communities in open space. The project site abuts other undeveloped, naturally vegetated lots, but is generally surrounded by commercial buildings, private residences, busy roadways including Mt. Shasta Blvd, Chestnut Street, and I-5. Although the project site would have the potential to act as a terrestrial wildlife movement corridor, the location of development in the vicinity of the project site, including existing development and roadways, currently prevents substantial wildlife movement through the project area. Drainages in the project site are situated upstream of the Keswick Dam and Shasta Dam and do not provide habitat for anadromous fish nor are they tributary to accessible anadromous fish waters. Therefore, due to its proximity to surrounding developed areas and the transportation infrastructure, the project would not substantially interfere with wildlife movement corridors and impacts would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than significant impact with mitigation incorporated. Trees meeting the definition of a protected tree under the City of Mt. Shasta's tree ordinance are rooted in, or overhang, the project site. The site plan shows the removal of several trees and woody vegetation that may qualify as protected trees. The only tree on City property to be removed is a 17-inch dbh Ponderosa Pine located along Ivy Street. No trees are slated for removal on the portion of Field Street proposed for vacation. All other trees planned for removal are located on the project parcel and not within City owned areas. The site plan includes the replacement of trees with drought tolerant city trees along the project site roadways as part of the landscaping design. Mitigation Measure BIO-05 would be implemented to avoid and minimize impacts to protected trees.

Mitigation Measure BIO-05: Tree Removal Application

For trees to be removed that meet the City "street" tree definition, an application to remove a street tree shall be submitted to the Director of Public Works of the City of Mt. Shasta to determine whether such trees may be removed.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No impact. No Habitat Conservation Plan, Natural Community Conservation Plan, or other local, regional, or state habitat conservation plan has been approved for the City of Mt. Shasta. Therefore, no impacts to an existing adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan would occur, and no mitigation would be necessary.

V. CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

A Cultural Resources Investigation of the Mount Shasta Danco Property Final Report was prepared by Archaeological Research and Supply Company (ARSC) in October 2022. The Cultural Resources Investigation is a confidential report that is on file with the City, and non-confidential information is incorporated in this IS/MND as appropriate.

Regulatory Context

FEDERAL

Section 106 of the National Historic Preservation Act (NHPA)

Section 106 of the NHPA and its implementing regulations require federal agencies to take into account the effects of their activities and programs on historic properties. A historic property is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places (NRHP), including artifacts, records, and material remains related to such a property (NHPA Sec. 301[5]). A resource is considered eligible for listing in the NRHP if it meets criteria defined in CFR Title 36, Section 60.4. Section 106 applies to projects undertaken by federal agencies or funded by a federal agency.

STATE

California Environmental Quality Act

CEQA requires that projects financed by or requiring the discretionary approval of public agencies in California be evaluated to determine potential adverse effects on historical and archaeological resources (California Code of Regulations [CCR], Section 15064.5). Historical resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. Pursuant to Section 15064.5 of the CCR a property may qualify as a historical resource if it meets any of the following criteria:

a) The resource is listed in or determined eligible for listing in the California Register of Historical Resources (CRHR).

b) The resource is included in a local register of historic resources, as defined in Section 5020.1(k) of the Public Resources Code (PRC), or is identified as significant in a historical resources survey that meets the requirements of Section 5024.1(g) of the PRC (unless the preponderance of evidence demonstrates that the resource is not historically or culturally significant).

c) The lead agency determines that the resource may be a historical resource as defined in PRC Section 5020.1(j), or Section 5024.1, or may be significant as supported by substantial evidence in light of the whole record. Pursuant to PRC Section 5024.1, a resource may be eligible for inclusion in the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

Resources must retain integrity to be eligible for listing on the CRHR. Resources that are listed in or formally determined eligible for listing in the NRHP are included in the CRHR, and thus are significant historical resources for the purposes of CEQA (PRC Section 5024.1(d)(1)). A unique archaeological resource means an artifact, object, or site that meets any of the following criteria:

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

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Open Space and Conservation Element		
Goals	OC-8	Preserve areas of significant cultural resources.
Policies	OC 8.1	Ensure that appropriate measures are taken concerning protection or study of significant cultural resources.
	OC 8.1 (a)	When projects are proposed on lands identified as having High Cultural Resource Sensitivity, the application shall be accompanied by a Cultural Resources Reconnaissance and Archival Report conducted and compiled by a qualified archaeologist. If there is the likelihood that cultural resources are present on the

Open Space and Conservation Element	
	site, the City may require field study to determine the location, potential for disturbance, and scope of mitigation.
OC 8.1 (c)	The scope of mitigation shall conform to the requirements of the California Environmental Quality Act with an emphasis on avoiding, if feasible, disturbance of the cultural resource. Avoidance may be accomplished by capping the site, if appropriate.
OC 8.1 (d)	When approving construction projects, the City shall incorporate the following mitigation measure, or a similar measure that would fulfill the intent: Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, or architectural remains be encountered during development activities, work shall be suspended and the City Planning Department shall be immediately notified. At that time, the City will coordinate any necessary investigation of the discovery with an appropriate specialist (e.g., archaeologist or architectural historian). The project proponent shall be required to implement mitigation necessary for the protection of cultural resources. The City and the project applicant shall consider mitigation recommendations presented by a qualified archeologist for any unanticipated discoveries. The City and the project applicant shall consult and agree upon implementation of a measure or measures that the City and project applicant deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.
OC 8.1 (e)	When approving construction projects, the City shall incorporate the following mitigation measure, or a similar measure that would fulfill the intent: If human remains are discovered, all work must stop in the immediate vicinity of the find, and the County Coroner must be notified, according to Section 5097.98 of the State PRC and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.

Historic Context

During the 1820s, early Euro-American trappers and hunters first passed through the area, following the path of the Siskiyou Trail. The Siskiyou Trail was based on a network of ancient Native American footpaths connecting California and the Pacific Northwest. The discovery of gold at nearby Yreka in 1851 dramatically increased traffic along the Siskiyou Trail and through the site of present-day Mt. Shasta. Pioneer Ross McCloud built one of the first lumber mills in the area, near the site of the present Sisson Museum. The completion of a stagecoach road between Yreka and Upper Soda Springs in the late 1850s led to the building of Sisson's Hotel, as a stop for weary travelers and as a staging ground for adventuresome tourists intending to climb Mount Shasta. The area where the town grew was known first as Strawberry Valley and then as Berryvale. The post office opened in 1870 as Berryvale. After 1886 it was known as Sisson, named after a local businessman, Justin Hinckley Sisson, who ran a stagecoach inn and tavern and donated the land for the town site and the Central Pacific Railroad station in 1886.

The 1887 completion of the Central Pacific Railroad, built along the line of the Siskiyou Trail, brought a dramatic increase in tourism, lumbering, and population to the Mount Shasta area. This early development continued to focus on tourism and lumbering. The early 1900s saw the influx of a large number of Italian immigrants to Mt. Shasta and neighboring towns, most of whom were employed in

the timber industry. The City incorporated on May 31, 1905. The name of the City was finalized as the City of Mt. Shasta on November 10, 1925, after a popular vote in 1922.

According to the California Office of Historic Preservation (OHP) (2017), Mt. Shasta has one registered California historic state landmark, the Strawberry Valley State Station. Nothing is left of the station but a marking showing its location. The OHP has no other listed California historic resources in the City. In addition, the National Register of Historic Places does not list any historic resources in Mt. Shasta (OHP 2017). The project site is not considered to be of any historical importance and is not identified as such by the California State Historical Resources Commission or in the Mt. Shasta General Plan.

Discussion

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than significant impact with mitigation incorporated.

Survey Methods/Dates

The project area of potential effects (APE) includes 1.15 acres and was surveyed by Archaeological Technicians Michael McDermott, BA, and Tielor Stranger-Lopez, BA, under the direction of Principal Investigator Nick Angeloff, MA in September 2022. Survey coverage included all areas containing both planned and existing disturbance on the parcel, including any slopes less than 35%. Visibility was approximately 50-75%. In areas where visibility was obscured, systematic shovel probes and surface scrapes were employed at 15-meter intervals or as practical. There were zero (0) archaeological resources identified during the course of this survey.

Coordination/Background

The record search for the project was conducted by Northeast Information Center (NEIC) staff for Nick Angeloff, MA, in September 2022. The record search at the NEIC revealed (0) previous surveys and zero (0) previously recorded cultural resources within the subject parcel, and twelve (12) previous surveys and ten (10) previously recorded cultural resources within the 0.5-mile project buffer.

Background research requested of the Klamath Tribes, the Nor-Rel-Muk Wintu Nation, Pit River Tribe, Quartz Valley Indian Reservation, Redding Rancheria, Shasta Indian Nation, Winnemem Wintu Tribe, and the Wintu Tribe of Northern California, upon a request for information, resulted in no comments regarding any known archaeological or cultural sites on the subject property. Tracy Foster-Olstad, Nor-Rel-Muk Wintu Nation Cultural Resource Monitor, responded that the area was culturally sensitive to numerous Native American groups and offered to accompany ARSC during the survey. Ms. Foster-Olstad was present during the survey and agreed with the findings of the Cultural Resources Investigation report.

Conclusions

The records search revealed zero (0) previous surveys and (0) previously recorded cultural resources within the project parcel, and the pedestrian survey completed by ARSC staff resulted in zero (0)

archaeological findings. While the current project area has been subject to past activities that may have disturbed evidence of prehistoric use, it is unlikely that evidence of a significant deposit was completely eradicated by historic use activities and that the ARSC survey missed any remnants of prehistoric activities. Therefore, no further archaeological work is recommended for this project.

However, there is always the possibility of the inadvertent discovery of buried archaeological resources during ground disturbing activities with project implementation. The implementation of standard cultural resource construction mitigation (Mitigation Measure CUL-01) would ensure that this impact is less than significant.

> **Mitigation Measure CUL-01: Avoid and minimize impacts to previously unknown archaeological resources.**
>
> It is always possible that ground-disturbing activities during project development may uncover previously unknown archaeological resources. In the event that archaeological resources are discovered during construction, construction operations shall stop within a 100-foot radius of the find, and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The City shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The archaeologist shall make recommendations concerning appropriate measures that will be implemented to protect the resources, including but not limited to, excavation and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Archaeological resources could consist of, but are not limited to, stone, bone, wood, or shell artifacts or features, including hearths. Any previously undiscovered resources found during construction within the project area should be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and evaluated for significance in terms of CEQA criteria.

With the implementation of Mitigation Measure CUL-01, impacts would be less than significant for questions a) and b).

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than significant impact with mitigation incorporated. No human remains are known to exist within the project area, and there were no indications of human remains found during the field survey. However, there is always the possibility that subsurface construction activities associated with the proposed project, such as trenching and grading, could potentially damage or destroy previously undiscovered human remains. Accordingly, the implementation of Mitigation Measure CUL-02 would reduce this potential impact to a less than significant level.

> **Mitigation Measure CUL-02: Avoid and minimize impacts related to accidental discovery of human remains.**
>
> In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines § 15064.5; Health and Safety Code § 7050.5; Public Resources Code § 5097.94 and § 5097.98 must be followed. If during the course of project development there is accidental discovery or recognition of any human remains, the following steps shall be taken:
>
> 1) There shall be no further excavation or disturbance within a 100-foot radius of the potentially human remains until the County Coroner is contacted to determine if the

remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98.

2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project site in a location not subject to further subsurface disturbance:

   a. The NAHC is unable to identify the most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission.

   b. The descendant identified fails to make a recommendation.

   c. The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures applicable to the landowner.

VI. ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Environmental Setting

The proposed buildings would be designed and engineered to meet Advanced Framing standards as applicable within the building code. Each unit would be independently metered for its electrical use along with real-time energy monitoring display. Space heating and cooling would be provided by air-source heat pumps with equipment located in screened areas outside each unit. Solar photovoltaic panels would provide renewable electricity, with each unit receiving a credit toward their utility bill for their share of the energy that is sold to the electric utility company through a virtual net metering

service. On-demand hot water heaters would provide water heating. The combination of these strategies, among others, would result in all-electric buildings that are energy efficient and comply with California Title 24 Building Energy Code standards.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to energy that apply to the proposed project.

STATE

Renewables Portfolio Standard

In 2002, SB 1078 was passed to establish the State's Renewables Portfolio Standard (RPS) Program, with the goal of increasing the amount of electricity generated and sold to retail customers from renewable energy resources. The initial goal was to increase the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2017. The Renewables Portfolio Standard has been subsequently amended by the following actions:

California Building Standards Code

Title 24 of the CCR, also known as the California Building Standards Code (CBSC), is based on the International Building Code (IBC) used widely throughout the country. The CBSC has been modified for California conditions to include more detailed and/or more stringent regulations. The CBSC consists of 13 parts, including the California Building Code, Energy Code, and Green Building Standards Code.

California Energy Code

The California Energy Code (Part 6 of the CBSC), also known as the State's Energy Efficiency Standards, was established by the California Building Standards Commission in 1978 with a goal of reducing California's energy consumption for residential and nonresidential buildings. The Standards include mandatory measures related to building envelopes, mechanical systems, indoor and outdoor lighting, and electrical power distribution. For all newly constructed nonresidential buildings over 10,000 square feet, building commissioning must be included in the design and construction process to verify that the building's energy systems and components meet State requirements for energy efficiency. The Standards are periodically updated by the California Energy Commission (CEC).

The 2019 update to the Energy Efficiency Standards became effective on January 1, 2020. The Initial Study prepared for the updated Standards estimates that implementation of the 2019 Standards will reduce the energy use of typical new residential buildings by about 7 percent and nonresidential buildings by about 31 percent compared to buildings constructed under the current standards. In addition, the 2019 Standards are projected to decrease water consumption by approximately 246 million gallons per year (GPY), reduce statewide annual electricity consumption by about 650 gigawatt-hours per year, and reduce statewide natural gas consumption by 9.8 million therms per year. Further, there could potentially be a net reduction in the emissions of nitrous oxide by roughly 100 metric tons per year, sulfur oxides by 0.27 metric tons per year, carbon monoxide by 28 metric tons per year, and (PM2.5) by 3.36 metric tons per year. The 2019 Standards are also anticipated to reduce growth in statewide GHG emissions by 230,000 metric tons of carbon dioxide (CO2e) per year.

California Green Building Standards Code

In 2007, the California Building Standards Commission (CBSC) developed green building standards in an effort to meet the goals established by the Global Warming Solutions Act of 2006. These standards are referred to as the CALGreen Code and are included as Part 11 of the CBSC. The CALGreen Code, requires new residential and commercial buildings to comply with mandatory measures related to planning and design, energy efficiency, water efficiency/ conservation, material conservation, resource efficiency, and environmental quality. The most recent update to the CALGreen Code became effective January 1, 2020. Although it was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code has the added benefit of reducing energy consumption from residential and nonresidential buildings that are subject to the Code.

California Environmental Quality Act

Section 15126.2(b) of the CEQA Guidelines states that if analysis of a project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, the effects must be mitigated. The Guidelines provide suggestions of topics that may be included in the energy analysis, including identification of energy supplies that would serve the project and energy use for all project phases and components. In addition to building code compliance, other relevant considerations may include the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. The energy use analysis may be included in related analyses of air quality, GHG emissions, transportation, or utilities at the discretion of the lead agency.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IM) that apply to the proposed project:

Open Space and Conservation Element		
Goals	OC-12	Strive to conserve energy resources.
	OC-13	Encourage the development of sustainable energy sources.
Policies	OC 13.1	Work with individuals and companies to correctly site, connect and operate alternative energy systems such as wind, solar, hydro, and other sustainable sources.
IM	OC 12.1 (a)	Where feasible, require all new buildings and subdivisions to be designed and oriented in such a way as to take maximum advantage of the sun and winds for natural heating and cooling.
	OC 12.1 (b)	In addition to enforcing the energy efficiency requirements of state law and the Uniform Building Code, encourage the incorporation of additional energy conservation techniques, such as innovation building construction, high efficiency HVAC systems, etc. in new construction.
	OC 13.1 (a)	Support the development of alternative sources of energy such as roof mounted solar panels, fuel cells or new technology.

Discussion

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than significant impact.

Construction

Energy consumption during construction would occur from diesel and gasoline used for construction equipment, haul trucks, and construction workers travelling to and from the work site. In addition, electrical power would be used during certain phases of development. The use of electricity during construction would be minimal and would not be considered wasteful, inefficient, or unnecessary. Construction equipment would comply with regulations that restrict idling when not in use. Construction equipment must also comply with State regulations that require the use of fuel-efficient equipment. Compliance with existing State regulations that require the use of fuel-efficient equipment, impacts during construction would be less than significant.

Operation

As stated in Section 6.III under questions a) and b), project emissions were estimated using CalEEMod. CalEEMod reports a project's operational emissions based on all operational activities. CalEEMod estimates electricity use for the proposed project to generate 103,710 kilowatt-hour per year (kWh/year). According to a report published by the California Public Utilities Commission (CPUC) in 2015, *Comparative Analysis of Utility Services and Rates in California*, electric use for a single-family residence in California averages 6,684 kWh per year. The proposed project would include 25 multi-family dwelling units, and therefore does not exceed the average electric usage for a single-family dwelling unit in California.

As discussed under Regulatory Context above, the proposed project must comply with the CALGreen Code that was established to reduce the State's energy consumption and provide energy efficiency for residential and nonresidential buildings. The Code includes mandatory measures for planning and design, energy efficiency, water efficiency/conservation, material conservation, resource efficiency, and environmental quality.

In accordance with CALGreen Code Section 5.410 (Building Maintenance and Operation), building commissioning is required to verify that the building systems and components satisfy the project's requirements. Among other things, the commissioning process includes functional performance testing for heating, ventilation, air conditioning systems, and lighting controls in compliance with the State Energy Code. A final commissioning report is required to document compliance with the Code.

The project's operational energy-related impacts would be less than significant because the proposed project does not include any energy-intensive stationary sources or operational activities that would result in wasteful, inefficient, or unnecessary consumption of energy resources; construction documents would be reviewed by the City's Building Official to ensure that all State mandatory energy efficiency measures are implemented; and building commissioning would be required to verify compliance with applicable State codes. Impacts would be less than significant, and no mitigation is required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than significant impact. Construction of the project would require consumption of fossil fuels, including gasoline and diesel fuel for construction worker vehicle trips, delivery trucks, and operation of construction equipment. All construction equipment is regulated by CARB, which limits idling and the use of older, less fuel-efficient equipment. By complying with California law related to energy conservation and fuel efficiency, the project would minimize energy consumption. Therefore, construction would not consume energy in a manner that would be wasteful, inefficient, or unnecessary.

The project would be required to comply with the 2016 California Green Building Standards Code, also known as the CALGreen Code (CCR Title 24, Part 11), and the Building Energy Efficiency Standards through conditions of approval. The proposed buildings would be designed and engineered to meet Advanced Framing standards as applicable within the building code. Each unit would be independently metered for its electrical use along with real-time energy monitoring display. Space heating and cooling would be provided by air-source heat pumps with equipment located in screened areas outside each unit. Solar photovoltaic panels would provide renewable electricity, with each unit receiving a credit toward their utility bill for their share of the energy that is sold to the electric utility company through a virtual net metering service. On-demand hot water heaters would provide water heating. The combination of these strategies, among others, would result in all-electric buildings that are super energy efficient and maintain minimal utility costs for the residents while complying with California Title 24 Building Energy Code standards. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project's impact on energy consumption and planning would be less than significant.

VII. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv. Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Setting

The topography of the project site is flat with an elevation of approximately 3,582 ft amsl at its center, and slopes generally southwest at an average of 4 percent. The City of Mt. Shasta is approximately 9 miles southwest of the summit of Mount Shasta.

The project site appears to have been disturbed in the past, and most of the soil appears to be fill material. The northwestern edge of the parcel appears to be largely undisturbed, except for the channelization of a stream. According to the National Resource of Conservation (NRCS) Soil Survey Map, the entire 1.15-acre parcel is made up of Diyou loam, peat substratum (NRCS 2022). The soil class is

somewhat poorly drained with a medium runoff class. This soil series underlies the fill material and is at the surface within the portion of the Field Street ROW that has not been filled.

The record of eruptions at the volcano, Mount Shasta, over the last 10,000 years suggests that, on average, at least one eruption occurs every 600 to 800 years. Future eruptions like those of the last 10,000 years would probably produce deposits of ash, lava flows, domes, and pyroclastic flows, and could endanger infrastructure that lie within several tens of kilometers of the volcano (USGS 2023). It has been suggested that because it is a long-lived volcanic center and has erupted only relatively small volumes of magma for several thousand years, Mount Shasta is the most likely Cascade Range volcano to produce an explosive eruption of very large volume. Such an event could produce tephra deposits as extensive and as thick as the Mazama ash and pyroclastic flows that could reach more than 30 miles from the vent. The annual probability for such a large event may be no greater than 10^{-5}, but it is finite.

Regulatory Context

FEDERAL

National Earthquake Hazards Reduction Act

The National Earthquake Hazards Reduction (NEHR) Act was passed in 1977 to reduce the risks to life and property from future earthquakes in the United States. The Act established the National Earthquake Hazards Reduction Program, which was most recently amended in 2004. The Federal Emergency Management Agency (FEMA) is designated as the lead agency of the program. Other NEHR Act agencies include the National Institute of Standards and Technology, National Science Foundation, and the USGS.

STATE

California Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (PRC Section 2621 *et seq.*) was passed in 1972 to reduce the risk to life and property from surface faulting in California. The Act prohibits the siting of most structures intended for human occupancy on the surface trace of active faults. Before a project can be permitted in a designated Alquist-Priolo Fault Study Zone, a geologic investigation must be prepared to demonstrate that proposed buildings would not be constructed across active faults.

California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act (SHMA) of 1990 (PRC Section 2690–2699.6) addresses non surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The SHMA also addresses expansive soils, settlement, and slope stability. Under the SHMA, cities and counties may withhold development permits for sites within seismic hazard areas until geologic/geotechnical investigations have been completed and measures to reduce potential damage have been incorporated into development plans.

California Building Standards Code

As discussed in Section 6.VI, the CBSC consists of 13 parts, including the California Building Code, Energy Code, Fire Code, and Green Building Standards Code. Part 2 of the CBSC is the CBC that includes standards for structural design, excavation, grading, seismic design, drainage, and erosion control.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Safety Element		
Goals	SF-2	Assure life and property are adequately protected from seismic hazards in the area.
Policy	SF-2.1	Avoid development in areas of steep slope and high erosion potential.
IM	SF-2.1 (c)	Ensure that site development on steep slopes is designed to avoid creating areas that may be subject to slippage or movement from storm events.
Open Space and Conservation Element		
IM	OC-8.1 (f)	When approving construction projects, the City shall incorporate the following mitigation measures, or similar measures that would fulfill the intent: Should any potentially unique paleontological resources (fossils) be encountered during development activities, work shall be suspended, and the City Planning Department shall be immediately notified. At that time, the City will coordinate any necessary investigation of the discovery with a qualified paleontologist. The project proponent shall be required to implement mitigation necessary for the protection of paleontological resources. The City and the project applicant shall consider the mitigation recommendations of the qualified paleontologist for unanticipated discoveries. The City and the project applicant shall consult and agree upon implementation of a measure or measures that the City and project applicant deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.

Discussion

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

No impact. There are no active or potentially active faults located within the project site, or in the project vicinity as mapped under the Alquist-Priolo Earthquake Fault Zone Act (DOC 2022b). Because no faults underlie the project site, no impact would result, and no mitigation would be necessary.

   ii. Strong seismic ground shaking?

Less than significant impact. As with virtually all of California, the proposed project site is subject to minor ground shaking and potential secondary hazards as a result of earthquakes. The City of Mt. Shasta and the proposed project site are in Seismic Zone 3, which is considered a higher risk zone. Ground shaking could cause minor settling or shifting of unconsolidated sediments.

The nearest Alquist-Priolo Special Study Zone is the Cedar Mountain Fault Zone, approximately 24 miles to the northeast. According to the DOC, two (2) potentially active unnamed faults are located northeast of the project area. One (1) is a north-south trending fault running through the top of Mount Shasta; and one (1) is an east-west trending fault that runs from the top of Mount Shasta to a point north of Black Butte.

A large earthquake on one of the nearby active faults could affect the site, but smaller magnitude earthquakes could occur more frequently. Overall, there is a low to moderate risk of damaging earthquakes at the site. As stated under Regulatory Context above, the CBC provides minimum standards for building design and construction, including seismic design. It is the responsibility of the City's Building Official to ensure that buildings are designed in accordance with State regulations for seismic safety. Compliance with existing building code standards ensures that impacts are less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than significant impact with mitigation. Liquefaction is a process by which water-saturated materials, such as soil and sediment lose strength and fail during strong ground shaking. Liquefaction occurs when granular material is transformed from a solid state into a liquefied state as a consequence of increased water pressure. Liquefaction is most commonly induced by strong ground shaking associated with earthquakes.

Factors that contribute to liquefaction potential include soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Liquefaction can occur where unconsolidated sediments and a high-water table coincide. Loose sands and peat deposits are susceptible to liquefaction, while clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking. According to the soils mapping for the site, the Diyou loam, peat substratum soils have a depth to the water table greater than 80 inches (NRCS 2022). The soil on the parcel does not contain the characteristics typical of soils most susceptible to liquefaction, and it is unlikely that the proposed project would be exposed to liquefaction hazards.

In accordance with CBC Chapter 18 (Soils and Foundations), a geotechnical report must be submitted with a building permit application for new construction, as outlined in Mitigation Measure GEO-01. The geotechnical report must evaluate potential geologic and seismic hazards, including slope instability, liquefaction, total and differential settlement, and surface displacement due to faulting or seismically induced lateral spreading or lateral flow. The geotechnical report would include recommendations for foundation type and depths, structural systems, ground stabilization, and/or other measures applicable to soils and geological conditions in the project site.

It is the responsibility of the City's Building Official to ensure that recommendations included in the geotechnical report are incorporated into the building design. Implementation of Mitigation Measure GEO-01 would reduce potential impacts of seismic-related ground failure, including liquefaction, to a less-than-significant level.

Mitigation Measure GEO-01: Prepare Geotechnical Report

With submission of a building permit application, the applicant shall be required to prepare a geotechnical report and to evaluate potential geologic and seismic hazards, including slope

instability, liquefaction, total and differential settlement, and surface displacement due to faulting or seismically induced lateral spreading or lateral flow. The geotechnical report shall include recommendations for foundation type and depths, structural systems, ground stabilization, and/or other measures applicable to soils and geological conditions in the project site. The City's Building Official shall ensure that recommendations included in the geotechnical report are incorporated into the building design.

iv. Landslides?

Less than significant impact. According to the City's General Plan, there are a few steep, denuded slopes in various locations around the City where small landslides have occurred during heavy rainfall events. Earthwork that alters the shape of a slope or imposes new loads on an existing slope could increase the potential for landslides. However, the topography of the project site is relatively flat with an elevation of approximately 3,582 ft amsl at its center, and slopes generally southwest at an average of 4 percent. Additionally, the project site is outside the mudflow risk area. As the project site is relatively flat, the risk of landslides is low. Therefore, impacts would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less than significant impact. Construction of the proposed project would involve excavation, grading activities, and installation of project components, which would result in the temporary disturbance of soil and would expose disturbed areas to potential storm events. This could generate accelerated runoff, localized erosion, and sedimentation. In addition, construction activities could expose soil to wind erosion that could adversely affect on-site soil and the re-vegetation potential of the area. Soils on site, the Diyou loam, peat substratum, are somewhat poorly drained and have a moderate potential for erosion.

However, projects resulting in one or more acre of ground disturbance require a General Construction Activity Stormwater Permit and a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board (SWRCB). Use of the permit requires the preparation of a SWPPP for approval by the SWRCB. As the project proposes greater than one (1) acre of ground disturbance, a SWPPP would be required. The SWPPP would contain best management practices (BMPs) to reduce potential impacts to water quality during construction of the project.

Therefore, compliance with the City's regulations, the California Building Code requirements, and implementation of the SWPPP would reduce potential impacts related to soil erosion from water to less than significant and no mitigation would be required.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less than significant impact with mitigation incorporated. As discussed in question a) and question b) above, unstable soils consist of loose or soft deposits of sands, silts, and clays. Although soils in the project site have the potential to become unstable, a geotechnical report must be completed in accordance with CBC requirements to evaluate potential geologic and seismic hazards on the project site, as outlined in Mitigation Measure GEO-01. The geotechnical report would include recommendations for building foundations, structural systems, ground stabilization, and/or other measures applicable to soils and geological conditions in the project site. The City's Building Official

would ensure that recommendations included in the geotechnical report are incorporated into the building design. Therefore, impacts would be less than significant with implementation of Mitigation Measure GEO-01.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than significant impact. Expansive soils shrink and swell in response to changes in moisture levels. The changes in soil volumes can result in damage to structures including building foundations, and infrastructure, if the project design does not appropriately accommodate the changing soil conditions. The parcel is mapped as Diyou loam, peat substratum and NRCS does not have information regarding the shrink-swell of this soil type (NRCS 2022). The required geotechnical study would include site-specific engineering design measures and construction methods to ensure that impacts associated with expansive soils (if present) are less than significant. Additionally, the proposed project would be designed to meet seismic safety requirements specified in the California Building Code, including standards to minimize impacts from expansive soils. Therefore, impacts related to the potential hazards of construction on expansive soils would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Less than significant impact. The proposed project would tie into the City of Mt. Shasta's wastewater system, and no on-site wastewater disposal would occur. Less than significant impacts from or to geophysical features or hazards would occur with implementation of the proposed project, and no mitigation is required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than significant impact with mitigation incorporated. The project site is underlain by rock and soil derived from volcanic materials and varying amounts of fill. The volcanic material is ubiquitous and is not a unique geologic feature. Although there is no record of paleontological resources in the project area, and there are no unique geological features in the project site, there is potential for previously unknown paleontological resources to be encountered during site excavation. Implementation of Mitigation Measure GEO-02 would ensure that potential impacts to inadvertent discoveries of paleontological resources would be less than significant with mitigation.

Mitigation Measure GEO-02: Inadvertent Discoveries of Paleontological Resources

If paleontological resources (fossils) are discovered during construction, all work within 50 feet of the find shall be halted until a professional paleontologist can evaluate the significance of the find. If any find is determined to be significant by the paleontologist, the City shall meet with the paleontologist to determine the appropriate course of action. If necessary, a Treatment Plan prepared by a paleontologist outlining recovery of the resource, analysis, and reporting of the find shall be prepared. The Treatment Plan shall be reviewed and approved by the City prior to resuming construction.

VIII. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Environmental Setting

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere which, in turn, increases the Earth's surface temperature. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through fossil fuel combustion in conjunction with other human activities appears to be closely associated with global warming.

GHGs, as defined under California's Assembly Bill 32 (AB 32), include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). General discussions on climate change often include water vapor, ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies, such as CARB, or climate change groups, such as the Climate Registry, as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, ozone, or aerosols is provided.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, since CH_4 and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). Carbon dioxide equivalent (CO_2e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 7.

Greenhouse Gases Defined

Table 7 provides descriptions of the GHGs identified in California Health and Safety Code Section 38505(g).

TABLE 7
GREENHOUSE GASES

Greenhouse Gas	Description
Carbon Dioxide (CO2)	Carbon dioxide (CO2) is the primary greenhouse gas emitted through human activities. In 2014, CO2 accounted for about 80.9 percent of all U.S. greenhouse gas emissions from human activities. The main human activity that emits CO2 is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation, although certain industrial processes and land-use changes also emit CO2.
Methane (CH4)	Methane (CH4) is the second most prevalent greenhouse gas emitted in the United States from human activities. Methane is emitted by natural sources such as wetlands, as well as human activities such as the raising of livestock; the production, refinement, transportation and storage of natural gas; methane in landfills as waste decomposes; and in the treatment of wastewater.
Nitrous Oxide (N2O)	In 2014, nitrous oxide (N2O) accounted for about 6 percent of all U.S. greenhouse gas emissions from human activities. Nitrous oxide is naturally present in the atmosphere as part of the Earth's nitrogen cycle. Human activities such as agricultural soil management (adding nitrogen to soil through use of synthetic fertilizers), fossil fuel combustion, wastewater management, and industrial processes are also increasing the amount of N2O in the atmosphere.
Hydrofluorocarbons (HFCs)	Hydrofluorocarbons (HFCs) are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products such as refrigerants, aerosol propellants, solvents, and fire retardants. They are released into the atmosphere through leaks, servicing, and disposal of equipment in which they are used.
Perfluorocarbons (PFCs)	Perfluorocarbons (PFCs) are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane (CF4), perfluoroethane (C2F6), perfluoropropane (C3F8), perfluorobutane (C4F10), perfluorocyclobutane (C4F8), perfluoropentane (C5F12), and perfluorohexane (C6F4). Perfluorocarbons are produced as a byproduct of various industrial processes associated with aluminum production and the manufacturing of semiconductors.
Sulfur hexafluoride (SF6)	Sulfur hexafluoride (SF6) is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. SF6 is primarily used in magnesium processing and as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80 percent of all SF6 produced worldwide.
Nitrogen trifluoride (NF3)	Nitrogen trifluoride is a colorless, odorless, nonflammable gas that is highly toxic by inhalation. It is one of several gases used in the manufacture of liquid crystal flat-panel displays, thin-film photovoltaic cells and microcircuits.

Regulatory Context

FEDERAL

U.S. Environmental Protection Agency

On April 2, 2007, in *Massachusetts v. EPA,* 549 U.S. 497 (2007), the Supreme Court found that GHG emissions are air pollutants covered by the federal CAA. In reaching its decision, the Court also acknowledged that climate change is caused, in part, by human activities. The Supreme Court's ruling paved the way for the regulation of GHG emissions by the USEPA under the CAA. The USEPA has enacted regulations that address GHG emissions, including, but not limited to, mandatory GHG reporting requirements, carbon pollution standards for power plants, and air pollution standards for oil and natural gas.

STATE

Assembly Bill 32

AB 32, the California Global Warming Solutions Act of 2006, recognizes that California is a source of substantial amounts of GHG emissions. The statute states that:

> Global warming poses a serious threat to the economic wellbeing, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

In order to help avert these potential consequences, AB 32 established a State goal of reducing GHG emissions to 1990 levels by the year 2020, which was a reduction of approximately 16 percent from forecasted emission levels, with further reductions to follow. In addition, AB 32 required CARB develop a Scoping Plan to help the state achieve the targeted GHG reductions. In 2015, Executive Order (EO) B-30-15 established California GHG emission reduction targets of 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 27 nation European Union. California met the target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in AB 32. As a follow-up to AB 32 and in response to EO-B-30-15, Senate Bill (SB) 32 was passed by the California legislature in 2016 to codify the EO's California GHG emission reduction target of 40 percent below 1990 levels by 2030.

In December 2008, CARB adopted its first version of its Climate Change Scoping Plan (Scoping Plan), which contained the main strategies California was to implement to achieve the mandate of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The Scoping Plan establishes an overall framework for the measures to be adopted to reduce California's GHG emissions. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program.

On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan (2017 Scoping Plan), which lays out the framework for achieving the mandate of SB 32 (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 includes guidance to local governments in Chapter 5, including plan-level GHG emissions reduction goals and methods to reduce communitywide GHG emissions. In its guidance, CARB recommends that "local governments evaluate and adopt robust and quantitative locally-appropriate goals that align with the statewide per capita targets and the State's sustainable development objectives and develop plans to achieve the local goals." CARB further states that "it is appropriate for local jurisdictions to derive evidence-based local per capita goals [or some other metric] that the local jurisdiction deems appropriate, such as mass emissions or per service population, based on local emissions sectors and population projections that are consistent with the framework used to develop the statewide per capita targets" (CARB 2017).

CEQA Guidelines

Section 15064.4 of the CEQA Guidelines states that the lead agency should focus its GHG emissions analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A lead agency has the discretion to determine whether to use a model or methodology to quantify GHG emissions or to rely on a qualitative or performance-based standard.

The GHG analysis should consider 1) the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting; 2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project and 3) the extent to which the project complies with any regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

LOCAL

There are no local regulations pertaining to GHGs that apply to the proposed project.

The SCAPCD has not adopted thresholds of significance relative to GHG emissions. For this project, the threshold for emissions would be considered significant if they exceed 1,100 metric tons of CO2e per year threshold. This threshold is recognized by the Sacramento Metropolitan Air Quality Management District (SMAQMD), Bay Area Air Quality Management District, and South Coast Air Quality Management District. This quantifiable threshold was formulated based on consistency with AB 32 and California Climate Change Scoping Plan reduction targets for 2020. On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan (2017 Scoping Plan), which lays out the framework for achieving the mandate of SB 32 (2016) to reduce statewide GHG emissions to at least 40 percent below 1990 levels by the end of 2030. Accordingly, a mass emissions threshold of 660 metric tons CO2e per year would be 40 percent lower than the current SMAQMD threshold, which would achieve the State GHG emission targets for 2030.

Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than significant impact. GHG emissions associated with the project would occur temporarily from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with project-related new indirect emissions, such as residential vehicle trips and electricity usage. However, one of the goals of affordable housing is to provide housing closer to places of work in order to reduce commute distance. A reduction in commute distance would generate a long-term reduction in fossil fuel burning from less gasoline and diesel used.

Project-related GHG emissions and construction-related GHG emissions were quantified with CalEEMod. Table 8 shows the estimated GHG emissions that would result annually with project implementation.

TABLE 8
CONSTRUCTION AND OPERATIONAL GHG EMISSIONS (ANNUAL)

Source	CO2e (metric tons per year)
Construction	135.86
Area Source	38.17
Mobile Source	253.47
Energy Consumption (Electricity and Natural Gas)	69.80
Water Demand	8.90
Waste Demand	8.90
Total	**515.10**
Significance Threshold for AB 32 (2020)	1,100
Significance Threshold for SB 32 (2030)	660
Exceed Threshold?	**No**

Source of emissions estimates: CalEEMod output (Appendix B).

As shown in Table 8, estimated combined GHG emissions resulting from both construction and operation of the proposed project would be less than the GHG threshold for both AB 32 and SB 32. Therefore, the project would have a less than significant impact.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No impact. The SCAPCD has not adopted thresholds of significance relative to GHG emissions. The project would not conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing GHG emissions because emissions would not exceed thresholds that were developed with the purpose of complying with the requirements of AB 32 and SB 32. Therefore, the proposed project would not conflict with AB 32 or SB 32 and there would be no impact.

IX. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

Environmental Setting

The existing project site is an undeveloped lot with open space. The project site appears to have been disturbed in the past, and most of the soil appears to be fill material. The project site does not have any known past land uses associated with potentially hazardous sites.

The school nearest to the project site is Northern Unites-Siskiyou Charter School, located approximately 0.2 mile southeast of the project site at 427 Alder Street. Other schools in the vicinity include Sisson Middle School, located approximately 0.5 mile east of the project site at 601 E Alma Street, Mt. Shasta Elementary School, located 0.7 mile southwest of the project site at 501 Cedar Street, and Mt. Shasta High School, located approximately 0.8 mile east of the project site at 710 Everitt Memorial Highway.

The following databases were reviewed for the project site and surrounding area to identify potential hazardous contamination sites: the State Water Resources Control Board's GeoTracker tool (SWRCB 2022), California Department of Toxic Substance Control's EnviroStor online tool (DTSC 2022); and the EPA's Superfund National Priorities List (USEPA 2022a). Based on the results of the databases reviewed, no hazardous waste sites are on the project site.

The record of eruptions at the volcano, Mount Shasta, over the last 10,000 years suggests that, on average, at least one eruption occurs every 600 to 800 years. Future eruptions like those of the last 10,000 years would probably produce deposits of ash, lava flows, domes, and pyroclastic flows, and could endanger infrastructure that lie within several tens of kilometers of the volcano (USGS 2022). It has been suggested that because it is a long-lived volcanic center and has erupted only relatively small volumes of magma for several thousand years, Mount Shasta is the most likely Cascade Range volcano to produce an explosive eruption of very large volume. Such an event could produce tephra deposits as extensive and as thick as the Mazama ash and pyroclastic flows that could reach more than 30 miles from the vent. Regulatory Context

FEDERAL

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) is the primary federal law for the regulation of solid waste and hazardous waste in the United States and provides for the "cradle-to-grave" regulation that requires businesses, institutions, and other entities that generate hazardous waste to track such waste from the point of generation until it is recycled, reused, or properly disposed of. The USEPA has primary responsibility for implementing the RCRA.

USEPA's Risk Management Plan

Section 112(r) of the federal CAA (referred to as the USEPA's Risk Management Plan) specifically covers "extremely hazardous materials" which include acutely toxic, extremely flammable, and highly explosive substances. Facilities involved in the use or storage of extremely hazardous materials must implement a Risk Management Plan (RMP), which requires a detailed analysis of potential accident factors and implementation of applicable mitigation measures.

Federal Occupational Safety and Health Administration (OSHA)

The federal OSHA prepares and enforces occupational health and safety regulations with the goal of providing employees a safe working environment. OSHA regulations apply to the workplace and cover activities ranging from confined space entry to toxic chemical exposure.

U.S. Department of Transportation

The United States Department of Transportation regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This act specifies driver-training requirements, load labeling procedures, and container design and safety specifications. Transporters of hazardous wastes must also meet the requirements of additional statutes such as the RCRA.

STATE

California Code of Regulations, Title 22, Definition of Hazardous Material

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22, Section 66260.10, of the CCR as: *"A substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed."*

Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the State Hazardous Waste Control Law. Both laws impose "cradle-to-grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

California Occupational Safety and Health Administration (Cal/OSHA)

The California Occupational Safety and Health Administration (Cal/OSHA) has primary responsibility for developing and enforcing state workplace safety regulations, including requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

Regional Water Quality Control Board

The SWRCB and RWQCBs regulate hazardous substances, materials, and wastes that may affect surface water or groundwater through a variety of state statutes, including the Porter-Cologne Water Quality Control Act and underground storage tank cleanup laws. Any person proposing to discharge waste within the State must file a Report of Waste Discharge with the appropriate regional board. The proposed project is located within the jurisdiction of the CVRWQCB.

Hazardous Materials Emergency Response/Contingency Plan

Chapter 6.95, Section 25503, of the California Health and Safety Code requires businesses that handle/store a hazardous material or a mixture containing a hazardous material to establish and implement a Business Plan for Emergency Response (Business Plan). A Business Plan is required when the amount of hazardous materials exceeds 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases. A Business Plan is also required if federal thresholds for extremely hazardous substances are exceeded. The Business Plan includes procedures to deal with emergencies following a fire, explosion, or release of hazardous materials that could threaten human health and/or the environment.

California Accidental Release Prevention Program

The goal of the California Accidental Release Prevention Program (CalARP) is to prevent accidental releases of substances that pose the greatest risk of immediate harm to the public and the environment. Facilities are required to prepare a Risk Management Plan in compliance with CCR Title 19, Division 2, Chapter 4.5, if they handle, manufacture, use, or store a federally regulated substance in amounts above established federal thresholds; or if they handle a state regulated substance in amounts greater than state thresholds and have been determined to have a high potential for accident risk.

LOCAL

City of Mt. Shasta General Plan

The City of Mt. Shasta's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Safety Element		
Goals	SF-4	Protect property and life from fire hazards.
	SF-5	Protect people and the environment from hazardous materials exposure.
Policies	SF-4.2	Adopt and enforce development standards that provide adequate fire protection.
	SF-5.1	Assure that the use, storage and transportation of hazardous materials complies with federal and state regulations.
IM	SF-5.1 (a)	Working with the State Department of Health and the County Health Department, enforce the applicable provisions of State law related to hazardous material storage.

Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than significant impact. Construction of the proposed project would involve the transport, use, and disposal of common products and materials such as fuel, oil, paint, cement, and paving materials. These materials would be used only temporarily during construction activities. Construction specifications require that hazardous materials be used in accordance with product labeling and applicable federal and state regulations. There is a possibility of accidental release of hazardous substances into the environment, such as spilling petroleum-based fuels used for construction equipment. However, construction contractors would be required to comply with applicable federal and state environmental and workplace safety laws and implement BMPs for the storage, use, and transportation of hazardous materials. As such, the handling of these materials on the project site during construction would not create a significant hazard to the public or the environment.

After construction, the operation of the proposed multi-family residential project would use and store limited amounts of common products that may contain hazardous materials for activities such as cleaning, general maintenance, landscape maintenance, and pest control. These materials would only be used in small amounts by the operator and would be required to comply with the Siskiyou County

Environmental Health Division (SCEHD) and Mt. Shasta Fire Department regulations for hazardous materials and waste storage.

Future eruptions of Mount Shasta like those of the last 10,000 years would probably produce deposits of ash, lava flows, domes, and pyroclastic flows, and could endanger infrastructure that lie within several tens of kilometers of the volcano. Lava flows and pyroclastic flows may affect low areas within about 9 to 13 miles of the summit of Mount Shasta or any satellite vent that might become active. Explosive lateral blasts, like the May 1980 eruption of Mount St. Helens, could also occur as a result of renewed eruptive activity, or they could be associated with a large debris avalanche; such events could affect broad sectors to a distance of more than 20 miles from the volcano. As the annual probability for such a large event may be no greater than 10^{-5}, it is unlikely the proposed project would be impacted by a volcanic event.

Therefore, the potential risks associated with the accidental release of hazardous materials during routine transport, use, or disposal or to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant for questions a) and b).

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than significant impact. The school nearest to the project site is Northern Unites-Siskiyou Charter School, located approximately 0.2 mile southeast of the project site at 427 Alder Street. As described under questions a) and b), the project would not result in any long-term impacts related to the transportation of hazardous materials. Construction contractors would be required to comply with applicable federal and state environmental and workplace safety laws and implement BMPs for the storage, use, and transportation of hazardous materials. Project operation would involve the use of relatively small quantities of hazardous substances for activities such as cleaning, general maintenance, landscape maintenance, and pest control. However, the use, transport and disposal of these substances would be in accordance with SCEHD and Mt. Shasta Fire Department. Compliance with local, state, and federal regulations would minimize risk and exposure of emissions near the nearest school within one-quarter mile of the project site. Therefore, impacts would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than significant impact. The following databases were reviewed to locate hazardous waste facilities, land designated as hazardous waste property, and hazardous waste disposal sites in accordance with California Government Code Section 65962.5:

- List of Hazardous Waste and Substances sites from the DTSC EnviroStor database.
- SWRCB GeoTracker Database
- US EPA's Superfund National Priorities List

Based on the databases, there are no Hazardous Waste and Substances sites from the DTSC Envirostor Database within a 1,000-ft radius of the project site. Based on the US EPA's Superfund National Priorities List Database, there are no Superfund sites in the City of Mt. Shasta. The SWRCB Geotracker Database

did not identify any cleanup sites on the project site; however, it did identify three (3) sites within a 1,000-ft radius of the project site:

Red-Dye Fuel Release of Unknown Origin

This clean-up site is located 220 ft south of the project site, generally east of N. Mt. Shasta Boulevard, west of Chestnut Street, and south of E. Ivy Street. On September 25, 2018, City crews that were replacing a water meter on private property encountered red-dye diesel in the excavation. The SWRCB is in the process of working with the City and property owner to conduct preliminary site investigations to assess the soil and groundwater in the vicinity of the encountered release. Due to the distance from the project site, and as the clean-up is open but inactive as of November 30, 2020, this clean-up site would have no impact on the project site.

Cross Petroleum

This LUST clean-up site is located 750 ft northwest of the project site. This case was opened August 3, 1999, as substances related to diesel and gasoline were reported. The date of discovery was July 13, 1999, due to a tank closure, and was stopped on July 13, 1999, by closing and removing the tank. The case was closed as of October 13, 2005. No further remedial action was recommended. Due to the distance from the project site, and as the clean-up is closed, this clean-up site would have no impact on the project site.

Southern Pacific Mt. Shasta-2

This LUST clean-up site is located 950 ft west of the project site. This case was opened up September 21, 1995, as substances related to waste oil, motor, hydraulic, and lubricating were reported. The date of discovery was August 9, 1994, due to a tank closure, and was stopped on August 9, 1994. The case was closed as of February 5, 1996. No further remedial action was recommended. Due to the distance from the project site, and as the clean-up is closed, this clean-up site would have no impact on the project site.

Due to the proximity of the three (3) cleanup sites to the project site, and as the clean-up sites are closed, no significant hazard to the public or environment would result in project implementation. Therefore, impacts would be less than significant, and no mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less than significant impact. The Dunsmuir Municipal-Mott Airport is located approximately 6 miles southeast of the project site. According to the Siskiyou County Airport Land Use Compatibility Plan, no portion of the project site is located within an airport influence area. According to the Federal Aviation Administration, the project site is not located in the vicinity of a private airstrip. The Mercy Medical Center of Mt. Shasta Helipad is located 0.25 mile west of the project site; however, the noise from the helipad would be temporary and limited for emergency use only and would not create a significant impact on the people residing on the project site. Therefore, impacts would be less than significant, and no mitigation is required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than significant impact. The proposed project would not result in any modification to Ivy Street or Chestnut Street that would impair the use of those roadways for emergency access or evacuation use. The project would include two (2) main vehicle access driveways off of Chestnut Street and Ivy Street. The two (2) points of entry would have a 20-ft wide egress and ingress point and would include a 25-ft wide drive aisle. Although construction of these two main vehicle access driveways could increase traffic, the construction-related traffic would be spread over the duration of the construction schedule and would be minimal on a daily basis. In addition, pursuant to Cal/OSHA requirements, temporary traffic control during completion of activities that require work in the public ROW is required and must adhere to the procedures, methods and guidance given in the current edition of the California Manual on Uniform Traffic Control Devices (MUTCD). Local emergency service organizations in the area have developed an effective and cooperative emergency response system in compliance with the State of California and Federal Emergency Systems. The City of Mt. Shasta Emergency Operations Plan includes preparation checklists and other guidance in case of an emergency or if evacuations are required. The project would not conflict with adopted emergency response or evacuation plans; therefore, impacts would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than significant impact with mitigation. The City of Mt. Shasta is rated as being in a Very High Fire Hazard Severity Zone (CAL FIRE 2022). However, the project is subject to mandatory compliance with General Plan policies and Mt. Shasta City Fire Department design requirements, standards, and fire flows. The project site is located within downtown Mt. Shasta, and it is provided by urban level of fire protection from the City. The closest fire station is located at 303 N. Mt. Shasta Boulevard, approximately 0.6 mile southeast of the project site. As documented in Section 6.XX, Wildfire, the proposed project does not include any development or improvements that would increase the long-term risk of wildland fires or expose people or structures to wildland fires. However, equipment used during construction activities may create sparks that could ignite dry grass. With implementation of Mitigation Measure HAZ-01, impacts relating to potential wildland hazards due to construction would be minimized.

Operation of the project site would include two (2) 20 to 25-ft ingress/egress access points that would accommodate fire department access. Additionally, the project would tie into the existing City of Mt. Shasta water main line located on the northeastern boundary line along Alder Alley ROW, and located along the northwestern boundary line along Field Street ROW. One (1) existing fire hydrant is located at the intersection of Chestnut Street and Ivy Street, and one (1) existing fire hydrant is located at the intersection of Chestnut Street and Field Street ROW. Therefore, with implementation of Mitigation Measure HAZ-01, impacts would be less than significant.

Mitigation Measure HAZ-01: Prevent Wildland Fires during Construction

During construction, the applicant and construction coordinator shall ensure all areas in which work shall be completed using spark-producing equipment be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the construction coordinator shall keep these areas clear of combustible materials in order to maintain a fire break.

X. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Environmental Setting

The regional setting of the project site is primarily characterized by residential and commercial development. The topography of the project site is relatively flat with an elevation of approximately 3,582 ft amsl at its center, and slopes generally southwest at an average of 4 percent. Drainage runs west off the parcel into unnamed watercourses which drain into Big Springs Creek, then Browns Lake and Wagon Creek before reaching Lake Siskiyou. The project site appears to have been disturbed in the past, and most of the soil appears to be fill material. The northwestern edge of the parcel appears to be largely undisturbed, except for the channelization of a stream.

Federal Emergency Management Agency (FEMA) flood insurance rate maps were reviewed for the project's proximity to a 100-year floodplain. The proposed project is on FEMA panel 06093C3025D,

effective January 19, 2011 (FEMA 2022). The FEMA map does not specify any 100-year floodplains within the City of Mt. Shasta.

Regulatory Context

FEDERAL

Clean Water Act

The CWA (33 USC Section 1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality and was established to *"restore and maintain the chemical, physical, and biological integrity of the Nation's waters."* Pertinent sections of the Act are as follows:

1. Sections 303 and 304 provide for water quality standards, criteria, and guidelines.

2. Section 401 (Water Quality Certification) requires an applicant for any federal permit that would authorize a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the Act.

3. Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the SWRCB and is discussed in detail below.

4. Section 404, jointly administered by the USACE and USEPA, establishes a permit program for the discharge of dredged or fill material into waters of the United States.

Federal Anti-Degradation Policy

The federal Anti-Degradation Policy is part of the CWA (Section 303(d)) and is designed to protect water quality and water resources. The policy directs states to adopt a statewide policy that protects designated uses of water bodies (e.g., fish and wildlife, recreation, water supply, etc.). The water quality necessary to support the designated use(s) must be maintained and protected.

Safe Drinking Water Act

Under the 1974 Safe Drinking Water Act, most recently amended in 1996, USEPA regulates contaminants of concern to domestic water supply, which are those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are classified as either primary or secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed triennially.

Federal Emergency Management Agency

FEMA is responsible for mapping flood-prone areas under the National Flood Insurance Program (NFIP). Communities that participate in the NFIP are required to adopt and enforce a floodplain management ordinance to reduce future flood risks related to new construction in a flood hazard area. In return, property owners have access to affordable federally-funded flood insurance policies.

National Pollutant Discharge Elimination System

Under Section 402(p) of the CWA, the USEPA established the NPDES to enforce discharge standards for both point-source and non-point-source pollution. Dischargers can apply for individual discharge permits or apply for coverage under the General Permits that cover certain qualified dischargers. Point-source discharges include municipal and industrial wastewater, stormwater runoff, combined sewer overflows, sanitary sewer overflows, and municipal separate storm sewer systems. NPDES permits impose limits on discharges based on minimum performance standards or the quality of the receiving water, whichever type is more stringent in a given situation.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code Section 13000 *et seq.*) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of waters of the State. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater, and to both point and non-point sources of pollution. The Act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. The RWQCBs enforce waste discharge requirements identified in the Report.

State Anti-Degradation Policy

In 1968, as required under the Federal Anti-Degradation Policy, the SWRCB adopted an Anti-Degradation Policy, formally known as the *Statement of Policy with Respect to Maintaining High Quality Waters in California* (State Water Board Resolution No. 68-16). Under the Anti-Degradation Policy, any actions that can adversely affect water quality in surface or ground waters must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial use of the water, and not result in water quality less than that prescribed in water quality plans and policies.

National Pollution Discharge Elimination System

Pursuant to the federal CWA, the responsibility for issuing NPDES permits and enforcing the NPDES program was delegated to the SWRCB and the nine RWQCBs. NPDES permits are also referred to as waste discharge requirements (WDRs) that regulate discharges to waters of the United States. Below is a description of relevant NPDES general permits.

- ***Construction Activity and Post-Construction Requirements.*** Discharges from construction sites that disturb one acre or more of total land area are subject to the NPDES permit for *Discharges of Storm Water Runoff associated with Construction Activity* (currently Order No. 2009-009-DWQ), also known as the Construction General Permit. The permitting process requires the development and implementation of an effective SWPPP. Coverage under the Construction General Permit is obtained by submitting a Notice of Intent (NOI) to the SWRCB and preparing the SWPPP prior to the beginning of construction. The SWPPP must include BMPs to reduce pollutants and any more stringent controls necessary to meet water quality standards. Dischargers must also comply with water quality objectives as defined in the applicable Basin Plan. If Basin Plan objectives are exceeded, corrective measures are required.

The Construction General Permit includes post-construction requirements for areas in the State not covered by a Standard Urban Storm Water Management Plan (SUSWMP) or a Phase I or Phase II MS4 Permit. These requirements are intended to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect water quality impacts (i.e., pollution and/or hydromodification) upstream or downstream.

Where applicable, the SWPPP submitted to the SWRCB with the NOI must include a description of all post-construction stormwater management measures. The SWRCB Storm Water Multiple Application and Report Tracking System (SMARTS) post-construction calculator or similar method would be used to quantify the runoff reduction resulting from implementation of the measures. The applicant must also submit a plan for long-term maintenance with the NOI. The maintenance plan must be designed for a minimum of five years and must describe the procedures to ensure that the post-construction stormwater management measures are adequately maintained.

- ***Dewatering Activities (Discharges to Surface Waters and Storm Drains).*** Construction dewatering activities that involve the direct discharge of relatively pollutant-free wastewater that poses little or no threat to the water quality of waters of the U.S., are subject to the provisions of CVRWQCB Order R5-2016-0076-01 (NPDES No. CAG995002), *Waste Discharge Requirements, Limited Threat Discharges to Surface Water*, as amended. WDRs for this order include discharge prohibitions, receiving water limitations, monitoring, and reporting, etc. Coverage is obtained by submitting a NOI to the applicable RWQCB.

- ***Dewatering Activities (Discharges to Land).*** Construction dewatering activities that are contained on land and do not enter waters of the U.S. are authorized under SWRCB Water Quality Order No. 2003-003-DWQ, provided that the dewatering discharge is of a quality as good as or better than the underlying groundwater, and there is a low risk of nuisance.

Water Quality Control Plans (Basin Plans)

Each of the State's RWQCBs is responsible for developing and adopting a basin plan for all areas within its region. The Plans identify beneficial uses to be protected for both surface water and groundwater. Water quality objectives for all waters addressed through the plans are included, along with implementation programs and policies to achieve those objectives. Waste discharge requirements (WDRs) were adopted in order to attain the beneficial uses listed for the Basin Plan areas.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), enacted in September 2014, established a framework for groundwater resources to be managed by local agencies in areas designated by the Department of Water Resources as "medium" or "high" priority basins. Basins were prioritized based, in part, on groundwater elevation monitoring conducted under the California Statewide Groundwater Elevation Monitoring (CASGEM) program. Of the 517 groundwater basins in the State, 109 are identified as medium- and high-priority basins. Critical conditions of overdraft have been identified in 21 groundwater basins (Department of Water Resources, 2019).

The SGMA requires local agencies in medium- and high-priority basins to form Groundwater Sustainability Agencies by July 1, 2017 and be managed in accordance with locally-developed Groundwater Sustainability Plans (GSPs). Basins identified as critically over drafted are required to be

managed under a GSP by January 31, 2020. All other medium- and high-priority basins must be managed under a GSP by January 31, 2022. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Open Space and Conservation Element		
Goals	OC-10	Protect the drinking water of Mt. Shasta residents.
Policies	OC-10.1	Maintain a safe drinking water supply.
	OC-10.2	Protect the City's drinking water sources from contamination.
IM	OC-10.1 (a)	Comply with drinking water standards.
	OC-10.2 (a)	When reviewing development proposals for projects with the potential to contaminate drinking water supplies, ensure that the environmental and project review process incorporates appropriate measures to avoid drinking water contamination.
Safety Element		
Goal	SF-1	Protect people and property from flooding.
Policy	SF-1.1	Identify areas subject to inundation.
IM	SF-1.1 (a)	Require that the limits of flooding resulting from a one-hundred-year storm event be shown on all permit site plans where lands may be subject to inundation.

The City of Mt. Shasta has adopted the City of Redding's (COR) Construction Standards. COR Standard 200.00 (Drainage Criteria) and COR Standard 200.10 (Hydraulic Criteria) outline requirements for the drainage/hydrology study and design of the storm drain system. All new development projects are required to be designed to ensure that runoff from the project will not increase the 10-, 25-, or 100-year flows downstream.

Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than significant impact. The proposed project has the potential to temporarily degrade water quality due to increased erosion during project construction as the proposed project would require over one (1) acre of grading on the project site. Projects resulting in one or more acre of ground disturbance require a General Construction Activity Stormwater Permit and a NPDES permit from the SWRCB. Use of the permit requires the preparation of a SWPPP for approval by the SWRCB. The SWPPP would contain BMPs to control construction-related erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat and reduce potential impacts to water quality during construction of the project. The SWPPP submitted to the SWRCB with the NOI for the proposed project must include a description of all post-construction stormwater management measures and a plan for long-term

maintenance. The maintenance plan must be designed for a minimum of five years and must describe the procedures to ensure that the post-construction stormwater management measures are adequately maintained.

Because the City is not subject to a SUSWMP or a Phase I or Phase II MS4 Permit, the proposed project is subject to post-construction requirements included in the SWRCB Construction General Permit to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect impacts from stormwater runoff (i.e., pollution and/or hydromodification) upstream or downstream.

Post-construction measures are defined as structural and non-structural controls that detain, retain, or filter the release of pollutants to receiving water after final stabilization is attained. Non-structural controls are required unless the discharger demonstrates that non-structural controls are infeasible or that structural controls will produce greater reduction in water quality impacts. Nonstructural controls may include vegetated swales, soil quality enhancement, setbacks, buffers and/or rooftop and impervious surface disconnection. Nonstructural controls can be included as a landscape amenity.

As discussed under Regulatory Context above, the SGMA established a framework for groundwater resources to be managed by local agencies in areas designated by the Department of Water Resources as medium or high priority basins. The project site is not located in a medium or high priority basin, and there is not a sustainable groundwater management plan that applies to the proposed project.

Compliance with SWRCB permit conditions ensures that the project would not violate any water quality standards or waste discharge requirements or conflict with or obstruct implementation of a water quality control plan. Impacts would be less than significant for questions a) and e).

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than significant impact. The proposed project would not require groundwater supplies for construction or operation. The proposed project includes the addition of approximately 1.1 acres of impervious surfaces (e.g., buildings, walkways, and parking areas). The addition of impervious surfaces would decrease the area available for water penetration, thereby reducing local groundwater recharge potential. However, within the City of Mt. Shasta and the vicinity, groundwater is mainly a function of snowmelt following depositional layers of the stratovolcano through the alluvial fan on which the City is built. Therefore, the groundwater table is primarily driven by upslope input rather than on-site recharge. Although on-site recharge is not essential to maintaining the water table, the proposed on-site detention basins and existing drainage channels would assist in the infiltration of stormwater runoff.

Therefore, an increase in impervious surface would not substantially interfere with groundwater recharge. Additionally, proposed detention basins would be utilized to collect runoff and infiltrate groundwater. Therefore, impacts on groundwater supplies or recharge are less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

Less than significant impact. The project would include proposed detention basins located throughout the site. Additionally, an existing drainage channel is located north of the project site within the Field Street ROW partial vacation, and an existing drainage channel is located east of the projects' eastern boundary line. The project would also include 17,770 sf of landscaping. Therefore, most of the site stormwater would accumulate on proposed pervious surfaces and infiltrate into the underlying soils. As such, the site development would not substantially alter drainage patterns that would cause erosion or siltation off-site over the long term.

During construction when soils are disturbed and could be subject to temporary wind or water erosion, the project applicant would be required to implement BMPs identified in the SWPPP to minimize soil erosion during construction activities. Compliance with existing regulations developed to minimize erosion and siltation would reduce this impact during construction to a less than significant level. Following completion of the project, the site would be covered with impervious surfaces and landscaping and would include an on-site stormwater system. With such features, the project would not be a source of siltation or erosion on- or off-site, and impacts would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?

Less than significant impact. The proposed project would convert an undeveloped site to one covered with buildings and paving, thus increasing the percentage of impervious surface. The resulting increase in impervious surface would increase the rate and amount of runoff during storms as well as increase stormwater flows to local drainage systems compared to existing conditions. The project site includes an existing 18-inch storm drain along Chestnut Street along with two (2) existing storm drain inlets located on the intersection of Chestnut Street and Ivy Street and on the intersection of Chestnut Street and Field Street.

The proposed landscaping plan and design of the project would support the goals of infiltration and stormwater treatment using shallow bioswales/detention basins and similar LID techniques to collect stormwater. Detention basins would be located throughout the site wherever an appropriately sized landscape area is available to reduce increased runoff from impervious surfaces. Native vegetation within the bioswales/detention basins would help filter pollutants out of the runoff, as well as induce infiltration to recharge groundwater. The project would also include 17,770-sf of landscaping. The landscaping plan would improve the public ROW landscaped areas to include stormwater LID treatments. Along Chestnut Street, the existing conditions already function as stormwater swales with shallow infiltration ditches, while also being connected to existing drain inlets. The project improvements would enhance the performance of these existing features by incorporating appropriate plantings and controlled overflow outlets where necessary. The inherent design of the proposed project, including detention basins, landscaping areas, and similar LID techniques, would prevent flooding on- or off-site by allowing water to infiltrate into the impervious surfaces on the project site and adjacent to

the project site. Additionally, the project would comply with post-construction measures in accordance with NPDES Construction General Permit to ensure the project would not result in an increase in polluted runoff. Therefore, impacts would be less than significant.

iv. Impede or redirect flood flows?

No impact. There are no natural water courses on or near the project site. The nearest mapped floodplain is the shore of Lake Siskiyou and a narrow fringe area along the Sacramento River (FEMA 2011). Therefore, the project would not impede or redirect flood flows. There would be no impact.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No impact. The closest large body of water to the project site is Lake Siskiyou, approximately two miles to the southwest. Seiches could potentially be generated in Lake Siskiyou due to very strong ground-shaking; however, due to the distance from the project site, the project site has no potential for inundation by seiche. According to the FEMA Flood Map Service Center (Panel 06093C3025D, effective January 19, 2011), the project site is not located within a designated flood hazard zone. Therefore, there is no potential for release of pollutants due to inundation by seiche, tsunamis, or floods.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than significant impact. The applicable water quality control plan is the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan). Project construction and operation would comply with local, State, and federal regulations, including the NPDES Construction General Permit, Basin Plan, and City's Code. Commonly practiced BMPs, as required by these regulations, would be implemented to control construction site runoff and reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff. There is no sustainable groundwater management plan that is applicable to the project. Therefore, the project would not obstruct implementation of a water quality control plan.

XI. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause 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?	☐	☐	☒	☐

Environmental Setting

The City of Mt. Shasta General Plan guides current and future growth in the City. The Land Use Element designates land use designations for properties in the City and outlines goals and policies concerning development and use of that land. In concert with the General Plan, the Land Development Code (zoning code) establishes zoning districts in the City and specifies allowable uses and development standards for each district. Under state law, each jurisdiction's zoning code must be consistent with its general plan.

The proposed project is designated as Central Residential (CR) in the City of Mt. Shasta General Plan. CR lands are characterized by smaller, denser lots utilizing no less than 75% of the lot to create mixed use neighborhoods with commercial, social gathering, and residential spaces. CR areas focus on proximity and connections between neighbors. Open space in the central residential land use is structured with playgrounds, community gardens, and social gathering spaces like open plazas.

CR is the highest density of the residential land use designations with densities between 16 and 25 units per acre with an average of 35 people per acre. Housing types include live-work spaces, multiplex with 5 units or more, stacked triplexes, townhouses, cottage cluster or court housing, and courtyard buildings. The designation uses height rather than spreading out to achieve the unit density

The proposed project site is zoned Downtown Commercial (C-1). The C-1 zoning district is intended to serve commercial land use within the downtown of the City. The C-1 zone achieves multiple land use goals for the business community allowing the most flexibility in design and land use. Permitted uses within the C-1 zoning district include a store, motel, office, bank, theaters, restaurant, or similar use, primarily conducted within a building, and not involving the use of significant amounts of hazardous substances, and not exceeding 10,000 square feet in floor area where all necessary public services and facilities are available, and the surrounding area is not environmentally sensitive. Additional permitted uses include residential uses consistent with the R-3 zone district, residential uses within a commercial building, and outdoor sales consistent with section 18.23.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to land use and planning that apply to the proposed project.

STATE

California Government Code

California Government Code Section 65300 *et seq.* contains many of the State laws pertaining to the regulation of land uses by cities and counties. These regulations include requirements for general plans, specific plans, subdivisions, and zoning. State law requires that all cities and counties adopt General Plans that include seven mandatory elements: land use, circulation, conservation, housing, noise, open space, and safety. A General Plan is defined as a comprehensive long-term plan for the physical development of the county or city, and any land outside its boundaries that is determined to bear relation to its planning. A development project must be found to be consistent with the General Plan prior to project approval.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes goals, policies, and implementation measures designed for the purpose of avoiding or minimizing environmental effects. The Mt. Shasta Municipal Code implements the City's General Plan. The purpose of the land use and planning provisions of the Code (Title 18, Zoning) is to provide for the orderly and efficient application of regulations and to implement and supplement related laws of the state of California, including but not limited to CEQA.

Discussion

a) Physically divide an established community?

No impact. The proposed project site is located in an area with existing commercial and residential development and is zoned C-1 (Downtown Commercial) which is intended to serve as the commercial land use district for areas within the city's downtown commercial area. The project site is undeveloped with open space and does not include an existing residence or an established community. The site would be accessible by two (2) main access driveways off of the existing Chestnut Street and Ivy Street and would not result in the construction of new roadways that would physically divide an existing community or remove or impair access to existing communities. Therefore, no impacts would occur.

b) Cause 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?

Less than significant impact. General Plan policies, zoning regulations, and other applicable plans that are applicable to the proposed project for purposes of mitigating an environmental effect are identified, as appropriate, in the technical sections of this document. Those policies, regulations, and/or plans are identified in Sections 6.I through 6.XXI in this Initial Study. The proposed project would be consistent with relevant plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect, and impacts would be less than significant.

XII. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental Setting

There are no active mines on the proposed project site or in the immediate vicinity (DOC 2022c). The nearest mine is the Spring Hill Mine (Mine ID: 91-47-0015), which is located within the City limits approximately 2.0 miles northwest of the project site. The Mt. Shasta Pit (Mine ID: 91-47-0004) is an aggregate mine located approximately 1.5 miles northwest of the project site, outside the City limits on the west side of Interstate 5 and south of Abrams Lake Road (DOC 2022c).

Regulatory Context

FEDERAL

There are no federal regulations pertaining to mineral resources that apply to the proposed project.

STATE

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act (SMARA), Chapter 9, Division 2 of the PRC, provides a comprehensive surface mining and reclamation policy to ensure that adverse environmental impacts are minimized, and mined lands are reclaimed to a usable condition.

Mineral Resource Zones (MRZs) are applied to sites determined by the California Geological Survey (CGS) as being a resource of regional significance and are intended to help maintain mining operations and protect them from encroachment of incompatible uses. The Zones indicate the potential for an area to contain significant mineral resources.

LOCAL

There are no local regulations pertaining to mineral resources that apply to the proposed project.

Discussion

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No impact. There are two (2) active mines within a two-mile radius of the project site. The nearest mine is the Spring Hill Mine, or the Sousa Ready Mix Quarry (Mine ID: 91-47-0015), which is located within the City limits approximately 2.0 miles northwest of the project site. The Mt. Shasta Pit, or the County-owned quarry on Pine Grove Drive (Mine ID: 91-47-0004), is an aggregate mine located 1.5 miles northwest of the project site, outside the City limits on the west side of I-5 and south of Abrams Lake Road (DOC 2022c). Due to the distance from the project site, the project would have no impact on existing mining operations.

In addition, the City's Zoning Code allows mineral resource extraction and production as a conditional use in the Resource Lands (R-L) zone district. According to the City's Zoning Map, there are presently no

lands in the City limits that are zoned R-L. Further, the project site is in an urbanized area that is not conducive to mining operations. Therefore, the proposed project would not result in the loss of availability of a locally important mineral resource. The project would have no impact, and no mitigation is required.

XIII. NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Environmental Setting

NOISE METRICS

All noise-level and sound-level values presented herein are expressed in terms of decibels (dB), with A weighting, abbreviated “dBA,” to approximate the hearing sensitivity of humans. Time averaged noise levels of one hour are expressed by the symbol “L_{EQ}” unless a different time period is specified. Maximum noise levels are expressed by the symbol “L_{MAX}.” Some of the data also may be presented as octave-band-filtered and/or A-octave band-filtered data, which are a series of sound spectra centered on each stated frequency, with half of the bandwidth above and half of the bandwidth below, the stated frequency. These data are typically used for machinery noise analysis and barrier-effectiveness calculations. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dBA weighting, and sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting. This is similar to the Day Night sound level (L_{DN}), which is a 24-hour average with an added 10 dBA weighting on the same nighttime hours but no added weighting on the evening hours.

Because decibels are logarithmic units, S_{PL} cannot be added or subtracted through standard arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than from one source under the same conditions. For example,

if one automobile produces an SPL of 70 dBA when it passes an observer, two cars passing simultaneously would not produce 140 dBA—rather, they would combine to produce 73 dBA. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dBA louder than one source.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1 dBA changes in sound levels, when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000 Hertz [Hz]–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dBA are generally not perceptible. It is widely accepted, however, that people begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dBA increase is generally perceived as a distinctly noticeable increase, and a 10 dBA increase is generally perceived as a doubling of loudness.

VIBRATION METRICS

Groundborne vibration consists of rapidly fluctuating motions or waves transmitted through the ground with an average motion of zero. Sources of groundborne vibrations include natural phenomena and anthropogenic causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Peak particle velocity (PPV) is commonly used to quantify vibration amplitude. The PPV, with units of inches per second (in/sec), is defined as the maximum instantaneous positive or negative peak of the vibration wave.

NOISE SENSITIVE LAND USES

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, sensitive wildlife habitat, or similar facilities where quiet is an important attribute of the environment. Noise receptors (receivers) are individual locations that may be affected by noise. The closest existing NSLUs to the project are muti-family housing buildings approximately 65 feet south of the project site, across Ivy Street. The school nearest to the project site is Northern United-Siskiyou Charter School, located approximately 0.2 miles southeast of the project site at 427 Alder Street. The nearest hospital is the Mercy Medical Center Mt. Shasta, located approximately 850-ft west of the project site at 914 Pine Street.

Regulatory Context

FEDERAL

If the project applicant or the City were to seek any U.S. Department of Housing and Urban Development (HUD) program assistance for the project, the project would have to meet the noise standards as specified in 24 CFR Part 51: acceptable exterior noise levels not exceeding 65 dBA L_{DN}, normally unacceptable exterior noise levels above 65 dBA L_{DN} but not exceeding 75 dBA L_{DN}, and unacceptable exterior noise levels above exceeding 75 dBA L_{DN}.

STATE

California Building Code

The CBC (Title 24, Part 2) includes noise insulation standards that apply to new construction of multi-family residential buildings. The CBC requires that interior noise levels attributable to exterior sources not exceed 45 dBA in any habitable room.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goal, Policies, and IMs that apply to the proposed project:

Noise Element		
Goals	NZ-1	Protect City residents from the harmful and annoying effects of exposure to excessive noise.
Policies	NZ-1.1	Enforce standards for noise exposure from proposed and existing non-transportation noise sources.
	NZ-1.8	Monitor compliance with noise standards.
IM	NZ-1.1 (c)	Noise created by new proposed non-transportation noise sources shall not exceed the noise level standards indicated in Table 7-5 at the property line.
	NZ-1.4 (a)	Evaluate transportation noise sources of proposed projects according to the noise level standards shown in Table 7-6.
	NZ-1.8(c)	Noise associated with construction activity between the hours of 7 a.m. and 5 p.m. shall be exempt from the standards cited in Table 7-5. Construction activity outside of this period may exceed the cited standards if an exemption is granted by the City to cover special circumstances.

Discussion

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than significant impact with mitigation incorporated.

<u>Construction</u>

The nearest NSLUs to the project site area are muti-family housing buildings approximately 65 feet south of the project site, across Ivy Street. Heavy earthmoving equipment would have the potential to be as close as 80 feet from the residential property line, including rubber-tired dozers and graders. Over the course of one hour, it is anticipated that the average distance of heavy earthmoving equipment from nearest residences would be approximately 130 feet. Modeling shows that the combined one-hour noise from a dozer and grader would result in 74.4 dBA L_{EQ} at the closest residential property. Because construction equipment would be mobile as it moves across the project site, the noise level experienced by the neighboring uses would vary throughout the day.

Per General Plan Implementation Measure NZ-1.8(c), construction activity conducted between the hours of 7 a.m. and 5 p.m. is exempt from the City's noise standards. Construction activity which occurs

outside of these hours could result in noise exceeding the 45 dBA L_{EQ} residential noise standards and would be potentially significant. Mitigation Measure NOI-01 would limit construction hours. With implementation of Mitigation Measure NOI-01, project construction noise impacts would be reduced to a less than significant level.

Operation

Off-site transportation noise. The City General Plan identifies the area around the project site as within the 60 dBA L_{DN} railroad noise contour and outside the 65 dBA L_{DN} railroad noise contour (City 2007). Long-term operation of the project would not result in increases in railroad noise. However, the project could result in a small increase in transportation noise though an increases in traffic noise levels on area streets. As part of the air quality impact analysis discussed above in Section 6.III, project trip generation was estimated using CalEEMod defaults. The project would generate approximately 183 weekday average daily trips, 204 Saturday trips, and 157 Sunday trips (see Appendix B for the CalEEMod output reports). Because peak hour trips are typically 10 percent of the average daily trips, the project would result in approximately 16 to 21 additional vehicles on areas streets. The noise generated by 21 vehicles traveling on Chestnut Street near the project site at the speed limit (25 mph) was estimated using the U.S. Department of Transportation's Traffic Noise Model (TNM) version 2.5. The 21 cars traveling at 25 mph would result in approximately 45.5 dBA measured at a distance of 25 feet. An addition of 45.5 dBA to the existing 60 dBA of transportation noise in the area would result in 60.2 dBA, an imperceptible transportation noise increase in typical outdoor environments. Therefore, noise impacts from the project's contribution to area transportation noise sources would be less than significant.

Stationary Source Noise. The primary source of noise on the project site would be building heating, ventilation, and air conditioning (HVAC) systems. Details of potential project HVAC systems were not available at the time of this analysis. A typical system for apartments in multi-story buildings would be a Carrier model 38BRC-024-34 2-ton split system for, which has a sound rating of 76 dBA S_{WL} (Carrier 2005). The locations of HVAC systems have not been determined at the time of this analysis. Because of winter snow in the area, this analysis assumes HVAC systems would be located at ground level adjacent to each project unit. The closest units to existing NSLUs are the five units facing Ivy Street. HVAC systems installed facing Ivy Street would be approximately 105 feet from the residences across the street. A single Carrier 38BRC-024-34 condenser unit producing a sound power level of 76 dBA would result in approximately 37.8 dBA at a distance of 105 feet. Five HVAC units operating concurrently a steady state for an hour would result in 44.8 dBA L_{EQ}. This level would be below the non-transportation exterior noise standard for residential uses of 50 dBA L_{EQ} daytime and 45 dBA L_{EQ} nighttime, as specified in Table 7-5 of the City General Plan Noise Element (City 2007). This is a conservative (high) estimate and does not account for attenuation from enclosures, structures, or terrain, and assumes an unlikely scenario of five HVAC units running concurrently at steady state for an hour. Therefore, noise impacts from project operation stationary noise sources would be less than significant.

Impact Conclusion

With implementation of Mitigation Measure NOI-01, project construction noise impacts would be reduced to a less than significant level. Increases in transportation noise in the area resulting from traffic generated by long-term operation of the project would be imperceptible and less than significant. Noise generated by long-term operation of the project HVAC systems would not exceed the City's non-transportation noise standards and would be less than significant. Therefore, the project would not

result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project, and the impact would be less than significant with mitigation incorporated.

Mitigation Measure NOI-01: Construction Noise Hours

Construction activity shall be limited to the hours between 7 a.m. and 5 p.m. per the Mt. Shasta General Plan Implementation Measure NZ-1.8(c). The project applicant shall designate a representative to handle public construction noise complaints. Prior to commencing any construction noise generating activity, the project applicant shall post a publicly visible sign near the primary project construction entrance listing the permissible constructing hours, and listing the noise complaint contact details, including phone number(s), for filing noise complaints. Prior to issuing construction permits, the City shall verify that the construction plan sets and/or construction contracts specify the construction hours limitation.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact. Construction activities known to generate excessive ground-borne vibration, such as pile driving, would not be conducted by the project. A possible source of vibration during general project construction activities would be a vibratory roller, which may be used within 60 feet of the nearest off-site residential building, southeast of the project site. A large vibratory roller would create approximately 0.210 inch per second PPV at a distance of 25 feet (FTA 2018). A 0.210 inch per second PPV vibration level would equal 0.07 inch per second PPV at a distance of 65 feet (the distance from the project site to the closest residential building)[1]. This would be lower than what is considered a “just perceptible” impact for humans, and the threshold for potential architectural damage (e.g., cracking plaster) impact to non-engineered timber and masonry buildings of 0.2 inch per second PPV. Therefore, although vibrations from a vibratory roller may be perceptible to nearby human receptors, temporary impacts associated with the roller (and other potential equipment) would be less than significant.

The proposed project does not include equipment that would generate substantial vibration. Therefore, operational vibration impacts would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less than significant impact. The closest airport or private airstrip to the project site is Dunsmuir Municipal-Mott Airport, approximately 6 miles southeast of the project site. Therefore, there are no private air strips in the project vicinity and no public airports within 2 miles of the project site. The project would not the project expose people residing or working in the project area to excessive noise levels from aircraft or airports, and the impact would be less than significant.

[1] Equipment PPV = Reference PPV * $(25/D)^n$ (in/sec), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receiver in feet, and n = 1.1 (the value related to the attenuation rate through the ground); formula from FTA 2018.

XIV. POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) 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)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

The proposed project site is zoned for Downtown Commercial and surrounded by Downtown Commercial and Medium Density Residential. There are no existing residences on the project site as the site is open and undeveloped. The nearest residences are adjacent to the site's southwest and southeastern boundaries, along Ivy Street and Chestnut Street.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to population or housing that apply to the proposed project.

STATE

California Government Code Section 65581

California Government Code Section 65581 *et seq.* requires a Housing Element to be included in all city and county General Plans. State Housing Element law mandates that jurisdictions provide sufficient land to accommodate a variety of housing opportunities for all economic segments of the community. Compliance with this requirement is measured by the jurisdiction's ability to provide adequate land to accommodate a share of the region's projected housing needs for the applicable planning period. This share is known as the Regional Housing Needs Allocation (RHNA).

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Housing Element		
Goals	HO-1	Provide an adequate supply of sound, affordable housing for existing and future residents of Mt. Shasta.
Policies	HO-1.5	With all due consideration to financial constraints, and consistent with other General Plan policies, the City shall encourage, participate, and cooperate in extension of City services to currently unserved and underserved areas, including direct financial participation when deemed appropriate by the City Council.
IM	HO-1.5.2	The City shall continue to develop and implement plans to expand domestic water and sewage collection and treatment systems such that planned development over the General Plan 20-year timeframe can be accommodated.

Discussion

a) 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)?

Less than significant impact. Implementation of the project would result in the construction of 24 new affordable multi-family residential units plus 1 manager's unit. Additionally, with 25 new multifamily residential units, there would be 58 new bedrooms. It is anticipated that the project would house between 58 and 109 residents (assuming 1 to 1.88 people per renter occupied housing units in 2010 [City 2007]).

The proposed project would accommodate the demand for housing and would not induce substantial growth in the City of Mt. Shasta, as outlined in the Housing Element in the City of Mt. Shasta General Plan. The proposed project would require the addition of two (2) main access driveways along Chestnut Street and Ivy Street. However, this addition would not impact the existing roadways within the vicinity of the project site. Additionally, the project would tie into existing water, sanitary sewer, electrical and cable/internet connections. Moreover, the population to be accommodated by the project is within the projected increase in population from planned growth as projected in the City's Housing Element. Therefore, impacts would be less than significant.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No impact. The proposed project would include the development of 25 multi-family residential units on a currently undeveloped and vacant site. There are no existing residences on the project site; therefore, neither housing units nor people would be displaced, and no replacement housing would be required. There would be no impact, and no mitigation would be necessary.

XV. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

Environmental Setting

Fire Protection

The Mt. Shasta City Fire Department provides fire protection and emergency medical services in the City and thus to the project site. The closest fire station is located at 303 N. Mt. Shasta Boulevard, approximately 0.6 mile southeast of the project site. The Fire Department is made up of 5 paid staff, 14 volunteers, and 4 explorers, under the leadership of a full-time chief. Its two fire stations house four pumpers and a rescue unit, and the department responds to about 1,400 fire and medical emergency calls per year. The department is a partner with all of the other fire protection agencies in Siskiyou County via a mutual aid agreement. It also works cooperatively with the US Forest Service, the California Department of Forestry and Fire Protection (CAL FIRE), and other fire agencies to reduce fire threats to the community from adjacent forest and wildland areas.

Police Protection

The Mt. Shasta Police Department provides police, law enforcement, animal control, patrol, and community services. The department is located at 303 N. Mt. Shasta Boulevard, approximately 0.6 mile southeast of the proposed project site.

Schools

The school nearest to the project site is Northern Unites-Siskiyou Charter School, located approximately 0.2 mile southeast of the project site at 427 Alder Street. Other schools in the vicinity include Sisson Middle School, located approximately 0.5 mile east of the project site at 601 E Alma Street, Mt. Shasta Elementary School, located 0.7 mile southwest of the project site at 501 Cedar Street, and Mt. Shasta High School, located approximately 0.8 mile east of the project site at 710 Everitt Memorial Highway.

Parks

The headquarters of the Mt. Shasta Recreation & Parks District is located at 1315 Nixon Road, in the rustic, 26-acre Mt. Shasta City Park, approximately 0.8-mile northwest of the project site. Park facilities include picnic areas, playgrounds, and five public buildings. The headwaters for the Sacramento River are located in the park. Sisson Meadow, a restored wetland meadow on 7.5 acres which features boardwalk trails, benches, and picnic tables, is located approximately 0.4 mile southeast of the project site. The 9-acre Youth Sports Park is located next to Sisson Meadow, and includes several ballfields, picnic tables, and a small play area. Shastice Park, located at 800 Rockfellow Drive, encompasses 38 acres, 14 of which are developed. The park includes tennis courts, a lighted softball field, a playground, a multi-use field, walking trails, the outdoor Siskiyou Ice Rink, the Mt. Shasta Skateboard Park, and mountain bike trails. Shastice Park is located 1.1 miles east of the project site.

Regulatory Context

There are no federal or State regulations pertaining to public services that apply to the proposed project.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Land Use and Open Space and Conservation Elements		
Goals	LU-11	Provide adequate fire protection services.
	LU-12	Provide adequate facilities for the police department.
	LU-13	Support efforts to provide adequate education to all age levels.
	OC-9	Provide park and recreation facilities to meet the growing population of Mt. Shasta.
Policies	LU-11.1	Provide fire management services which meet area needs.
	LU-11.4	Provide adequate firefighting facilities.
	LU-12,1	Develop programs to ensure adequate police services capabilities.
	LU-12.2	Provide adequate facilities for the police department.
	LU-13.1	Ensure that the school districts participate in the review of residential development proposals.
	OC-9.1	Strive to provide neighborhood parks to meet the needs of developing areas.
	OC-9.2	Continue to meet community park and recreation needs.
IM	LU-11.1 (a)	Incorporate fire prevention measures in the land development code for the design and construction of new buildings and facilities, such as sprinklers, fire resistant construction, use of fire-resistant vegetation, and other fire protection and defensible space.
	LU-11.1 (b)	Utilize planning and design standards to reduce risk of structural damage from fire. This includes the use of loop roads adequate for all-weather fire apparatus access and evacuation, limitations on the lengths of cul-de-sacs, and elimination of extended driveways for "flag" lots.
	LU-11.4 (a)	When population growth requires, the City will construct a new fire department branch facility.

Land Use and Open Space and Conservation Elements	
LU-12.1 (a)	Determine and maintain a desirable ratio of sworn police personnel to population as the community continues to grow.
LU-12.2 (a)	Consider creating a capital facility fund paid for from funds generated by new development as a means of acquiring monies to construct a new police department facility.
OC-9.2 (b)	Maintain a ratio of not less than five acres of neighborhood parks per one thousand City population.
OC-9.2 (c)	Maintain a ratio of not less than five acres of community park land per one thousand City population.

Discussion

a) Fire protection?

Less than significant impact. The City of Mt. Shasta is rated as being in a Very High Fire Hazard Severity Zone (CAL FIRE 2022). All property owners in this zone are required to comply with the requirements of Government Code Section 51182**.** Fire protection services within the City are provided by the City of Mt. Shasta Fire Department. The Department has a mutual aid agreement with the Mt. Shasta Fire Protection District, which provides fire protection services to the unincorporated area of the County surrounding the City. The Department is also a partner with all other fire protection agencies in Siskiyou County through a countywide mutual aid agreement.

The project would not require the construction or alteration of existing fire department facilities to meet fire suppression service or emergency response times. Emergency vehicle access would be maintained on the site to meet the Fire Department standards for fire truck maneuvering, location of fire truck to fight a fire, rescue access to the units, and fire hose access to all sides of the building. The proposed project would increase fire protection service due to the addition of 25 units, but the project would not render the current service level to be inadequate. The project would be required to pay the City's Development Impact Fees (City 2007) to fund fire, police, and public works services. Mandatory compliance with the State of California code and City of Mt. Shasta Fire Department design and fire flow requirements would ensure fire service–related impacts are less than significant. The proposed project would not significantly increase fire service demands or render the current service level to be inadequate, and impacts would be less than significant.

b) Police protection?

Less than significant impact. Police protection services and emergency response within the City are provided by the Mt. Shasta Police Department. The proposed project would increase police protection service due to the addition of 25 units, but the project would not substantially render the current service level to be inadequate.

The project includes features that reduce opportunities for crime such as adequate parking lot and site lighting, on-site management services, common areas visible from adjacent units, and no dead-end low-visibility areas. Additionally, the project would be required to pay the City's Development Impact Fees (City of Mt. Shasta Housing Element) to fund police, fire, and public works services. Potential impacts from implementation of the proposed project would be less than significant.

c) Schools?

Less than significant impact. The proposed project would include 25 units, which is anticipated to house between 58 and 109 residents (assuming 1 to 1.88 people per renter occupied housing units in 2010 [City 2007]). However, the proposed project would accommodate the demand for housing and would not induce substantial growth in the City of Mt. Shasta, as outlined in the Housing Element in the City of Mt. Shasta General Plan.

Additionally, pursuant to Government Section 65995.1, the project would be required to pay school fees for the Siskiyou Union High School District and the Mt. Shasta Union School District (City 2007). As the proposed project would not induce substantial growth in the City of Mt. Shasta and would pay the required school fees, impacts would be less than significant.

d) Parks?

Less than significant impact. The 25-unit project would accommodate residents and potentially generate additional demand for park and recreation facilities. The nearest park is Sisson Meadow, a restored wetland meadow on 7.5 acres which features boardwalk trails, benches, and picnic tables, located approximately 0.5 mile southeast of the project site. Since the park is not adjacent to the proposed multi-family townhomes, a substantial increase in usage of the park is not anticipated. The project includes on-site indoor and outdoor recreational amenities to serve residents that would reduce the need for park demand. The project would be required to develop impact fees to mitigate the project's impact on existing park facilities and fund new park and recreation facilities. The potential impacts to existing parks would be less than significant. Section 6.XVI, Recreation, includes additional information. Potential impacts from the proposed project parks would be less than significant.

e) Other public facilities?

Less than significant impact. The project site is within the urban area of Mt. Shasta served by adequate police, fire, and emergency services. The townhomes include on-site recreational amenities to serve residents. Construction and operation of the proposed project would not require the construction or expansion of parks and other public facilities or result in the degradation of those facilities. In addition to school fees and development impact fees, the project would be required to pay sewer and water connection fees, and drainage fees (City 2007). Therefore, potential impacts would be less than significant, and mitigation would not be necessary.

XVI. RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) 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?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Environmental Setting

Sisson Meadow, a restored wetland meadow on 7.5 acres which features boardwalk trails, benches, and picnic tables, is located approximately 0.4 mile southeast of the project site. The 9-acre Youth Sports Park is located about 0.6 mile southeast of the project site next to Sisson Meadow. The 26-acre Mt. Shasta City Park is located approximately 0.8 mile northwest of the project site. Park facilities include playgrounds, picnic areas, and five public buildings. Shastice Park encompasses 38 acres, with tennis courts, a softball field, a playground, an outdoor skating rink, mountain bike trails, and a skateboard park. Shastice Park is located at 800 Rockfellow Drive, approximately 1.1 miles east of the project site.

Regulatory Context

There are no federal or State regulations pertaining to public services that apply to the proposed project.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Open Space and Conservation Element		
Goals	OC-9	Provide park and recreation facilities to meet the growing population of Mt. Shasta.
Policies	OC-9.1	Strive to provide neighborhood parks to meet the needs of developing areas.
	OC-9.2	Continue to meet community park and recreation needs.
IM	OC-9.2 (b)	Maintain a ratio of not less than five acres of neighborhood parks per one thousand City population.
	OC-9.2 (c)	Maintain a ratio of not less than five acres of community park land per one thousand City population.

Discussion

a) 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?

Less than significant impact. Some additional use of community parks is anticipated; however, the increase would not be substantial because the parks are not directly adjacent to the proposed project building. On-site recreational facilities at the multi-family residential community would reduce park

demand. The project would be required to pay development impact fees to mitigate the project's impact on existing park facilities and fund new park and recreation facilities. Potential impacts to existing parks would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less than significant impact. The project's proposed community amenities are within Building D and include a Community Room, a Community Kitchen, Laundry Facilities, a Fitness Center, and a Manager's Office. Outdoor amenities associated with the proposed project include a playground, picnic tables, viewing benches, lawn areas, landscaping, and pedestrian sidewalks.

On-site facilities and existing neighborhood parks are anticipated to adequately serve the recreation demands of project residents. Potential impacts on recreational facilities would be less than significant.

XVII. TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project 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?	☐	☐	☒	☐

Environmental Setting

The project site consists of one parcel located in the northwestern edge of downtown City of Mt. Shasta, and within south-central Siskiyou County, California. I-5 is approximately 0.3 mile west of the project site. UPRR tracks are located approximately 325 ft from the project site. The project is located at the intersection of Chestnut Street and Ivy Street, immediately east of N. Mt. Shasta Boulevard.

The City of Mt. Shasta General Plan Circulation Element includes long-term policies concerning the movement of people, goods, and services in the City. The Circulation Element addresses streets and highways, public transit, rail and air transportation, nonmotorized transportation (e.g., bicycle and pedestrian circulation), and public utilities. Each roadway in the city is designed to accommodate different types and amounts of traffic. Generally, local and private roads direct traffic to collector and ultimately to arterial roads. Typically, collector and arterial roads provide access to commercial or more traffic-intensive land uses. Arterial and collector roadways also provide direct connections to I-5.

Public transit in Mt. Shasta and Siskiyou County is provided by Siskiyou Transit and General Express (STAGE), which provides intercity bus service with northbound and southbound runs through Mt. Shasta Monday through Friday. The City's Bicycle, Pedestrian, and Trails Master Plan provides for a citywide network of bicycle paths, lanes, and routes, along with bicycle- and pedestrian-related programs and support facilities, intended to ensure cycling and walking become a viable transportation option for people who live, work, and recreate in Mt. Shasta (City 2009). The master plan's purpose is to improve bicycle and pedestrian transportation in the City, in part by meeting the requirements of the California Bicycle-Transportation Act, the requirements for which are contained in Sections 890–894 of the California Streets and Highways Code. The City's Bicycle, Pedestrian, and Trails Master Plan was recently updated and expanded in the Walk Bike Ride Mt. Shasta Mobility Plan in October 2022 (City 2022). The Mobility Plan focused on strategies and ideas for transportation improvements to foster a vibrant, sustainable community with accessible connections between businesses, neighborhoods, schools, and the surrounding natural environment. Additionally, a network of paved trails is also included in a soon-to-be adopted Mt. Shasta Recreation and Parks District 2023 Master Plan Update. In the Update, the proposed Mount Shasta Greenway Network includes a pedestrian crossing under the railroad tracks at Field Street to tie-in with a proposed Headwaters to Lake Trail connecting the City Park and Lake Siskiyou.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to transportation/traffic that apply to the proposed project.

STATE

California Streets and Highways Code

California Streets and Highways Code §660 et seq. requires that an encroachment permit be obtained from Caltrans prior to the placement of structures or fixtures within, under, or over State highway ROW. This includes, but is not limited to, utility poles, pipes, ditches, drains, sewers, or other above-ground or underground structures.

California Environmental Quality Act

SB 743 of 2013 (CEQA Guidelines §15064.3 et seq.) was enacted as a means to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHGs. Pursuant to SB 743, traffic congestion is no longer considered a significant impact on the environment under CEQA. The new metric bases the traffic impact analysis on vehicle-miles travelled (VMT).

VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of a project on transit and non-motorized travel. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household, or in any other measure. The requirement to use the VMT metric became effective statewide on July 1, 2020.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Circulation Element		
Goals	CI-1	Ensure that land development does not exceed road capacities.
	CI-4	Ensure that new roads are sited to meet demands of growth.
	CI-5	Abandon streets that serve no public purpose.
	CI-8	Promote safe and efficient pedestrian and bicycle transportation and other modes of non-motorized transportation.
Policies	CI-1.1	Level of service shall be the standard for judging whether a road has adequate remaining capacity for average daily traffic generated by a proposed project.
	CI-1.2	Level of service "C" shall be the minimum acceptable service level during normal conditions. Peak-hour reduction to level of service "D" may be permitted provided there are plans in place to make improvements required to improve the level of service.
	CI-1.2.1	The City shall recognize the Circulation Map of [the] Circulation Element as designating arterial and collector streets and proposed streets in the General Plan planning area.
	CI-4.1	Construct, or require construction of, identified new roads as development or redevelopment occurs.
	CI-5.1	When an application is submitted to vacate a street or easement, ensure that the City has no need for the route.
	CI-8.1	Promote the development of bikeways, sidewalks, pedestrian pathways and multi-use paths that connect residential neighborhoods with other neighborhoods, schools, employment centers, commercial centers and public open space, and that separate bicyclists, skateboarders and pedestrians from vehicular traffic whenever possible. Ensure that pedestrian facilities follow logical routes designed to serve pedestrian needs and are not constructed as "sidewalks to nowhere".
IM	CI-1.2 (d)	The City shall require traffic analysis to be conducted for all projects that will generate sufficient traffic to use ten (10) percent or more of the capacity of the roadway at LOS C. When a project will potentially impact a state highway, consideration will be given to the Caltrans Guide for the Preparation of Traffic Impact Studies to determine when and how a related traffic study should be completed.
	CI-1.2 (e)	Projects that will impact streets and/or intersections that currently, or are projected to operate, at below LOS C, shall prepare a traffic analysis to determine the extent to which they impact the streets and/or intersections. For facilities that are (short-term conditions), or will be (cumulative condition), operating at unacceptable Levels of Service without the project, an impact is considered significant if the project: 1) increases the average delay at intersections by more than five seconds, or 2) increases the volume-to capacity ratio by 0.05 or more on a roadway segment.
	CI-1.2 (f)	If a street and/or intersection is impacted by a project for short-term conditions, and the project's pro-rata share is equal to or above twenty-five (25) percent, then the project shall be required to construct the necessary improvements to maintain an acceptable level of service.

Circulation Element	
CI-1.2 (g)	If a street and/or intersection is impacted by a project for cumulative conditions, and the project's pro-rata share is below twenty-five (25) percent, then the project shall be required to pay their pro-rata share of the cost of constructing these improvements.
CI-3.1 (a)	Where a development is required to perform new roadway construction or road widening, the entire roadway shall be completed by the developer to its ultimate planned and designated width from curb-to-curb prior to operation of the project for which the improvements were constructed, unless otherwise approved by the City Engineer. All such roadway construction shall also provide facilities adequate to ensure pedestrian safety as determined by the City Engineer.
CI-3.1 (c)	Typically, all streets should have sufficient pavement width to provide for parking on both sides of the street and enough remaining pavement width to provide for fire and emergency access. However, the City may consider alternative street designs including narrower streets, one-way streets, restricted parking and other similar methods intended to reduce the amount of area that must be paved and maintained.
CI-4.1 (a)	Construct, or require construction of, identified new roads as development or redevelopment occurs.
CI-4.1 (b)	If the design of the project requires that portions of the new road be constructed offsite to form a connection, the proponent shall be required to pay a proportion of the offsite costs attributable to the proposed project.
CI-4.1 (c)	If the cost of the improvements funded by the project proponent are greater than the project's proportional share, the City and proponent may enter into an agreement to collect future impact fees from other projects benefiting from the improvements to be reimbursed to the proponent.
CI-4.1 (d)	Require connectivity between adjacent projects as appropriate to ensure adequate and safe circulation.
CI-5.1 (a)	Utilize the provisions of California law to consider the abandonment of a street or easement for which the City has no use.
CI-8.1 (a)	Amend the development code to require that new sidewalks, pedestrian pathways, multi-use paths and/or bikeways be constructed for new development based upon current and foreseeable future needs in the area of proposed projects.
CI-8.1 (b)	When siting sidewalks, pedestrian pathways, bikeways and/or multi-use paths, the City shall examine where existing facilities are located and determine if there are other more logical travel patterns that should also be served.

Discussion

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than significant impact. The City's Bicycle, Pedestrian, and Trails Master Plan identifies proposed bicycle and pedestrian improvements in the City, including the following facilities:

- Class I shared-use paths that provide an off-street path for bikes and pedestrians. Class I paths are intended to allow pedestrians and bicyclists easy access to all parts of the City.

- Class II bike lanes provide an on-street lane for bikes designated by pavement markings on the roadway. Class II bicycle lanes are intended to create a primary network of on-street bicycle facilities.

- Class III bike routes identify on-street routes for bicycles with signage only. Class III facilities identify travel alternatives on lower traffic streets.

The Master Plan identifies the following future bicycle and pedestrian facilities in the project area.

- A portion of a Class III bike lane is proposed along East Ivy Street along the southeastern boundary line.

- A portion of a Class III bike lane is proposed along Chestnut Street along the southwestern/western boundary line.

The proposed project does not include any improvements that would hinder establishing the proposed Class III bike lanes along East Ivy Street and Chestnut Street. Pedestrian circulation would consist of sidewalks located within the interior of the project site, as well as pedestrian sidewalks along Chestnut Street and Ivy Street. A main pedestrian walkway would be located down the center of the site parallel to Chestnut Street that serves as the primary accessible route, following along the grade contour. The sidewalks would wrap around each building to allow for pedestrian access to all five (5) buildings. The sidewalks would also allow access to the 26 on-site parking spaces and the 22 off-site parking spaces along Chestnut and Ivy Street. The pedestrian sidewalks would allow access to the proposed landscaped areas, playground area, and seating areas located throughout the project site. A proposed pedestrian assessable curb cut would be located at the intersection of Ivy Street and Chestnut Street and would include a crosswalk to allow pedestrians to cross Ivy Street safely.

Public transportation (bus service) in the City is provided by Siskiyou County STAGE. Services include scheduled pick-up times throughout the day and on-call services. The closest bus stop to the project site is on the opposite side of East Ivy Street. The proposed project does not include any components that would conflict with the transit stop; rather, the project includes installation of a crosswalk at the intersection of Chestnut Street and East Ivy Street to facilitate safe access to and from the bus stop.

As documented above, the proposed project would not conflict with goals, policies, and implementation measures included in the City's General Plan; and includes the installation of sidewalks along Chestnut Street and Ivy Street as well as a curb cut and crosswalk at the intersection of Ivy Street and Chestnut Street; therefore, impacts would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than significant impact. Senate Bill (SB) SB 743, passed in 2013, required Office of Planning and Research (OPR) to develop new CEQA Guidelines that address traffic metrics under CEQA. As stated in the legislation (and Section 21099[b][2] of CEQA), upon adoption of the new CEQA guidelines, "automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the CEQA guidelines, if any." The Office of Administrative Law approved the updated CEQA Guidelines on December 28, 2018, and the changes are reflected in new CEQA Guidelines (Section 15064.3). CEQA Guidelines Section 15064.3 was added December 28, 2018, to address the determination of significance for transportation impacts. Pursuant to the new CEQA Guidelines, VMT replaced congestion as the metric for determining transportation impacts.

In December 2018, the OPR released a Technical Advisory, On Evaluating Transportation Impacts in CEQA. For residential projects, the threshold is defined as total household VMT per capita achieving 15%

of reduction comparing to regional (or any appropriate sub-area) average (OPR 2018). The proposed project is a multi-family, affordable residential development on a vacant infill property in the northwestern portion of downtown Mt. Shasta. OPR states that adding affordable housing to infill locations generally improves jobs-housing match, and in turn, shortens commutes and reduces VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations. As the project is 100 percent affordable, multi-family dwelling units on an infill location within downtown Mt. Shasta, impacts related to VMT would be less than significant, and no mitigation is required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant impact. The proposed project would include two (2) main vehicle access driveways off Chestnut Street and Alder Alley. The driveway would include a 20-ft wide egress and ingress point that is accessible by Alder Alley and would include a 20-ft-wide egress and ingress point that is accessible by Chestnut Street. The project site would include a 25-ft wide drive aisle that extends from Chestnut Street to Alder Alley. The project would also include 22 off-site, angled parking spaces for public use along Chestnut and Ivy Street, bordering the project site to the southwest and the southeast. Therefore, the proposed project would not increase hazards due to a geometric design feature or incompatible use, and impacts would be less than significant.

d) Result in inadequate emergency access?

Less than significant impact. As discussed in Section 6.IX, Hazards and Hazardous Materials, under question f), there would be short-term increases in traffic in the area associated with construction workers and equipment. In order to ensure adequate emergency access during construction, temporary traffic control during work in the public ROW would be provided in accordance with the current MUTCD. The City also has the discretion to require a temporary traffic control plan that would identify temporary traffic control measures that would be implemented during the work.

Emergency access to the site would be provided by two (2) new main access driveways off Chestnut Street and Alder Alley. The driveway would include a 20-foot (ft) wide egress and ingress point that is accessible by Alder Alley and would include a 20-ft-wide egress and ingress point that is accessible by Chestnut Street. The project site would include a 25-ft wide drive aisle that extends from Chestnut Street to Alder Alley. The project does not include any components that would hinder emergency access in other areas of the City. Therefore, because traffic control would be provided throughout construction, and adequate emergency access would be provided during operations, impacts would be less than significant.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:				
i. 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	☐	☐	☐	☒
ii. 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.	☐	☒	☐	☐

Environmental Setting

Tribal cultural resources are defined in CEQA as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe, which may include nonunique archaeological resources previously subject to limited review under CEQA. AB 52 requires the lead agency (in this case, the City of Mt. Shasta) to begin consultation with any California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report if (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification and requests the consultation (Public Resources Code Section 21080.3.1[b]).

On November 2, 2022, the City sent letters via certified mail to representatives of the following tribes: Karuk Tribe, Klamath Tribe, Pit River Tribe of California, Nor-Rel-Muk Nation, Quartz Valley Indian Community, Shasta Nation, Winnemem Wintu Tribe, Wintu Tribe or Northern California. No tribes responded within the 30-day period.

According to the California Office of Historic Preservation (OHP) (2017), Mt. Shasta has one registered California historic state landmark, the Strawberry Valley State Station. Nothing is left of the station but a marking showing its location. The OHP has no other listed California historic resources in the City. In addition, the National Register of Historic Places does not list any historic resources in Mt. Shasta (OHP 2017). The project site is not considered to be of any historical importance and is not identified as such by the California State Historical Resources Commission or in the Mt. Shasta General Plan.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to tribal cultural resources that apply to the proposed project.

STATE

California Environmental Quality Act

Assembly Bill 52 of 2014 (Public Resources Code 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." In order to determine whether a project may have such an effect, a lead agency is required to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if:

1. The tribe requested to the lead agency, in writing, to be informed through formal notification of proposed projects in the geographical area; and

2. The tribe responds, in writing, within 30 days of receipt of the formal notification and requests the consultation.

The consultation must take place prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. Pursuant to PRC Section 21084.3, lead agencies must, when feasible, avoid damaging effects to a tribal cultural resource and must consider measures to mitigate any identified impact.

PRC Section 21074 defines "tribal cultural resources" as 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 included or determined to be eligible for inclusion in the CRHR; or are included in a local register of historical resources as defined in PRC Section 5020.1(k).

2. A resource determined by the lead agency, taking into consideration the significance of the resource to a California Native American tribe, to be significant pursuant to criteria set forth in PRC Section 5024.1(c).

In addition, a cultural landscape that meets one of these criteria is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. A historical resource described in Section 21084.1, a unique archaeological resource as defined in Section

21083.2(g), or a "nonunique archaeological resource" as defined in Section 21083.2(h) may also be a tribal cultural resource if it meets one of these criteria.

LOCAL

There are no local regulations pertaining to tribal cultural resources that apply to the proposed project.

Discussion

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:

   i. 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)?

No impact. The project site has not been identified as having any historical importance by the California Office of Historic Preservation. In addition, the National Register of Historic Places does not list any historic resources in Mt. Shasta (OHP 2017). The project site is not considered to be of any historical importance and is not identified as such by the California State Historical Resources Commission or in the Mt. Shasta General Plan. The site has not been identified as either a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe. The project would have no impact.

   ii. 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?

Less than significant impact with mitigation incorporated. On November 2, 2022, the City sent letters via certified mail to representatives of the following tribes: Karuk Tribe, Klamath Tribe, Pit River Tribe of California, Nor-Rel-Muk Nation, Quartz Valley Indian Community, Shasta Nation, Winnemem Wintu Tribe, Wintu Tribe of Northern California. No California Native American tribe submitted a written request to the City for formal consultation pursuant to AB 52.

The proposed project would involve the construction of 24 multi-family, affordable dwelling units, 1 manager's unit, and accessory structures on a vacant infill property. As the land is vacant with open space, there is potential for discovery of tribal cultural resources to be present during site preparation and project construction. Implementation of Mitigation Measure TCR-01 would ensure that provisions are in place to protect tribal cultural resources, if encountered during construction. The mitigation measure requires impacts on such resources to be avoided or further investigation to be conducted to offset the loss of scientifically consequential information that would occur if avoidance were not possible. Implementation of Mitigation Measure CUL-02 would ensure that human remains encountered during project activities would be treated in a manner consistent with State law. Implementation of both TCR-01 and CUL-02 would reduce impacts to a less than significant level.

TCR-01: Unanticipated Discovery of Tribal Cultural Resources

If any suspected TCRs are discovered during ground disturbing construction activities, all work shall cease within 100-feet of the find, or an agreed upon distance based on the project area and nature of the find. A Tribal Representative from a California Native American tribe that is traditionally and culturally affiliated with a geographic area shall be immediately notified and shall determine if the find is a TCR (PRC §21074). The Tribal Representative will make recommendations for further evaluation and culturally appropriate treatment, as necessary. If deemed necessary by the City, a qualified cultural resources specialist meeting the Secretary of Interior's Standards and Qualifications for Archaeology may also assess the significance of the find in joint consultation with Native American Representatives to ensure that Tribal values are considered. Work at the discovery location may not resume until the City, in consultation as appropriate and in good faith, determines that all necessary investigation and treatment of the discovery under the requirements of CEQA, including AB 52, have been satisfied.

XIX. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) 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?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Setting

The City of Mt. Shasta Public Works Department provides several services, including operating and maintaining the wastewater collection system, wastewater treatment plant, water supply facilities, the

water distribution system, and the storm drain system. The department is also responsible for streets and alleys, sidewalks, traffic signs, streetlights, parking lots, and fleet management.

Wastewater Collection and Treatment

Wastewater discharges to surface water and groundwater are regulated by the SWRCB and nine RWQCBs that exercise rulemaking and regulatory activities. The City of Mt. Shasta is located in Region 5 – Central Valley RWQCB. All wastewater generators must obtain a permit to discharge wastewater to surface waters pursuant to the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act through the NPDES program. NPDES permits are also referred to as WDRs.

The City collects, treats, and disposes of wastewater within the City limits, as well as in a number of residential and commercial developments that are outside of City limits. The unincorporated areas served by the City comprise approximately 843 acres and include the campground and marina situated on Lake Siskiyou, Holiday Subdivision, the Mt. Shasta Resort, and the Lake Siskiyou Highlands Subdivision.

The City's wastewater collection system dates to 1912, with major additions constructed in the late 1930s through the 1950s. Some portions of the existing sewer system are up to 70 years old and consist of clay pipe with cement mortar joints. More recent portions of the sewer system consist of asbestos-cement and PVC pipe. The City's collection system consists of approximately 30 miles of sewer mains and collectors, with collectors ranging in size from 12 to 30 inches in diameter.

The City's existing wastewater treatment facilities were constructed in 1976 and were designed with an average dry weather flow (ADWF) of 0.70 million gallons per day (MGD) and a peak wet weather flow (PWWF) of 2.1 mgd. The treatment plant is located approximately 0.75 mile south of the City between the Sacramento River and I-5. Between November 16 and April 30, the treated effluent is discharged directly to the Sacramento River. However, between May 1 and November 15, no direct discharge is allowed. The lagoon effluent is processed through dissolved air flotation and rapid sand filters, chlorinated, dechlorinated, and pumped either to the golf course adjacent to the treatment plant or approximately 3.3 miles to the reclamation leach field east of the treatment plant. The treatment plant has been continually upgraded to meet state requirements. With implementation of recent wastewater treatment plant (WWTP) improvements, the capacity of the WWTP can accommodate an ADWF of 0.9 mgd. This increase in capacity accounts for existing needs plus an allocation for anticipated future growth at a rate of 1 percent over the next 20 years (Mt. Shasta 2017).

Water Service

The City is supplied with water by a combination of spring and well sources with a combined effective capacity of 3.5 to 4.0 mgd. The primary source of water is Cold Springs, located approximately 2 miles east of the City limits at an elevation of about 4,300-ft. Water from the two natural springs is collected in covered and secured works and supplied via approximately 8,500-ft of 12-inch-diameter PVC water main extending from Cold Springs. Recent improvements include a supply line PRV station with 6- and 10-inch pressure-reducing valves (PRVs). Overall supply capacity varies depending on PRV station settings, system demand, and water surface elevations in the Cold Springs and Quail Hill water tanks. As of 2011, the City has four untreated water storage reservoirs totaling approximately 1.7 million gallons. Recent water supply line improvements in the vicinity of the project include the installation of approximately 2,000-ft of 12-inch main in the right-of-way in Mt. Shasta Boulevard.

The well and spring sources have a combined effective capacity of approximately 3.5 to 4.0 million gallons per day (mgd) or 1,351 million gallons per year (MGY). The Draft 2010 Master Water Plan estimated 2010 water usage at approximately 635 MGY, with estimated water usage at approximately 775 MGY in 2030 (QK 2021). During normal and dry years, the City has sufficient water supplies available to serve the City. During multiple dry years, Cold Springs may be particularly vulnerable to drought. In June 2015, the City Council adopted a Resolution that recognized that the City's primary water source, Cold Springs, was producing less water than at any point in the past 20 years. Due to the unprecedented low spring production, the City adopted an Emergency Drought Condition Water Reduction Policy to ensure an adequate water supply for domestic use and fire suppression. The policy required all major water users and residential customers to reduce water usage by 30 percent. The City is also subject to State-adopted emergency water use reductions during prolonged drought.

Storm Drainage

The existing storm drainage system in the City consists of both surface and subsurface drainage features. Surface storm drainage features consist of natural waterways, man-made ditches, and/or remnants of natural watercourses. Subsurface storm drainage features consist of historic drainages enclosed with some type of pipe (iron, corrugated metal, clay, or concrete).

The project site includes an existing 18-inch storm drain along Chestnut Street, along with two (2) existing storm drain inlets located on the intersection of Chestnut Street and Ivy Street and on the intersection of Chestnut Street and Field Street. One existing drainage is located along Field Street ROW and one existing drainage is adjacent to Alder Alley ROW. The Field Street drainage enters the 18-inch storm drain along Chestnut Street, at the intersection of Field Street ROW and Chestnut Street. The Alder Alley drainage enters the 18-inch storm drain at the intersection of Alder Alley ROW and Ivy Street. The 18-inch storm drain runs along Ivy Street and intersects the Chestnut Street storm drain at the intersection of Ivy Street and Chestnut Street.

Solid Waste

The City is served by the Black Butte Transfer Station (BBTS), located at 3710 Spring Hill Road, and John Smith Sanitation, a private sanitation provider from Dunsmuir. All solid waste in the City is collected and disposed of at the BBTS, which receives approximately 15,000 tons of solid waste a year. The BBTS accepts residential, commercial, green, and recyclable solid waste. There are no active landfills in Siskiyou County. All solid waste from Siskiyou County is transported and disposed of at the Dry Creek Landfill in White City, Oregon, which has a projected operational life exceeding 100 years.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to utilities and service systems that apply to the proposed project.

STATE

Senate Bill 610 (2001)

Under SB 610, enacted in 2001, water supply assessments must be included in any environmental documentation for certain projects that are subject to CEQA. As stated in Water Code Section 10912(b), *"[if] a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections…"* Water Code Section 10910(c)(4) states that the water supply assessment for the project shall include a discussion with regard to whether the City's water supply during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses.

California Integrated Waste Management Act

The California Integrated Waste Management Act (CIWMA) of 1989, as amended, was enacted to reduce, recycle, and reuse solid waste generated in the State. The CIWMA requires cities and counties to divert 50 percent of the total waste stream from landfill disposal. Under the CIWMA, cities and counties must prepare Solid Waste Management Plans and Source Reduction and Recycling Elements to implement CIWMA goals.

Solid Waste Reuse and Recycling Access Act

The Solid Waste Reuse and Recycling Act of 1991 (AB 1327) requires that cities and counties adopt regulations that require commercial, industrial, or institutional buildings, and multifamily residential dwellings of five units or more, to provide adequate storage areas for the collection of recyclable materials.

Assembly Bill 341 (2011)

AB 341, enacted in 2011, established a statewide goal that 75 percent of solid waste be reduced, recycled, or composted by 2020. AB 341 established a statewide mandatory commercial recycling program. A business or public entity that generates four cubic yards or more of commercial solid waste per week, or a multifamily residential dwelling of five units or more, must arrange for recycling services no later than July 1, 2012. Cities and Counties are required to implement a commercial solid waste recycling program to meet this requirement.

Assembly Bill 1826 (2014)

AB 1826, enacted in 2014, requires businesses to recycle their organic waste (food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste), depending on the amount of waste generated per week. Local jurisdictions are required to implement an organic waste recycling program to divert organic waste generated by businesses, including multi-family dwellings of five or more units (multi-family dwellings are not required to have a food waste diversion program). Exemptions are allowed for jurisdictions in rural areas. CalRecycle has exempted the City of Mt. Shasta from the organic waste recycling program.

Senate Bill 1383 (2016)

SB 1383, enacted in 2016 established targets to achieve a 50 percent reduction in the level of the 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.

California Building Standards Code

The CALGreen Code, included as Part 11 of the CBSC, includes requirements for construction waste reduction, disposal, and recycling. The intent of this requirement is to reduce the amount of waste from new construction and demolition that would be sent to landfills, and to encourage reuse and recycling of construction waste products (e.g., carpet, wood, aggregate, shingles, wallboard, and other materials that have recyclable value). A minimum of 65 percent of nonhazardous construction and demolition waste must be recycled and/or salvaged for reuse. The CALGreen Code requires that a Construction Waste Management Plan be submitted with the building permit application and approved by the Building Official prior to issuance of a building permit.

The CALGreen Code also includes mandatory water conservation measures for both indoor and outdoor water use. Indoor measures require the use of water conserving plumbing fixtures and fittings. Outdoor measures require that landscape areas in excess of 500 square feet comply with the California Department of Water Resources Model Water Efficiency Landscape Ordinance (MWELO), or a local water efficient landscape ordinance that is at least as effective as the State's MWELO. The MWELO is intended to reduce outdoor water use by requiring more efficient irrigation systems, graywater usage, and onsite stormwater capture, and by limiting the portion of landscapes that can be covered in turf.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals, Policies, and IMs that apply to the proposed project:

Land Use Element		
Goals	LU-18	Maintain a water supply and distribution system that meets drinking water standards and that serves the domestic and fire protection needs of the community.
	LU-19	Provide for the efficient collection, transport, and discharge of stormwater in a safe manner and protect people and property from flooding.
Policies	LU-18.1	Ensure that the growth of the community does not outstrip the water supply and distribution system of the City.
	LU-19.1	Utilize the Storm Drainage Master Plan to improve existing storm drainage conditions and ensure adequate storm drainage infrastructure design and construction for future developments.
IM	LU-18.1 (b)	Update the City Water Master Plan and utilize the updated Water Master Plan to prioritize water infrastructure improvements and expansion programs to serve the existing and planned development of the community.

Land Use Element		
	LU-18.2 (a)	The City shall encourage the enforcement of all federal, state, regional and county regulations and shall enforce local regulations regarding the preservation and enhancement of water quality as it relates to the City's water sources.
Circulation Element		
Goal	CI-9	Ensure adequate utilities to meet community needs.
Policy	CI-9.1	Encourage participation of public utilities in the project review process.
IM	CI-9.1 (b)	Support efforts by utilities to upgrade and improve service to the Mt. Shasta area.

Discussion

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than significant impact. The proposed project would provide water, sanitary sewer, and electrical, and cable/internet connections to the project site.

Water/Stormwater

The project would tie into the existing City of Mt. Shasta water main line located on the northeastern boundary line along Alder Alley ROW and located along the northwestern boundary line along Field Street ROW. Existing water meters are located at the intersection of Field Street ROW and Alder Alley ROW, the intersection of Field Street ROW and Chestnut Street, and the intersection of Chestnut Street and Ivy Street, as well as along Ivy Street, just east of the project site.

The project site is currently vacant and undeveloped. The project includes Buildings A-E as well as other paved areas, increasing the amount of stormwater discharge. The project would include proposed shallow bioswales/detention basins and similar LID techniques. These detention basins would be located throughout the site wherever an appropriately sized landscape area is available. This would include areas adjacent to Ivy Street and Chestnut Street. The project would also include 17,770-sf of landscaping. Along Chestnut Street, the existing conditions already function as stormwater swales with shallow infiltration ditches with one of those swales being connected to the existing drain inlet at the corner of Ivy Street and Chestnut Street. The project improvements would enhance the performance of these existing features by incorporating appropriate plantings and controlled overflow outlets where necessary. The project would be designed to ensure that flows discharged to the City's system would remain at or below calculated pre-development conditions.

Sanitary Sewer

The proposed project would tie into the existing City of Mt. Shasta sanitary sewer lines located along Ivy Street and located along the northern portion of the project site within the Field Street ROW partial vacation.

Electrical and Cable/Internet

The project would tie into the existing overhead power and phone lines located along Chestnut Street, and along with Field Street ROW Partial Vacation. An existing telephone pole is located at the intersection of Chestnut Street and Field Street ROW.

Although the project would increase water use and generate wastewater, the City's existing water and wastewater treatment facilities are adequate to serve the proposed project (see discussion under questions b) and c)). Therefore, impacts would be less than significant, and no mitigation is required.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than significant impact. The City provides potable water service to a population of approximately 3,500 people. The City obtains water from a combination of spring and well sources that have a combined effective capacity of 3.7 mgd. The primary source of water for the City is from Cold Springs, located approximately two (2) miles east of the City limits at an elevation of about 4,300 feet. Water from the two natural springs is collected in covered and secured works and transported via pipeline to the three storage reservoirs located at Quail Hill. This primary source of water is supplemented by Well No. 1, located on Washington Drive, just south of the Lake Street intersection, and Well No. 2, located on Mt. Shasta High School property north of Rockfellow Drive. The City has four untreated water storage reservoirs totaling approximately 1.7 million gallons (mg) in capacity. The City is in the process of replacing a 203,000-gallon tank on Quail Hill with a 500,000-gallon tank. The City's water distribution system consists of approximately 185,000 ft of water mains that include steel, cast iron, asbestos cement, and PVC piping. With funding through the Department of Water Resources, the City is in the process of completing improvements to the water distribution system that will help the City conserve water and meet the City's water needs into the future.

During normal and dry years, the City has sufficient water supplies available to serve the proposed project and other developments in the City. During multiple dry years, Cold Springs may be particularly vulnerable to drought. In June 2015, the City Council adopted a Resolution that recognized that the City's primary water source, Cold Springs, was producing less water than any point in the past 20 years. Due to the unprecedented low spring production, the City adopted an Emergency Drought Condition Water Reduction Policy to ensure an adequate water supply for domestic use and fire suppression. The Policy required all major water users and residential customers to reduce water usage by 30 percent. The City is also subject to State-adopted emergency water use reductions during prolonged drought. As discussed under Regulatory Context, the CALGreen Code mandates that the project complies with the State's MWELO, or local water efficient landscape regulations that are at least as effective as the State's MWELO.

Therefore, because the City enacts water use restrictions during periods of drought that apply to all customers in the City's water service area, the City would have sufficient water supplies to serve the project and other reasonably foreseeable future development projects during normal, dry, and multiple dry years; impacts would be less than significant.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than significant impact. On May 9, 2016, the City adopted an MND for the State-Mandated Wastewater Treatment and Outfall Improvement project. The project entails replacement of the existing treatment lagoon system with a new treatment facility, installation of pipelines from the existing WWTP headworks to the replacement treatment facility, and installation of a new diffuser at the existing Sacramento River outfall. These improvements are necessary to comply with CVRWQCB requirements

for wastewater discharge. With implementation of the WWTP improvements, the capacity of the WWTP would increase to accommodate an ADWF of 0.9 mgd. This increase in capacity accounts for existing needs plus an allocation for anticipated future growth at a rate of one percent over the next 20 years. According to the City, the WWTP has adequate capacity to serve the proposed project; therefore, there is a less than significant impact.

d) 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?

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than significant impact. As discussed under the Regulatory Context above, the City is subject to the CIWMA, which requires the diversion of 50 percent of the total waste stream from landfill disposal. The City coordinates with Siskiyou County to implement CIWMA requirements. To satisfy the annual reporting requirement, the City submits an annual report to the Siskiyou County Integrated Solid Waste Management Regional Authority (ISWMRA) that identifies the City's efforts, and this information is submitted to the State by the ISWMRA. The City provides for the collection and disposal of garbage, rubbish, and waste matter in the City. These services are covered by a fixed monthly charge paid by solid waste customers. The Siskiyou Opportunity Center provides commercial recycling pickup and sorting services as well as solid waste removal in the downtown area.

Solid waste is collected and disposed of at the Black Butte Transfer Station on Spring Hill Road in the City. The Black Butte Transfer Station is permitted through the California Integrated Waste Management Board (CIWMB). The maximum permitted throughput is 100 tons per day and the site capacity is a total of 150 tons. The Transfer Station is subject to periodic inspections by Siskiyou County to ensure compliance with the CIWMB permit. Although the transfer station occasionally reaches capacity and is unable to accept additional waste on certain days, waste and recycled materials can be disposed of at another transfer station in the County. The average volume at the transfer station is 60 to 65 tons per day.

Because there are no active landfills in Siskiyou County, all solid waste in the County is trucked to the Dry Creek Landfill in southern Oregon. The Dry Creek Landfill was expanded to a regional facility in 1999 and has a projected operational life exceeding 100 years.

<u>Construction</u>

As discussed under Regulatory Context, the CALGreen Code requires that a Construction Waste Management Plan be submitted with the building permit application and approved by the Building Official prior to issuance of a building permit. Because the City's Building Official would ensure compliance through the plan check and inspection processes, impacts during construction are less than significant.

<u>Operational</u>

Solid waste generation rates for multi-family residences vary throughout the State. Jurisdictions have based the calculation on dwelling unit or unit per day. CalRecycle has posted estimates for solid waste generation for various land uses to provide a general level of information for planning purposes. According to the posted data, generation rates for multi-family residences range between 3.6 to 8.6

pound per dwelling unit or unit per day. Using this metric, solid waste generation for the proposed project would range from 90 to 215 pounds per day (16 to 40 tons per year). This represents about 0.11 ton per day, which is significantly less usage than the volume of the transfer station with 60 to 65 tons per day. Therefore, impacts relating to operational solid waste generation would be less than significant.

Compliance with City regulations pertaining to the disposal of solid waste ensures that the project's impacts are less than significant.

XX. WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☒	☐	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Environmental Setting

Chapter 7.60 of the Mt. Shasta Municipal Code establishes Very High FHSZs within the City, which includes the northern and eastern areas of the City. MSMC Chapter 7.15 (Fire Prevention – Burn Permit Required) states the Mt. Shasta Fire Chief has included the entire City in the High FHSZ, and the fire prevention requirements set forth in California Government Code Section 51182 (defensible space requirements) apply to all properties in the City.

Regulatory Context

FEDERAL

There are no federal regulations pertaining to wildfire that apply to the proposed project.

STATE

California Department of Forestry and Fire Protection (CAL FIRE)

The Bates Bill (AB 337), enacted in 1992, required CAL FIRE to work with local governments to identify high fire hazard severity zones throughout each county in the State. CAL FIRE adopted Fire Hazard Severity Zone (FHSZ) Maps for State Responsibility Areas (SRAs) in November 2007. Pursuant to California Government Code Section 51175-51189, CAL FIRE also recommended FHSZs for Local Responsibility Areas (LRAs). Over the years, CAL FIRE has updated the maps and provided new recommendations to local governments based on fire hazard modeling.

The fire hazard model considers wildland fuels (natural vegetation that burns during the wildfire); topography (fires burn faster as they burn up-slope); weather (fire burns faster and with more intensity when air temperature is high, relative humidity is low, and winds are strong); and ember production and movement (how far embers move and how receptive the landing site is to new fires). The model recognizes that some areas of California have more frequent and severe wildfires than other areas. The proposed project is not located in an SRA FHSZ.

California Fire and Building Codes

California Fire Code, Part 9, Chapter 49 (Wildland-Urban Interface Fire Areas), and California Building Code Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) include standards for new construction in Wildland-Urban Interface Fire Areas (fire hazard severity zones). A Wildland-Urban Interface Fire Area is defined as a geographic area identified by the State as a Fire Hazard Severity Zone in accordance with PRC Section 4291 through Section 4204, and Government Code Section 51175 through Section 51189, or other areas designated by the local enforcing agency to be at a significant risk from wildfires. The purpose of the standards is to prevent a building from being ignited by flying embers that can travel as much as a mile away from a wildfire and to contribute to a systematic reduction in fire-related losses through the use of performance and prescriptive requirements.

LOCAL

City of Mt. Shasta General Plan

The City's General Plan includes the following Goals that apply to the proposed project:

Safety Element		
Goals	SF-7	Protect property and life from fire hazards.
	SF-7	Identify and maintain emergency evacuation routes.

Discussion

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than significant impact. The proposed project would not result in changes to Chestnut Street or Ivy Street that would affect how evacuation plans may be implemented or that would impede access for emergency response vehicles in the immediate vicinity. The proposed project would not modify any pre-designated emergency evacuation route or preclude their continued use as an emergency evacuation route. Emergency vehicle access would be maintained on the site to meet the Fire Department

standards for fire truck maneuvering, location of fire truck to fight a fire, rescue access to the units, and fire hose access to all sides of the buildings. In addition, pursuant to Cal/OSHA requirements, temporary traffic control during completion of activities that require work in the public ROW is required and must adhere to the procedures, methods and guidance given in the current edition of the California MUTCD. Local emergency service organizations in the area have developed an effective and cooperative emergency response system in compliance with the State of California and Federal Emergency Systems. The City of Mt. Shasta Emergency Operations Plan includes preparation checklists and other guidance in case of an emergency or if evacuations are required. The project would not conflict with adopted emergency response or evacuation plans; therefore, impacts would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than significant impact. As discussed under Regulatory Context above, the project site is within a Very High FHSZ as designated by the City. As such, the project is subject to the provisions of Chapter 7A of the CBC (Material and Construction Methods for Exterior Wildfire Exposure). The purpose of Chapter 7A is to protect life and property by increasing the ability of a building to resist the intrusion of flames or burning embers projected by a vegetation fire. In addition to specific requirements related to ignition-resistant construction, roofing, vents, exterior coverings, exterior windows and doors, and decking, these provisions mandate that the proposed project comply with CGC Section 51182, which requires a minimum of 100-ft of defensible space be maintained around each side of an occupied structure. Following completion of the project, the site would be covered with impervious surfaces and landscaping and would include an on-site stormwater system which would create defensible space around the proposed structures and reduce fuels on-site.

The City's Building Official would confirm that the required measures are implemented into the construction plans for the five (5) buildings. Compliance with defensible space requirements would be confirmed by the Building Official prior to building permit final approval. In accordance with MSMC Section 6.05.080, it is the duty of the City's Fire Chief, or his/her designee, to make periodic inspections of all property in the City to identify areas with weeds, grass, or other material that is likely to become ignited, and to notify the property owner of corrective actions needed to reduce the risks of wildfires. Because the project would comply with existing local and State codes intended to reduce the risk of wildfire, including the requirement to maintain defensible space around buildings, and the City's Fire Chief would ensure on-going maintenance of the defensible space, the project would not exacerbate wildfire risks or expose project occupants to increased risks associated with wildfires. Therefore, impacts would be less than significant.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than significant impact with mitigation incorporated. The proposed project consists of 24 multi-family, affordable dwelling units, 1 manager's unit, and accessory structures on a vacant in-fill property in the northwestern portion of downtown Mt. Shasta. As discussed under Section 6.IX, Hazards and Hazardous Materials, equipment used during construction activities may create sparks that could ignite dry grass. Also, the use of power tools and/or acetylene torches may increase the risk of wildland fire

hazard. Implementation of Mitigation Measure HAZ-01 would ensure impacts during construction are less than significant.

Existing utilities, including overhead power and phone lines, fire hydrants, storm drain inlets, and sanitary sewer lines, exist in the immediate vicinity of the project site. The proposed project would utilize and connect to the existing utilities and would not construct new infrastructure that would exacerbate fire risk. The proposed project would include two (2) ingress/egress entrances off of Chestnut Street and Ivy Street and would not intrude on natural spaces in a manner that would increase wildlife hazards in the long term. Therefore, the increased risk of fire due to project infrastructure and the potential for ongoing impacts due to fire-related infrastructure would be less than significant with implementation of Mitigation Measure HAZ-01.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than significant impact. The topography of the project site is relatively flat with an elevation of approximately 3,582 ft amsl at its center, and slopes generally southwest at an average of 4 percent. As the project site is relatively flat, the risk of landslides is low. The proposed project would convert an undeveloped site to one covered with buildings and paving, thus increasing the percentage of impervious surface. The resulting increase in impervious surface would increase stormwater flows to local drainage systems compared to existing conditions. The project site includes an existing 18-inch storm drain along Chestnut Street, along with two (2) existing storm drain inlets located on the intersection of Chestnut Street and Ivy Street and on the intersection of Chestnut Street and Field Street.

The proposed landscaping plan would support the goals of infiltration and stormwater treatment using shallow bioswales/detention basins and similar LID techniques to collect stormwater. Detention basins would be located throughout the site wherever an appropriately sized landscape area is available. The project would also include 17,770-sf of landscaping. The landscaping plan would improve the public ROW landscaped areas to include stormwater LID treatments. Along Chestnut Street, the existing conditions already function as stormwater swales with shallow infiltration ditches with one of which being connected to existing drain inlets. The project improvements would enhance the performance of these existing features by incorporating appropriate plantings and controlled overflow outlets where necessary. The proposed detention basins, landscaping areas, and similar LID techniques would prevent flooding on- or off-site by allowing water to infiltrate into the impervious surfaces on the project site and adjacent to the project site.

As the project site has relatively flat with minimal elevation change and would include detention basins, drainage channels, landscaping areas, and similar LID techniques to collect stormwater, exposure to flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes would be low. Therefore, impacts would be less than significant, and no mitigation is required.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than significant impact with mitigation incorporated. The preceding analysis indicates that the proposed project has the potential to adversely affect biological, cultural, and tribal cultural resources. See Sections 6.IV, 6.V, and 6.XVIII of this Initial Study for discussion of the proposed project's potential impacts on these environmental issue areas. With implementation of the mitigation measures identified in those Sections, and compliance with City programs and requirements identified in this report, impacts would be reduced to a less than significant level. No significant or potentially significant impacts would remain.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when

viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?

Less than significant impact with mitigation. The proposed project, in conjunction with other approved or pending projects within Mt. Shasta, could contribute to cumulative impacts. However, with implementation of mitigation measures proposed in the relevant subsections of this IS/MND, the project's contribution to potentially significant impacts would be reduced to a level that is considered less than cumulatively considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than significant impact with mitigation. The project would not result in impacts that would potentially result in substantial adverse effects on human beings. Based on the preceding environmental analysis, mandatory compliance with existing regulations and incorporation of identified mitigation measures will ensure that all potentially significant environmental impacts associated with the project, including those related to biological resources, cultural resources, geology and soils, noise, and tribal cultural resources, would be minimized or avoided. The project would not result in direct or indirect adverse effects on human beings or the environment, nor would it result in significant cumulative impacts. Therefore, with the incorporation of the identified mitigation measures, the project will result in a less than significant impact.

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8.0 INITIAL STUDY PREPARERS

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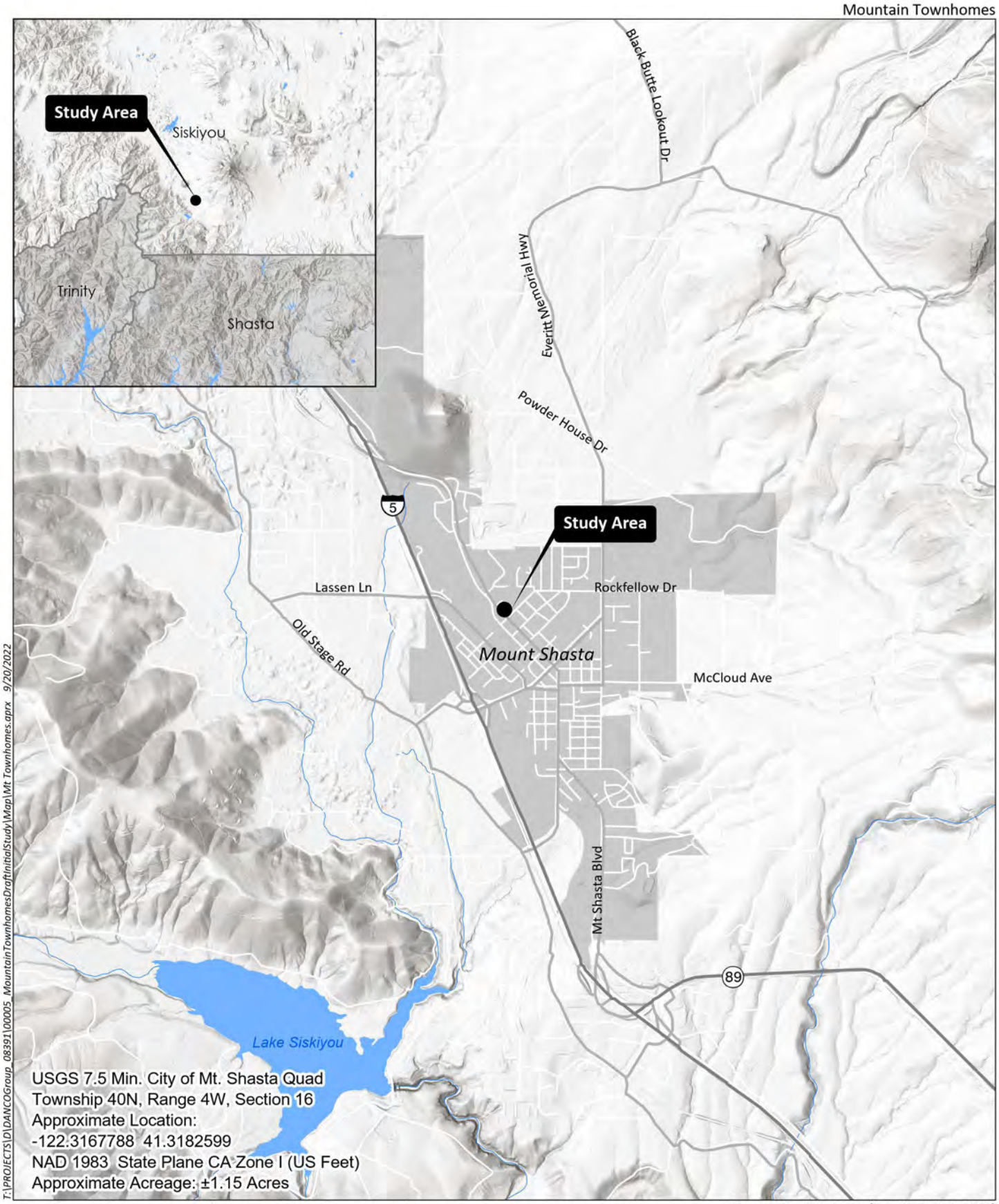
Appendix A

Figures



T:\PROJECTS\D\DANCOGroup_083391\00005_MountainTownhomesDraftInitialStudy\Map\Mt Townhomes.aprx 9/20/2022

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Vicinity Map

Figure 1

T:\PROJECTS\D\DANCOGroup_08391\00005_MountainTownhomesDraftInitialStudy\Map\Mt Townhomes.aprx 11/16/2022

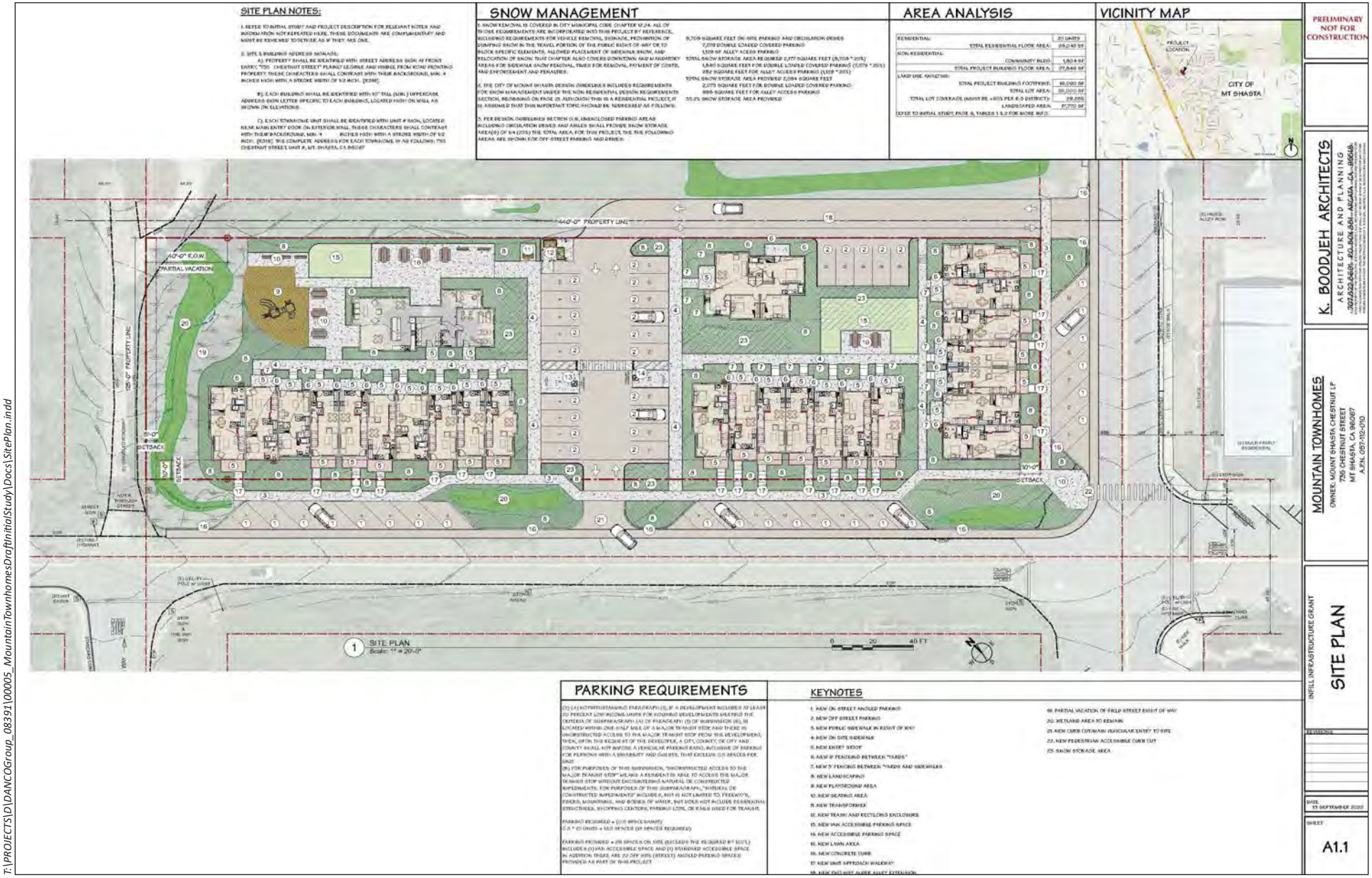
0 100 Feet

Source: Aerial (Maxar, 7/10/2021)

HELIX Environmental Planning

Aerial Map

Figure 2



Source: HEGIS 2022

HELIX Environmental Planning

Site Plan

Figure 3

Source: HEGIS 2022

HELIX Environmental Planning

Arch Rendering-Site Elevations

Figure 4

Appendix B

CalEEMod Modeling

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mountain Townhomes

Siskiyou County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	25.00	Dwelling Unit	1.26	27,846.00	72

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	85
Climate Zone	14			**Operational Year**	2025
Utility Company	PacifiCorp				
CO2 Intensity (lb/MWhr)	1185.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land use and building sizes per project description.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	25,000.00	27,846.00
tblLandUse	LotAcreage	1.56	1.26
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1051	0.8056	0.8688	1.6000e-003	0.0346	0.0354	0.0700	0.0137	0.0339	0.0475	0.0000	135.0412	135.0412	0.0235	7.7000e-004	135.8559
2024	0.5138	0.5768	0.6974	1.2700e-003	0.0124	0.0235	0.0358	3.3100e-003	0.0226	0.0259	0.0000	106.6151	106.6151	0.0168	6.5000e-004	107.2291
Maximum	**0.5138**	**0.8056**	**0.8688**	**1.6000e-003**	**0.0346**	**0.0354**	**0.0700**	**0.0137**	**0.0339**	**0.0475**	**0.0000**	**135.0412**	**135.0412**	**0.0235**	**7.7000e-004**	**135.8559**

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	0.1051	0.8056	0.8688	1.6000e-003	0.0346	0.0354	0.0700	0.0137	0.0339	0.0475	0.0000	135.0410	135.0410	0.0234	7.7000e-004	135.8558
2024	0.5138	0.5768	0.6974	1.2700e-003	0.0124	0.0235	0.0358	3.3100e-003	0.0226	0.0259	0.0000	106.6150	106.6150	0.0168	6.5000e-004	107.2290
Maximum	**0.5138**	**0.8056**	**0.8688**	**1.6000e-003**	**0.0346**	**0.0354**	**0.0700**	**0.0137**	**0.0339**	**0.0475**	**0.0000**	**135.0410**	**135.0410**	**0.0234**	**7.7000e-004**	**135.8558**

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**	**0.02**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-1-2023**	**9-30-2023**	0.4741	0.4741
2	**10-1-2023**	**12-31-2023**	0.4472	0.4472
3	**1-1-2024**	**3-31-2024**	0.4172	0.4172
4	**4-1-2024**	**6-30-2024**	0.6721	0.6721
		Highest	0.6721	0.6721

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	1.7265	0.0328	2.1218	3.5200e-003		0.2725	0.2725		0.2725	0.2725	25.8239	11.1334	36.9574	0.0241	2.0300e-003	38.1657
Energy	1.4000e-003	0.0119	5.0800e-003	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	69.6216	69.6216	1.8200e-003	4.4000e-004	69.7987
Mobile	0.1519	0.2650	1.4176	2.6900e-003	0.2477	3.1900e-003	0.2509	0.0664	3.0000e-003	0.0694	0.0000	248.8555	248.8555	0.0168	0.0141	253.4683
Waste						0.0000	0.0000		0.0000	0.0000	2.3344	0.0000	2.3344	0.1380	0.0000	5.7834
Water						0.0000	0.0000		0.0000	0.0000	0.5168	6.6748	7.1916	0.0533	1.2800e-003	8.9033
Total	**1.8798**	**0.3097**	**3.5444**	**6.2900e-003**	**0.2477**	**0.2767**	**0.5244**	**0.0664**	**0.2765**	**0.3429**	**28.6751**	**336.2853**	**364.9604**	**0.2340**	**0.0178**	**376.1193**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.7265	0.0328	2.1218	3.5200e-003		0.2725	0.2725		0.2725	0.2725	25.8239	11.1334	36.9574	0.0241	2.0300e-003	38.1657
Energy	1.4000e-003	0.0119	5.0800e-003	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	69.6216	69.6216	1.8200e-003	4.4000e-004	69.7987
Mobile	0.1519	0.2650	1.4176	2.6900e-003	0.2477	3.1900e-003	0.2509	0.0664	3.0000e-003	0.0694	0.0000	248.8555	248.8555	0.0168	0.0141	253.4683
Waste						0.0000	0.0000		0.0000	0.0000	2.3344	0.0000	2.3344	0.1380	0.0000	5.7834
Water						0.0000	0.0000		0.0000	0.0000	0.5168	6.6748	7.1916	0.0533	1.2800e-003	8.9033
Total	**1.8798**	**0.3097**	**3.5444**	**6.2900e-003**	**0.2477**	**0.2767**	**0.5244**	**0.0664**	**0.2765**	**0.3429**	**28.6751**	**336.2853**	**364.9604**	**0.2340**	**0.0178**	**376.1193**

	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	7/1/2023	7/28/2023	5	20	
2	Site Preparation	Site Preparation	7/29/2023	8/1/2023	5	2	
3	Grading	Grading	8/2/2023	8/7/2023	5	4	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	8/8/2023	5/13/2024	5	200	
5	Paving	Paving	5/14/2024	5/27/2024	5	10	
6	Architectural Coating	Architectural Coating	5/28/2024	6/10/2024	5	10	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 56,388; Residential Outdoor: 18,796; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

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	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	18.00	3.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	16.80	6.60	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					
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202
Total	**0.0147**	**0.1432**	**0.1346**	**2.4000e-004**		**6.7700e-003**	**6.7700e-003**		**6.3300e-003**	**6.3300e-003**	**0.0000**	**21.0866**	**21.0866**	**5.3500e-003**	**0.0000**	**21.2202**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	0.0000	0.0000	0.0000	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	8.3000e-004	5.8000e-004	6.0700e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3709	1.3709	5.0000e-005	4.0000e-005	1.3850
Total	**8.3000e-004**	**5.8000e-004**	**6.0700e-003**	**1.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.3709**	**1.3709**	**5.0000e-005**	**4.0000e-005**	**1.3850**

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	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202
Total	**0.0147**	**0.1432**	**0.1346**	**2.4000e-004**		**6.7700e-003**	**6.7700e-003**		**6.3300e-003**	**6.3300e-003**	**0.0000**	**21.0865**	**21.0865**	**5.3500e-003**	**0.0000**	**21.2202**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	0.0000	0.0000	0.0000	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	8.3000e-004	5.8000e-004	6.0700e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3709	1.3709	5.0000e-005	4.0000e-005	1.3850
Total	**8.3000e-004**	**5.8000e-004**	**6.0700e-003**	**1.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.3709**	**1.3709**	**5.0000e-005**	**4.0000e-005**	**1.3850**

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					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0124	6.6400e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	**1.1300e-003**	**0.0124**	**6.6400e-003**	**2.0000e-005**	**6.2700e-003**	**5.1000e-004**	**6.7800e-003**	**3.0000e-003**	**4.7000e-004**	**3.4700e-003**	**0.0000**	**1.5114**	**1.5114**	**4.9000e-004**	**0.0000**	**1.5236**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	5.0000e-005	4.0000e-005	3.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0844	0.0844	0.0000	0.0000	0.0852
Total	**5.0000e-005**	**4.0000e-005**	**3.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0844**	**0.0844**	**0.0000**	**0.0000**	**0.0852**

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					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0124	6.6400e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	**1.1300e-003**	**0.0124**	**6.6400e-003**	**2.0000e-005**	**6.2700e-003**	**5.1000e-004**	**6.7800e-003**	**3.0000e-003**	**4.7000e-004**	**3.4700e-003**	**0.0000**	**1.5114**	**1.5114**	**4.9000e-004**	**0.0000**	**1.5236**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	5.0000e-005	4.0000e-005	3.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0844	0.0844	0.0000	0.0000	0.0852
Total	**5.0000e-005**	**4.0000e-005**	**3.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0844**	**0.0844**	**0.0000**	**0.0000**	**0.0852**

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					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	**2.6700e-003**	**0.0289**	**0.0174**	**4.0000e-005**	**0.0142**	**1.2100e-003**	**0.0154**	**6.8500e-003**	**1.1100e-003**	**7.9600e-003**	**0.0000**	**3.6208**	**3.6208**	**1.1700e-003**	**0.0000**	**3.6501**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.3000e-004	9.0000e-005	9.3000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2109	0.2109	1.0000e-005	1.0000e-005	0.2131
Total	**1.3000e-004**	**9.0000e-005**	**9.3000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2109**	**0.2109**	**1.0000e-005**	**1.0000e-005**	**0.2131**

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					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	**2.6700e-003**	**0.0289**	**0.0174**	**4.0000e-005**	**0.0142**	**1.2100e-003**	**0.0154**	**6.8500e-003**	**1.1100e-003**	**7.9600e-003**	**0.0000**	**3.6208**	**3.6208**	**1.1700e-003**	**0.0000**	**3.6501**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.3000e-004	9.0000e-005	9.3000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2109	0.2109	1.0000e-005	1.0000e-005	0.2131
Total	**1.3000e-004**	**9.0000e-005**	**9.3000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2109**	**0.2109**	**1.0000e-005**	**1.0000e-005**	**0.2131**

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	0.0792	0.6089	0.6558	1.1500e-003		0.0268	0.0268		0.0258	0.0258	0.0000	94.4315	94.4315	0.0160	0.0000	94.8324
Total	**0.0792**	**0.6089**	**0.6558**	**1.1500e-003**		**0.0268**	**0.0268**		**0.0258**	**0.0258**	**0.0000**	**94.4315**	**94.4315**	**0.0160**	**0.0000**	**94.8324**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	3.5000e-004	7.2700e-003	3.2400e-003	3.0000e-005	9.2000e-004	5.0000e-005	9.7000e-004	2.7000e-004	5.0000e-005	3.1000e-004	0.0000	2.8541	2.8541	2.0000e-005	4.0000e-004	2.9745
Worker	6.0100e-003	4.1600e-003	0.0437	1.1000e-004	0.0114	8.0000e-005	0.0114	3.0200e-003	8.0000e-005	3.1000e-003	0.0000	9.8706	9.8706	3.3000e-004	3.1000e-004	9.9718
Total	**6.3600e-003**	**0.0114**	**0.0470**	**1.4000e-004**	**0.0123**	**1.3000e-004**	**0.0124**	**3.2900e-003**	**1.3000e-004**	**3.4100e-003**	**0.0000**	**12.7247**	**12.7247**	**3.5000e-004**	**7.1000e-004**	**12.9463**

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	0.0792	0.6089	0.6558	1.1500e-003		0.0268	0.0268		0.0258	0.0258	0.0000	94.4314	94.4314	0.0160	0.0000	94.8323
Total	**0.0792**	**0.6089**	**0.6558**	**1.1500e-003**		**0.0268**	**0.0268**		**0.0258**	**0.0258**	**0.0000**	**94.4314**	**94.4314**	**0.0160**	**0.0000**	**94.8323**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	3.5000e-004	7.2700e-003	3.2400e-003	3.0000e-005	9.2000e-004	5.0000e-005	9.7000e-004	2.7000e-004	5.0000e-005	3.1000e-004	0.0000	2.8541	2.8541	2.0000e-005	4.0000e-004	2.9745
Worker	6.0100e-003	4.1600e-003	0.0437	1.1000e-004	0.0114	8.0000e-005	0.0114	3.0200e-003	8.0000e-005	3.1000e-003	0.0000	9.8706	9.8706	3.3000e-004	3.1000e-004	9.9718
Total	**6.3600e-003**	**0.0114**	**0.0470**	**1.4000e-004**	**0.0123**	**1.3000e-004**	**0.0124**	**3.2900e-003**	**1.3000e-004**	**3.4100e-003**	**0.0000**	**12.7247**	**12.7247**	**3.5000e-004**	**7.1000e-004**	**12.9463**

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	0.0682	0.5311	0.6008	1.0600e-003		0.0216	0.0216		0.0209	0.0209	0.0000	87.1734	87.1734	0.0145	0.0000	87.5363
Total	**0.0682**	**0.5311**	**0.6008**	**1.0600e-003**		**0.0216**	**0.0216**		**0.0209**	**0.0209**	**0.0000**	**87.1734**	**87.1734**	**0.0145**	**0.0000**	**87.5363**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	3.0000e-004	6.5800e-003	2.8600e-003	3.0000e-005	8.5000e-004	4.0000e-005	8.9000e-004	2.5000e-004	4.0000e-005	2.9000e-004	0.0000	2.5896	2.5896	1.0000e-005	3.6000e-004	2.6981
Worker	5.2000e-003	3.3900e-003	0.0369	1.0000e-004	0.0105	7.0000e-005	0.0106	2.7900e-003	7.0000e-005	2.8600e-003	0.0000	8.8207	8.8207	2.8000e-004	2.6000e-004	8.9063
Total	**5.5000e-003**	**9.9700e-003**	**0.0398**	**1.3000e-004**	**0.0113**	**1.1000e-004**	**0.0114**	**3.0400e-003**	**1.1000e-004**	**3.1500e-003**	**0.0000**	**11.4103**	**11.4103**	**2.9000e-004**	**6.2000e-004**	**11.6044**

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	0.0682	0.5311	0.6008	1.0600e-003		0.0216	0.0216		0.0209	0.0209	0.0000	87.1733	87.1733	0.0145	0.0000	87.5362
Total	**0.0682**	**0.5311**	**0.6008**	**1.0600e-003**		**0.0216**	**0.0216**		**0.0209**	**0.0209**	**0.0000**	**87.1733**	**87.1733**	**0.0145**	**0.0000**	**87.5362**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	3.0000e-004	6.5800e-003	2.8600e-003	3.0000e-005	8.5000e-004	4.0000e-005	8.9000e-004	2.5000e-004	4.0000e-005	2.9000e-004	0.0000	2.5896	2.5896	1.0000e-005	3.6000e-004	2.6981
Worker	5.2000e-003	3.3900e-003	0.0369	1.0000e-004	0.0105	7.0000e-005	0.0106	2.7900e-003	7.0000e-005	2.8600e-003	0.0000	8.8207	8.8207	2.8000e-004	2.6000e-004	8.9063
Total	**5.5000e-003**	**9.9700e-003**	**0.0398**	**1.3000e-004**	**0.0113**	**1.1000e-004**	**0.0114**	**3.0400e-003**	**1.1000e-004**	**3.1500e-003**	**0.0000**	**11.4103**	**11.4103**	**2.9000e-004**	**6.2000e-004**	**11.6044**

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	3.0900e-003	0.0293	0.0441	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8870	5.8870	1.8700e-003	0.0000	5.9337
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0900e-003**	**0.0293**	**0.0441**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8870**	**5.8870**	**1.8700e-003**	**0.0000**	**5.9337**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	3.9000e-004	2.5000e-004	2.7800e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6636	0.6636	2.0000e-005	2.0000e-005	0.6700
Total	**3.9000e-004**	**2.5000e-004**	**2.7800e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6636**	**0.6636**	**2.0000e-005**	**2.0000e-005**	**0.6700**

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	3.0900e-003	0.0293	0.0441	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8870	5.8870	1.8700e-003	0.0000	5.9337
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0900e-003**	**0.0293**	**0.0441**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8870**	**5.8870**	**1.8700e-003**	**0.0000**	**5.9337**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	3.9000e-004	2.5000e-004	2.7800e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6636	0.6636	2.0000e-005	2.0000e-005	0.6700
Total	**3.9000e-004**	**2.5000e-004**	**2.7800e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6636**	**0.6636**	**2.0000e-005**	**2.0000e-005**	**0.6700**

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	0.4356					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.4365**	**6.0900e-003**	**9.0500e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.2000e-004	8.0000e-005	8.5000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2042	0.2042	1.0000e-005	1.0000e-005	0.2062
Total	**1.2000e-004**	**8.0000e-005**	**8.5000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2042**	**0.2042**	**1.0000e-005**	**1.0000e-005**	**0.2062**

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	0.4356					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-004	6.0900e-003	9.0500e-003	1.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.4365**	**6.0900e-003**	**9.0500e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.2000e-004	8.0000e-005	8.5000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2042	0.2042	1.0000e-005	1.0000e-005	0.2062
Total	**1.2000e-004**	**8.0000e-005**	**8.5000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2042**	**0.2042**	**1.0000e-005**	**1.0000e-005**	**0.2062**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1519	0.2650	1.4176	2.6900e-003	0.2477	3.1900e-003	0.2509	0.0664	3.0000e-003	0.0694	0.0000	248.8555	248.8555	0.0168	0.0141	253.4683
Unmitigated	0.1519	0.2650	1.4176	2.6900e-003	0.2477	3.1900e-003	0.2509	0.0664	3.0000e-003	0.0694	0.0000	248.8555	248.8555	0.0168	0.0141	253.4683

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	183.00	203.50	157.00	677,604	677,604
Total	183.00	203.50	157.00	677,604	677,604

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 Low Rise	16.80	7.10	7.90	42.30	19.60	38.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.470259	0.064793	0.196287	0.148148	0.046407	0.009358	0.004989	0.023157	0.000588	0.000155	0.030135	0.000857	0.004867

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	55.7908	55.7908	1.5500e-003	1.9000e-004	55.8857
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.7908	55.7908	1.5500e-003	1.9000e-004	55.8857
NaturalGas Mitigated	1.4000e-003	0.0119	5.0800e-003	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.8308	13.8308	2.7000e-004	2.5000e-004	13.9130
NaturalGas Unmitigated	1.4000e-003	0.0119	5.0800e-003	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.8308	13.8308	2.7000e-004	2.5000e-004	13.9130

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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 Low Rise	259179	1.4000e-003	0.0119	5.0800e-003	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.8308	13.8308	2.7000e-004	2.5000e-004	13.9130
Total		**1.4000e-003**	**0.0119**	**5.0800e-003**	**8.0000e-005**		**9.7000e-004**	**9.7000e-004**		**9.7000e-004**	**9.7000e-004**	**0.0000**	**13.8308**	**13.8308**	**2.7000e-004**	**2.5000e-004**	**13.9130**

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 Low Rise	259179	1.4000e-003	0.0119	5.0800e-003	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.8308	13.8308	2.7000e-004	2.5000e-004	13.9130
Total		**1.4000e-003**	**0.0119**	**5.0800e-003**	**8.0000e-005**		**9.7000e-004**	**9.7000e-004**		**9.7000e-004**	**9.7000e-004**	**0.0000**	**13.8308**	**13.8308**	**2.7000e-004**	**2.5000e-004**	**13.9130**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	103710	55.7908	1.5500e-003	1.9000e-004	55.8857
Total		**55.7908**	**1.5500e-003**	**1.9000e-004**	**55.8857**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	103710	55.7908	1.5500e-003	1.9000e-004	55.8857
Total		**55.7908**	**1.5500e-003**	**1.9000e-004**	**55.8857**

6.0 Area Detail

6.1 Mitigation Measures Area

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	1.7265	0.0328	2.1218	3.5200e-003		0.2725	0.2725		0.2725	0.2725	25.8239	11.1334	36.9574	0.0241	2.0300e-003	38.1657
Unmitigated	1.7265	0.0328	2.1218	3.5200e-003		0.2725	0.2725		0.2725	0.2725	25.8239	11.1334	36.9574	0.0241	2.0300e-003	38.1657

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	0.0436					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1088					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5687	0.0306	1.9363	3.5100e-003		0.2715	0.2715		0.2715	0.2715	25.8239	10.8302	36.6541	0.0238	2.0300e-003	37.8552
Landscaping	5.5700e-003	2.1400e-003	0.1855	1.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.3032	0.3032	2.9000e-004	0.0000	0.3105
Total	**1.7265**	**0.0328**	**2.1218**	**3.5200e-003**		**0.2725**	**0.2725**		**0.2725**	**0.2725**	**25.8239**	**11.1334**	**36.9574**	**0.0241**	**2.0300e-003**	**38.1657**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0436					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1088					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5687	0.0306	1.9363	3.5100e-003		0.2715	0.2715		0.2715	0.2715	25.8239	10.8302	36.6541	0.0238	2.0300e-003	37.8552
Landscaping	5.5700e-003	2.1400e-003	0.1855	1.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.3032	0.3032	2.9000e-004	0.0000	0.3105
Total	**1.7265**	**0.0328**	**2.1218**	**3.5200e-003**		**0.2725**	**0.2725**		**0.2725**	**0.2725**	**25.8239**	**11.1334**	**36.9574**	**0.0241**	**2.0300e-003**	**38.1657**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.1916	0.0533	1.2800e-003	8.9033
Unmitigated	7.1916	0.0533	1.2800e-003	8.9033

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	7.1916	0.0533	1.2800e-003	8.9033
Total		**7.1916**	**0.0533**	**1.2800e-003**	**8.9033**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	7.1916	0.0533	1.2800e-003	8.9033
Total		**7.1916**	**0.0533**	**1.2800e-003**	**8.9033**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.3344	0.1380	0.0000	5.7834
Unmitigated	2.3344	0.1380	0.0000	5.7834

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Total		**2.3344**	**0.1380**	**0.0000**	**5.7834**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Total		**2.3344**	**0.1380**	**0.0000**	**5.7834**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Mountain Townhomes

Siskiyou County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	25.00	Dwelling Unit	1.26	27,846.00	72

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	85
Climate Zone	14			**Operational Year**	2025
Utility Company	PacifiCorp				
CO2 Intensity (lb/MWhr)	1185.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land use and building sizes per project description.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	25,000.00	27,846.00
tblLandUse	LotAcreage	1.56	1.26
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

Mountain Townhomes - Siskiyou County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.6413	14.5049	14.0695	0.0257	7.2103	0.6778	7.8156	3.4586	0.6338	4.0154	0.0000	2,480.8373	2,480.8373	0.6491	0.0144	2,496.9517
2024	87.3234	11.2556	13.3490	0.0247	0.2483	0.4530	0.7013	0.0663	0.4371	0.5033	0.0000	2,271.0088	2,271.0088	0.4157	0.0137	2,283.5821
Maximum	**87.3234**	**14.5049**	**14.0695**	**0.0257**	**7.2103**	**0.6778**	**7.8156**	**3.4586**	**0.6338**	**4.0154**	**0.0000**	**2,480.8373**	**2,480.8373**	**0.6491**	**0.0144**	**2,496.9517**

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	1.6413	14.5049	14.0695	0.0257	7.2103	0.6778	7.8156	3.4586	0.6338	4.0154	0.0000	2,480.8373	2,480.8373	0.6491	0.0144	2,496.9517
2024	87.3234	11.2556	13.3490	0.0247	0.2483	0.4530	0.7013	0.0663	0.4371	0.5033	0.0000	2,271.0088	2,271.0088	0.4157	0.0137	2,283.5821
Maximum	**87.3234**	**14.5049**	**14.0695**	**0.0257**	**7.2103**	**0.6778**	**7.8156**	**3.4586**	**0.6338**	**4.0154**	**0.0000**	**2,480.8373**	**2,480.8373**	**0.6491**	**0.0144**	**2,496.9517**

Mountain Townhomes - Siskiyou County, Summer

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**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	39.1563	0.7709	49.2882	0.0857		6.6332	6.6332		6.6332	6.6332	694.2933	294.8903	989.1836	0.6443	0.0546	1,021.5646
Energy	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
Mobile	0.9430	1.4997	8.0755	0.0169	1.5999	0.0196	1.6195	0.4269	0.0184	0.4453		1,725.0927	1,725.0927	0.1043	0.0897	1,754.4412
Total	**40.1070**	**2.3360**	**57.3916**	**0.1030**	**1.5999**	**6.6581**	**8.2580**	**0.4269**	**6.6569**	**7.0838**	**694.2933**	**2,103.5218**	**2,797.8150**	**0.7502**	**0.1459**	**2,860.0410**

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	39.1563	0.7709	49.2882	0.0857		6.6332	6.6332		6.6332	6.6332	694.2933	294.8903	989.1836	0.6443	0.0546	1,021.5646
Energy	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
Mobile	0.9430	1.4997	8.0755	0.0169	1.5999	0.0196	1.6195	0.4269	0.0184	0.4453		1,725.0927	1,725.0927	0.1043	0.0897	1,754.4412
Total	**40.1070**	**2.3360**	**57.3916**	**0.1030**	**1.5999**	**6.6581**	**8.2580**	**0.4269**	**6.6569**	**7.0838**	**694.2933**	**2,103.5218**	**2,797.8150**	**0.7502**	**0.1459**	**2,860.0410**

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	7/1/2023	7/28/2023	5	20	
2	Site Preparation	Site Preparation	7/29/2023	8/1/2023	5	2	
3	Grading	Grading	8/2/2023	8/7/2023	5	4	
4	Building Construction	Building Construction	8/8/2023	5/13/2024	5	200	
5	Paving	Paving	5/14/2024	5/27/2024	5	10	
6	Architectural Coating	Architectural Coating	5/28/2024	6/10/2024	5	10	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 56,388; Residential Outdoor: 18,796; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

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	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	18.00	3.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**		**0.6766**	**0.6766**		**0.6328**	**0.6328**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

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	0.0804	0.0484	0.6118	1.5500e-003	0.1661	1.1600e-003	0.1672	0.0440	1.0700e-003	0.0451		156.4414	156.4414	4.7900e-003	4.2400e-003	157.8239
Total	**0.0804**	**0.0484**	**0.6118**	**1.5500e-003**	**0.1661**	**1.1600e-003**	**0.1672**	**0.0440**	**1.0700e-003**	**0.0451**		**156.4414**	**156.4414**	**4.7900e-003**	**4.2400e-003**	**157.8239**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**		**0.6766**	**0.6766**		**0.6328**	**0.6328**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

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	0.0804	0.0484	0.6118	1.5500e-003	0.1661	1.1600e-003	0.1672	0.0440	1.0700e-003	0.0451		156.4414	156.4414	4.7900e-003	4.2400e-003	157.8239
Total	**0.0804**	**0.0484**	**0.6118**	**1.5500e-003**	**0.1661**	**1.1600e-003**	**0.1672**	**0.0440**	**1.0700e-003**	**0.0451**		**156.4414**	**156.4414**	**4.7900e-003**	**4.2400e-003**	**157.8239**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.1339	12.4250	6.6420	0.0172		0.5074	0.5074		0.4668	0.4668		1,666.0573	1,666.0573	0.5388		1,679.5282
Total	**1.1339**	**12.4250**	**6.6420**	**0.0172**	**6.2662**	**0.5074**	**6.7736**	**3.0041**	**0.4668**	**3.4709**		**1,666.0573**	**1,666.0573**	**0.5388**		**1,679.5282**

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	0.0495	0.0298	0.3765	9.5000e-004	0.1022	7.2000e-004	0.1029	0.0271	6.6000e-004	0.0278		96.2717	96.2717	2.9500e-003	2.6100e-003	97.1224
Total	**0.0495**	**0.0298**	**0.3765**	**9.5000e-004**	**0.1022**	**7.2000e-004**	**0.1029**	**0.0271**	**6.6000e-004**	**0.0278**		**96.2717**	**96.2717**	**2.9500e-003**	**2.6100e-003**	**97.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.1339	12.4250	6.6420	0.0172		0.5074	0.5074		0.4668	0.4668	0.0000	1,666.0573	1,666.0573	0.5388		1,679.5282
Total	**1.1339**	**12.4250**	**6.6420**	**0.0172**	**6.2662**	**0.5074**	**6.7736**	**3.0041**	**0.4668**	**3.4709**	**0.0000**	**1,666.0573**	**1,666.0573**	**0.5388**		**1,679.5282**

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	0.0495	0.0298	0.3765	9.5000e-004	0.1022	7.2000e-004	0.1029	0.0271	6.6000e-004	0.0278		96.2717	96.2717	2.9500e-003	2.6100e-003	97.1224
Total	**0.0495**	**0.0298**	**0.3765**	**9.5000e-004**	**0.1022**	**7.2000e-004**	**0.1029**	**0.0271**	**6.6000e-004**	**0.0278**		**96.2717**	**96.2717**	**2.9500e-003**	**2.6100e-003**	**97.1224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560		1,995.6147	1,995.6147	0.6454		2,011.7503
Total	**1.3330**	**14.4676**	**8.7038**	**0.0206**	**7.0826**	**0.6044**	**7.6869**	**3.4247**	**0.5560**	**3.9807**		**1,995.6147**	**1,995.6147**	**0.6454**		**2,011.7503**

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	0.0619	0.0372	0.4707	1.1900e-003	0.1277	8.9000e-004	0.1286	0.0339	8.2000e-004	0.0347		120.3396	120.3396	3.6900e-003	3.2600e-003	121.4030
Total	**0.0619**	**0.0372**	**0.4707**	**1.1900e-003**	**0.1277**	**8.9000e-004**	**0.1286**	**0.0339**	**8.2000e-004**	**0.0347**		**120.3396**	**120.3396**	**3.6900e-003**	**3.2600e-003**	**121.4030**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560	0.0000	1,995.6147	1,995.6147	0.6454		2,011.7503
Total	**1.3330**	**14.4676**	**8.7038**	**0.0206**	**7.0826**	**0.6044**	**7.6869**	**3.4247**	**0.5560**	**3.9807**	**0.0000**	**1,995.6147**	**1,995.6147**	**0.6454**		**2,011.7503**

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	0.0619	0.0372	0.4707	1.1900e-003	0.1277	8.9000e-004	0.1286	0.0339	8.2000e-004	0.0347		120.3396	120.3396	3.6900e-003	3.2600e-003	121.4030
Total	**0.0619**	**0.0372**	**0.4707**	**1.1900e-003**	**0.1277**	**8.9000e-004**	**0.1286**	**0.0339**	**8.2000e-004**	**0.0347**		**120.3396**	**120.3396**	**3.6900e-003**	**3.2600e-003**	**121.4030**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

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	6.6700e-003	0.1350	0.0607	5.7000e-004	0.0184	9.4000e-004	0.0194	5.3000e-003	9.0000e-004	6.2000e-003		60.4324	60.4324	3.3000e-004	8.5100e-003	62.9771
Worker	0.1113	0.0670	0.8472	2.1400e-003	0.2299	1.6100e-003	0.2315	0.0610	1.4800e-003	0.0625		216.6112	216.6112	6.6300e-003	5.8700e-003	218.5253
Total	**0.1180**	**0.2021**	**0.9079**	**2.7100e-003**	**0.2483**	**2.5500e-003**	**0.2509**	**0.0663**	**2.3800e-003**	**0.0687**		**277.0436**	**277.0436**	**6.9600e-003**	**0.0144**	**281.5024**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

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	6.6700e-003	0.1350	0.0607	5.7000e-004	0.0184	9.4000e-004	0.0194	5.3000e-003	9.0000e-004	6.2000e-003		60.4324	60.4324	3.3000e-004	8.5100e-003	62.9771
Worker	0.1113	0.0670	0.8472	2.1400e-003	0.2299	1.6100e-003	0.2315	0.0610	1.4800e-003	0.0625		216.6112	216.6112	6.6300e-003	5.8700e-003	218.5253
Total	**0.1180**	**0.2021**	**0.9079**	**2.7100e-003**	**0.2483**	**2.5500e-003**	**0.2509**	**0.0663**	**2.3800e-003**	**0.0687**		**277.0436**	**277.0436**	**6.9600e-003**	**0.0144**	**281.5024**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

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	6.2000e-003	0.1326	0.0581	5.6000e-004	0.0184	9.3000e-004	0.0193	5.3000e-003	8.9000e-004	6.1900e-003		59.4008	59.4008	3.0000e-004	8.3100e-003	61.8850
Worker	0.1041	0.0591	0.7738	2.0700e-003	0.2299	1.5100e-003	0.2314	0.0610	1.3900e-003	0.0624		209.6866	209.6866	5.9300e-003	5.3900e-003	211.4409
Total	**0.1103**	**0.1917**	**0.8319**	**2.6300e-003**	**0.2483**	**2.4400e-003**	**0.2508**	**0.0663**	**2.2800e-003**	**0.0686**		**269.0874**	**269.0874**	**6.2300e-003**	**0.0137**	**273.3259**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

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	6.2000e-003	0.1326	0.0581	5.6000e-004	0.0184	9.3000e-004	0.0193	5.3000e-003	8.9000e-004	6.1900e-003		59.4008	59.4008	3.0000e-004	8.3100e-003	61.8850
Worker	0.1041	0.0591	0.7738	2.0700e-003	0.2299	1.5100e-003	0.2314	0.0610	1.3900e-003	0.0624		209.6866	209.6866	5.9300e-003	5.3900e-003	211.4409
Total	**0.1103**	**0.1917**	**0.8319**	**2.6300e-003**	**0.2483**	**2.4400e-003**	**0.2508**	**0.0663**	**2.2800e-003**	**0.0686**		**269.0874**	**269.0874**	**6.2300e-003**	**0.0137**	**273.3259**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594		1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6180**	**5.8607**	**8.8253**	**0.0136**		**0.2810**	**0.2810**		**0.2594**	**0.2594**		**1,297.8688**	**1,297.8688**	**0.4114**		**1,308.1547**

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	0.0752	0.0427	0.5589	1.5000e-003	0.1661	1.0900e-003	0.1671	0.0440	1.0000e-003	0.0450		151.4403	151.4403	4.2800e-003	3.8900e-003	152.7073
Total	**0.0752**	**0.0427**	**0.5589**	**1.5000e-003**	**0.1661**	**1.0900e-003**	**0.1671**	**0.0440**	**1.0000e-003**	**0.0450**		**151.4403**	**151.4403**	**4.2800e-003**	**3.8900e-003**	**152.7073**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594	0.0000	1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6180**	**5.8607**	**8.8253**	**0.0136**		**0.2810**	**0.2810**		**0.2594**	**0.2594**	**0.0000**	**1,297.8688**	**1,297.8688**	**0.4114**		**1,308.1547**

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	0.0752	0.0427	0.5589	1.5000e-003	0.1661	1.0900e-003	0.1671	0.0440	1.0000e-003	0.0450		151.4403	151.4403	4.2800e-003	3.8900e-003	152.7073
Total	**0.0752**	**0.0427**	**0.5589**	**1.5000e-003**	**0.1661**	**1.0900e-003**	**0.1671**	**0.0440**	**1.0000e-003**	**0.0450**		**151.4403**	**151.4403**	**4.2800e-003**	**3.8900e-003**	**152.7073**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	87.1195					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	**87.3002**	**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	0.0231	0.0131	0.1720	4.6000e-004	0.0511	3.4000e-004	0.0514	0.0136	3.1000e-004	0.0139		46.5970	46.5970	1.3200e-003	1.2000e-003	46.9869
Total	**0.0231**	**0.0131**	**0.1720**	**4.6000e-004**	**0.0511**	**3.4000e-004**	**0.0514**	**0.0136**	**3.1000e-004**	**0.0139**		**46.5970**	**46.5970**	**1.3200e-003**	**1.2000e-003**	**46.9869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	87.1195					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	**87.3002**	**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	0.0231	0.0131	0.1720	4.6000e-004	0.0511	3.4000e-004	0.0514	0.0136	3.1000e-004	0.0139		46.5970	46.5970	1.3200e-003	1.2000e-003	46.9869
Total	**0.0231**	**0.0131**	**0.1720**	**4.6000e-004**	**0.0511**	**3.4000e-004**	**0.0514**	**0.0136**	**3.1000e-004**	**0.0139**		**46.5970**	**46.5970**	**1.3200e-003**	**1.2000e-003**	**46.9869**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.9430	1.4997	8.0755	0.0169	1.5999	0.0196	1.6195	0.4269	0.0184	0.4453		1,725.0927	1,725.0927	0.1043	0.0897	1,754.4412
Unmitigated	0.9430	1.4997	8.0755	0.0169	1.5999	0.0196	1.6195	0.4269	0.0184	0.4453		1,725.0927	1,725.0927	0.1043	0.0897	1,754.4412

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	183.00	203.50	157.00	677,604	677,604
Total	183.00	203.50	157.00	677,604	677,604

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 Low Rise	16.80	7.10	7.90	42.30	19.60	38.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.470259	0.064793	0.196287	0.148148	0.046407	0.009358	0.004989	0.023157	0.000588	0.000155	0.030135	0.000857	0.004867

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
NaturalGas Unmitigated	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352

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 Low Rise	710.079	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
Total		**7.6600e-003**	**0.0654**	**0.0279**	**4.2000e-004**		**5.2900e-003**	**5.2900e-003**		**5.2900e-003**	**5.2900e-003**		**83.5388**	**83.5388**	**1.6000e-003**	**1.5300e-003**	**84.0352**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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 Low Rise	0.710079	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
Total		**7.6600e-003**	**0.0654**	**0.0279**	**4.2000e-004**		**5.2900e-003**	**5.2900e-003**		**5.2900e-003**	**5.2900e-003**		**83.5388**	**83.5388**	**1.6000e-003**	**1.5300e-003**	**84.0352**

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	39.1563	0.7709	49.2882	0.0857		6.6332	6.6332		6.6332	6.6332	694.2933	294.8903	989.1836	0.6443	0.0546	1,021.5646
Unmitigated	39.1563	0.7709	49.2882	0.0857		6.6332	6.6332		6.6332	6.6332	694.2933	294.8903	989.1836	0.6443	0.0546	1,021.5646

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	38.2599	0.7472	47.2277	0.0856		6.6218	6.6218		6.6218	6.6218	694.2933	291.1765	985.4697	0.6407	0.0546	1,017.7619
Landscaping	0.0619	0.0237	2.0606	1.1000e-004		0.0114	0.0114		0.0114	0.0114		3.7138	3.7138	3.5600e-003		3.8027
Total	**39.1563**	**0.7709**	**49.2882**	**0.0857**		**6.6332**	**6.6332**		**6.6332**	**6.6332**	**694.2933**	**294.8903**	**989.1836**	**0.6443**	**0.0546**	**1,021.5646**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	38.2599	0.7472	47.2277	0.0856		6.6218	6.6218		6.6218	6.6218	694.2933	291.1765	985.4697	0.6407	0.0546	1,017.7619
Landscaping	0.0619	0.0237	2.0606	1.1000e-004		0.0114	0.0114		0.0114	0.0114		3.7138	3.7138	3.5600e-003		3.8027
Total	**39.1563**	**0.7709**	**49.2882**	**0.0857**		**6.6332**	**6.6332**		**6.6332**	**6.6332**	**694.2933**	**294.8903**	**989.1836**	**0.6443**	**0.0546**	**1,021.5646**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Mountain Townhomes

Siskiyou County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	25.00	Dwelling Unit	1.26	27,846.00	72

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	85
Climate Zone	14			**Operational Year**	2025
Utility Company	PacifiCorp				
CO2 Intensity (lb/MWhr)	1185.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land use and building sizes per project description.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	25,000.00	27,846.00
tblLandUse	LotAcreage	1.56	1.26
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

Mountain Townhomes - Siskiyou County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.6574	14.5206	14.0876	0.0256	7.2103	0.6778	7.8156	3.4586	0.6338	4.0154	0.0000	2,473.7482	2,473.7482	0.6496	0.0160	2,490.2209
2024	87.3268	11.2924	13.3764	0.0246	0.2483	0.4530	0.7013	0.0663	0.4371	0.5033	0.0000	2,261.6901	2,261.6901	0.4163	0.0152	2,274.7331
Maximum	**87.3268**	**14.5206**	**14.0876**	**0.0256**	**7.2103**	**0.6778**	**7.8156**	**3.4586**	**0.6338**	**4.0154**	**0.0000**	**2,473.7482**	**2,473.7482**	**0.6496**	**0.0160**	**2,490.2209**

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	1.6574	14.5206	14.0876	0.0256	7.2103	0.6778	7.8156	3.4586	0.6338	4.0154	0.0000	2,473.7482	2,473.7482	0.6496	0.0160	2,490.2209
2024	87.3268	11.2924	13.3764	0.0246	0.2483	0.4530	0.7013	0.0663	0.4371	0.5033	0.0000	2,261.6901	2,261.6901	0.4163	0.0152	2,274.7331
Maximum	**87.3268**	**14.5206**	**14.0876**	**0.0256**	**7.2103**	**0.6778**	**7.8156**	**3.4586**	**0.6338**	**4.0154**	**0.0000**	**2,473.7482**	**2,473.7482**	**0.6496**	**0.0160**	**2,490.2209**

Mountain Townhomes - Siskiyou County, Winter

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**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	39.1563	0.7709	49.2882	0.0857		6.6332	6.6332		6.6332	6.6332	694.2933	294.8903	989.1836	0.6443	0.0546	1,021.5646
Energy	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
Mobile	0.9570	1.7957	9.5154	0.0164	1.5999	0.0196	1.6196	0.4269	0.0185	0.4453		1,673.1200	1,673.1200	0.1231	0.1014	1,706.4135
Total	**40.1210**	**2.6320**	**58.8315**	**0.1025**	**1.5999**	**6.6581**	**8.2580**	**0.4269**	**6.6569**	**7.0838**	**694.2933**	**2,051.5491**	**2,745.8424**	**0.7690**	**0.1575**	**2,812.0133**

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	39.1563	0.7709	49.2882	0.0857		6.6332	6.6332		6.6332	6.6332	694.2933	294.8903	989.1836	0.6443	0.0546	1,021.5646
Energy	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
Mobile	0.9570	1.7957	9.5154	0.0164	1.5999	0.0196	1.6196	0.4269	0.0185	0.4453		1,673.1200	1,673.1200	0.1231	0.1014	1,706.4135
Total	**40.1210**	**2.6320**	**58.8315**	**0.1025**	**1.5999**	**6.6581**	**8.2580**	**0.4269**	**6.6569**	**7.0838**	**694.2933**	**2,051.5491**	**2,745.8424**	**0.7690**	**0.1575**	**2,812.0133**

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	7/1/2023	7/28/2023	5	20	
2	Site Preparation	Site Preparation	7/29/2023	8/1/2023	5	2	
3	Grading	Grading	8/2/2023	8/7/2023	5	4	
4	Building Construction	Building Construction	8/8/2023	5/13/2024	5	200	
5	Paving	Paving	5/14/2024	5/27/2024	5	10	
6	Architectural Coating	Architectural Coating	5/28/2024	6/10/2024	5	10	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 56,388; Residential Outdoor: 18,796; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

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	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	18.00	3.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328		2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**		**0.6766**	**0.6766**		**0.6328**	**0.6328**		**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

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	0.0920	0.0689	0.6299	1.4800e-003	0.1661	1.1600e-003	0.1672	0.0440	1.0700e-003	0.0451		149.3523	149.3523	5.4300e-003	5.3900e-003	151.0931
Total	**0.0920**	**0.0689**	**0.6299**	**1.4800e-003**	**0.1661**	**1.1600e-003**	**0.1672**	**0.0440**	**1.0700e-003**	**0.0451**		**149.3523**	**149.3523**	**5.4300e-003**	**5.3900e-003**	**151.0931**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Off-Road	1.4725	14.3184	13.4577	0.0241		0.6766	0.6766		0.6328	0.6328	0.0000	2,324.3959	2,324.3959	0.5893		2,339.1278
Total	**1.4725**	**14.3184**	**13.4577**	**0.0241**		**0.6766**	**0.6766**		**0.6328**	**0.6328**	**0.0000**	**2,324.3959**	**2,324.3959**	**0.5893**		**2,339.1278**

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	0.0920	0.0689	0.6299	1.4800e-003	0.1661	1.1600e-003	0.1672	0.0440	1.0700e-003	0.0451		149.3523	149.3523	5.4300e-003	5.3900e-003	151.0931
Total	**0.0920**	**0.0689**	**0.6299**	**1.4800e-003**	**0.1661**	**1.1600e-003**	**0.1672**	**0.0440**	**1.0700e-003**	**0.0451**		**149.3523**	**149.3523**	**5.4300e-003**	**5.3900e-003**	**151.0931**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.1339	12.4250	6.6420	0.0172		0.5074	0.5074		0.4668	0.4668		1,666.0573	1,666.0573	0.5388		1,679.5282
Total	**1.1339**	**12.4250**	**6.6420**	**0.0172**	**6.2662**	**0.5074**	**6.7736**	**3.0041**	**0.4668**	**3.4709**		**1,666.0573**	**1,666.0573**	**0.5388**		**1,679.5282**

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	0.0566	0.0424	0.3876	9.1000e-004	0.1022	7.2000e-004	0.1029	0.0271	6.6000e-004	0.0278		91.9091	91.9091	3.3400e-003	3.3100e-003	92.9804
Total	**0.0566**	**0.0424**	**0.3876**	**9.1000e-004**	**0.1022**	**7.2000e-004**	**0.1029**	**0.0271**	**6.6000e-004**	**0.0278**		**91.9091**	**91.9091**	**3.3400e-003**	**3.3100e-003**	**92.9804**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.1339	12.4250	6.6420	0.0172		0.5074	0.5074		0.4668	0.4668	0.0000	1,666.0573	1,666.0573	0.5388		1,679.5282
Total	**1.1339**	**12.4250**	**6.6420**	**0.0172**	**6.2662**	**0.5074**	**6.7736**	**3.0041**	**0.4668**	**3.4709**	**0.0000**	**1,666.0573**	**1,666.0573**	**0.5388**		**1,679.5282**

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	0.0566	0.0424	0.3876	9.1000e-004	0.1022	7.2000e-004	0.1029	0.0271	6.6000e-004	0.0278		91.9091	91.9091	3.3400e-003	3.3100e-003	92.9804
Total	**0.0566**	**0.0424**	**0.3876**	**9.1000e-004**	**0.1022**	**7.2000e-004**	**0.1029**	**0.0271**	**6.6000e-004**	**0.0278**		**91.9091**	**91.9091**	**3.3400e-003**	**3.3100e-003**	**92.9804**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560		1,995.6147	1,995.6147	0.6454		2,011.7503
Total	**1.3330**	**14.4676**	**8.7038**	**0.0206**	**7.0826**	**0.6044**	**7.6869**	**3.4247**	**0.5560**	**3.9807**		**1,995.6147**	**1,995.6147**	**0.6454**		**2,011.7503**

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	0.0708	0.0530	0.4845	1.1400e-003	0.1277	8.9000e-004	0.1286	0.0339	8.2000e-004	0.0347		114.8864	114.8864	4.1800e-003	4.1400e-003	116.2255
Total	**0.0708**	**0.0530**	**0.4845**	**1.1400e-003**	**0.1277**	**8.9000e-004**	**0.1286**	**0.0339**	**8.2000e-004**	**0.0347**		**114.8864**	**114.8864**	**4.1800e-003**	**4.1400e-003**	**116.2255**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.3330	14.4676	8.7038	0.0206		0.6044	0.6044		0.5560	0.5560	0.0000	1,995.6147	1,995.6147	0.6454		2,011.7503
Total	**1.3330**	**14.4676**	**8.7038**	**0.0206**	**7.0826**	**0.6044**	**7.6869**	**3.4247**	**0.5560**	**3.9807**	**0.0000**	**1,995.6147**	**1,995.6147**	**0.6454**		**2,011.7503**

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	0.0708	0.0530	0.4845	1.1400e-003	0.1277	8.9000e-004	0.1286	0.0339	8.2000e-004	0.0347		114.8864	114.8864	4.1800e-003	4.1400e-003	116.2255
Total	**0.0708**	**0.0530**	**0.4845**	**1.1400e-003**	**0.1277**	**8.9000e-004**	**0.1286**	**0.0339**	**8.2000e-004**	**0.0347**		**114.8864**	**114.8864**	**4.1800e-003**	**4.1400e-003**	**116.2255**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

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	6.6900e-003	0.1472	0.0639	5.8000e-004	0.0184	9.5000e-004	0.0194	5.3000e-003	9.1000e-004	6.2100e-003		60.5986	60.5986	3.1000e-004	8.5700e-003	63.1600
Worker	0.1274	0.0954	0.8721	2.0500e-003	0.2299	1.6100e-003	0.2315	0.0610	1.4800e-003	0.0625		206.7955	206.7955	7.5200e-003	7.4600e-003	209.2059
Total	**0.1341**	**0.2426**	**0.9360**	**2.6300e-003**	**0.2483**	**2.5600e-003**	**0.2509**	**0.0663**	**2.3900e-003**	**0.0687**		**267.3941**	**267.3941**	**7.8300e-003**	**0.0160**	**272.3658**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

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	6.6900e-003	0.1472	0.0639	5.8000e-004	0.0184	9.5000e-004	0.0194	5.3000e-003	9.1000e-004	6.2100e-003		60.5986	60.5986	3.1000e-004	8.5700e-003	63.1600
Worker	0.1274	0.0954	0.8721	2.0500e-003	0.2299	1.6100e-003	0.2315	0.0610	1.4800e-003	0.0625		206.7955	206.7955	7.5200e-003	7.4600e-003	209.2059
Total	**0.1341**	**0.2426**	**0.9360**	**2.6300e-003**	**0.2483**	**2.5600e-003**	**0.2509**	**0.0663**	**2.3900e-003**	**0.0687**		**267.3941**	**267.3941**	**7.8300e-003**	**0.0160**	**272.3658**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348		2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**		**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

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	6.2000e-003	0.1445	0.0613	5.7000e-004	0.0184	9.4000e-004	0.0193	5.3000e-003	9.0000e-004	6.2000e-003		59.5677	59.5677	2.9000e-004	8.3600e-003	62.0677
Worker	0.1196	0.0841	0.7979	1.9800e-003	0.2299	1.5100e-003	0.2314	0.0610	1.3900e-003	0.0624		200.2010	200.2010	6.7500e-003	6.8400e-003	202.4091
Total	**0.1258**	**0.2286**	**0.8592**	**2.5500e-003**	**0.2483**	**2.4500e-003**	**0.2508**	**0.0663**	**2.2900e-003**	**0.0686**		**259.7687**	**259.7687**	**7.0400e-003**	**0.0152**	**264.4768**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	1.4200	11.0639	12.5172	0.0221		0.4506	0.4506		0.4348	0.4348	0.0000	2,001.9214	2,001.9214	0.3334		2,010.2563
Total	**1.4200**	**11.0639**	**12.5172**	**0.0221**		**0.4506**	**0.4506**		**0.4348**	**0.4348**	**0.0000**	**2,001.9214**	**2,001.9214**	**0.3334**		**2,010.2563**

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	6.2000e-003	0.1445	0.0613	5.7000e-004	0.0184	9.4000e-004	0.0193	5.3000e-003	9.0000e-004	6.2000e-003		59.5677	59.5677	2.9000e-004	8.3600e-003	62.0677
Worker	0.1196	0.0841	0.7979	1.9800e-003	0.2299	1.5100e-003	0.2314	0.0610	1.3900e-003	0.0624		200.2010	200.2010	6.7500e-003	6.8400e-003	202.4091
Total	**0.1258**	**0.2286**	**0.8592**	**2.5500e-003**	**0.2483**	**2.4500e-003**	**0.2508**	**0.0663**	**2.2900e-003**	**0.0686**		**259.7687**	**259.7687**	**7.0400e-003**	**0.0152**	**264.4768**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594		1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6180**	**5.8607**	**8.8253**	**0.0136**		**0.2810**	**0.2810**		**0.2594**	**0.2594**		**1,297.8688**	**1,297.8688**	**0.4114**		**1,308.1547**

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	0.0864	0.0607	0.5762	1.4300e-003	0.1661	1.0900e-003	0.1671	0.0440	1.0000e-003	0.0450		144.5896	144.5896	4.8700e-003	4.9400e-003	146.1844
Total	**0.0864**	**0.0607**	**0.5762**	**1.4300e-003**	**0.1661**	**1.0900e-003**	**0.1671**	**0.0440**	**1.0000e-003**	**0.0450**		**144.5896**	**144.5896**	**4.8700e-003**	**4.9400e-003**	**146.1844**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594	0.0000	1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6180**	**5.8607**	**8.8253**	**0.0136**		**0.2810**	**0.2810**		**0.2594**	**0.2594**	**0.0000**	**1,297.8688**	**1,297.8688**	**0.4114**		**1,308.1547**

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	0.0864	0.0607	0.5762	1.4300e-003	0.1661	1.0900e-003	0.1671	0.0440	1.0000e-003	0.0450		144.5896	144.5896	4.8700e-003	4.9400e-003	146.1844
Total	**0.0864**	**0.0607**	**0.5762**	**1.4300e-003**	**0.1661**	**1.0900e-003**	**0.1671**	**0.0440**	**1.0000e-003**	**0.0450**		**144.5896**	**144.5896**	**4.8700e-003**	**4.9400e-003**	**146.1844**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	87.1195					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	**87.3002**	**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	0.0266	0.0187	0.1773	4.4000e-004	0.0511	3.4000e-004	0.0514	0.0136	3.1000e-004	0.0139		44.4891	44.4891	1.5000e-003	1.5200e-003	44.9798
Total	**0.0266**	**0.0187**	**0.1773**	**4.4000e-004**	**0.0511**	**3.4000e-004**	**0.0514**	**0.0136**	**3.1000e-004**	**0.0139**		**44.4891**	**44.4891**	**1.5000e-003**	**1.5200e-003**	**44.9798**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	87.1195					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	**87.3002**	**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	0.0266	0.0187	0.1773	4.4000e-004	0.0511	3.4000e-004	0.0514	0.0136	3.1000e-004	0.0139		44.4891	44.4891	1.5000e-003	1.5200e-003	44.9798
Total	**0.0266**	**0.0187**	**0.1773**	**4.4000e-004**	**0.0511**	**3.4000e-004**	**0.0514**	**0.0136**	**3.1000e-004**	**0.0139**		**44.4891**	**44.4891**	**1.5000e-003**	**1.5200e-003**	**44.9798**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.9570	1.7957	9.5154	0.0164	1.5999	0.0196	1.6196	0.4269	0.0185	0.4453		1,673.1200	1,673.1200	0.1231	0.1014	1,706.4135
Unmitigated	0.9570	1.7957	9.5154	0.0164	1.5999	0.0196	1.6196	0.4269	0.0185	0.4453		1,673.1200	1,673.1200	0.1231	0.1014	1,706.4135

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	183.00	203.50	157.00	677,604	677,604
Total	183.00	203.50	157.00	677,604	677,604

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 Low Rise	16.80	7.10	7.90	42.30	19.60	38.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.470259	0.064793	0.196287	0.148148	0.046407	0.009358	0.004989	0.023157	0.000588	0.000155	0.030135	0.000857	0.004867

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
NaturalGas Unmitigated	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352

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 Low Rise	710.079	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
Total		**7.6600e-003**	**0.0654**	**0.0279**	**4.2000e-004**		**5.2900e-003**	**5.2900e-003**		**5.2900e-003**	**5.2900e-003**		**83.5388**	**83.5388**	**1.6000e-003**	**1.5300e-003**	**84.0352**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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 Low Rise	0.710079	7.6600e-003	0.0654	0.0279	4.2000e-004		5.2900e-003	5.2900e-003		5.2900e-003	5.2900e-003		83.5388	83.5388	1.6000e-003	1.5300e-003	84.0352
Total		**7.6600e-003**	**0.0654**	**0.0279**	**4.2000e-004**		**5.2900e-003**	**5.2900e-003**		**5.2900e-003**	**5.2900e-003**		**83.5388**	**83.5388**	**1.6000e-003**	**1.5300e-003**	**84.0352**

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	39.1563	0.7709	49.2882	0.0857		6.6332	6.6332		6.6332	6.6332	694.2933	294.8903	989.1836	0.6443	0.0546	1,021.5646
Unmitigated	39.1563	0.7709	49.2882	0.0857		6.6332	6.6332		6.6332	6.6332	694.2933	294.8903	989.1836	0.6443	0.0546	1,021.5646

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	38.2599	0.7472	47.2277	0.0856		6.6218	6.6218		6.6218	6.6218	694.2933	291.1765	985.4697	0.6407	0.0546	1,017.7619
Landscaping	0.0619	0.0237	2.0606	1.1000e-004		0.0114	0.0114		0.0114	0.0114		3.7138	3.7138	3.5600e-003		3.8027
Total	**39.1563**	**0.7709**	**49.2882**	**0.0857**		**6.6332**	**6.6332**		**6.6332**	**6.6332**	**694.2933**	**294.8903**	**989.1836**	**0.6443**	**0.0546**	**1,021.5646**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.2387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5959					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	38.2599	0.7472	47.2277	0.0856		6.6218	6.6218		6.6218	6.6218	694.2933	291.1765	985.4697	0.6407	0.0546	1,017.7619
Landscaping	0.0619	0.0237	2.0606	1.1000e-004		0.0114	0.0114		0.0114	0.0114		3.7138	3.7138	3.5600e-003		3.8027
Total	**39.1563**	**0.7709**	**49.2882**	**0.0857**		**6.6332**	**6.6332**		**6.6332**	**6.6332**	**694.2933**	**294.8903**	**989.1836**	**0.6443**	**0.0546**	**1,021.5646**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Appendix C

Aquatic Resources Expanded Delineation Report

AEI Consultants

June 6, 2022

Ms. McKenzie Dibble
Danco Group
5251 Ericson Way
Arcata, CA 95521

RE: Aquatic Resources Expanded Delineation Report
735 Chestnut Street, Mount Shasta, CA 96067
AEI Project No. 455591

Dear Ms. Dibble,

AEI Consultants (AEI) is pleased to provide the Aquatic Resources Expanded Delineation Report for the proposed multi-family residential development located at 735 Chestnut Street, Mount Shasta, CA. The delineation assessed the expanded 2.44-acre Project Area.

The report includes the identification of aquatic resource within the expanded Project Area; impacts to aquatic resources within the Project Area; and impact analysis, mitigation measures, and recommendations for the proposed undertaking. If you have any additional questions or would like clarifications, please contact me at johni.etheridge@aeiconsultants.com or 831.524.1153.

Sincerely,

Johni Etheridge
Senior Project Manager
AEI Consultants
Phone: 831.524.1153
Email: johni.etheridge@aeiconsultants.com

AQUATIC RESOURCE EXPANDED DELINEATION REPORT FOR THE DEVELOPMENT PROJECT AT 735 CHESTNUT STREET, CITY OF MOUNT SHASTA, CALIFORNIA

June 6, 2022

Prepared by:

Natural Investigations Company, Inc.
3104 O Street, #221, Sacramento, CA 95816

NATURAL INVESTIGATIONS CO.
WWW.NATURALINVESTIGATIONS.COM

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF REPORT

Natural Investigations Co. conducted a formal delineation of jurisdictional water bodies on the property located at 735 Chestnut Street, Mount Shasta, California. This report presents the results of the field survey conducted in accordance with the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual to determine which portions of this property may qualify as potentially jurisdictional waters of the United States (including wetlands). USACE is ultimately responsible for determining the limits of their jurisdiction, and this report has been prepared to assist the USACE with their determination. This report also identifies which portions of this property may qualify as potentially jurisdictional waters of the State of California (including isolated wetlands and riparian zones). The State of California is ultimately responsible for determining the limits of their jurisdiction, and this report has also been prepared to assist State agencies with their determination.

The scope of services does not include other services that are not described in this Section, such as formal consultation with governmental agencies, or preparation of permit applications.

1.2 PROJECT LOCATION AND DESCRIPTION

The property is a 1.15-acre parcel (APN 057-112-010) located at 735 Chestnut Street, Mount Shasta in Siskiyou County, California (see Exhibits). The proposed project ("Project") is a residential facility for multi-family housing with parking and ornamental landscaping (see Exhibits). This Project Area utilizes almost all of the parcel. The Study Area was originally defined as the 1.15-acre parcel plus a buffer of about 100 feet and extending to the mid-line of surrounding road rights of way. On behalf of the Client expanding the footprint of the original Study Area, the expanded Aquatic Resource Delineation Study Area consists of 2.44 acres in size.

1.3 REGULATORY SETTING

Real property in California that contains water resources is subject to various federal and state regulations, and activities occurring in these water resources may require permits, licenses, variances, or similar authorization from federal, state and local agencies. Following is a brief, summary of such regulations, as they apply particularly to field delineations of jurisdictional waterbodies.

1.3.1 Federal Regulations

At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. In Section 404 of the CWA, waters of the US are defined as: all waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters (33 CFR Part 328). With non-tidal waters, in the absence of adjacent wetlands, the extent of federal jurisdiction is defined by the ordinary high water mark - the line on the shore established by the fluctuations of water, and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Wetlands are defined as: "…*those areas that are inundated or saturated by surface or ground water 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."* (Federal Register, 1980, 1982).

Any person, firm, or agency planning to alter of work in navigable waterbodies, including the discharge of dredged or fill material, must first obtain authorization from the United States Army Corps of Engineers (USACE). Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) prohibits the obstruction or alteration of navigable waters of the US without a permit from USACE. Section 301 of the Federal Water Pollution Control Act, as amended ("Clean Water Act") prohibits the discharge of pollutants, including dredged or fill material, into waters of the US without a Section 404 permit from USACE (33 USC 1344). If the proposed project involves species (or their habitat) listed under the federal Endangered Species Act of 1973, USACE must initiate consultation with USFWS or National Marine Fisheries Service pursuant to Section 7 (16 USC 1536; 40 CFR Part 402). Wetland features that exhibit vernal pool characteristics may be protected under the federal Endangered Species Act or California Endangered Species Act, because several crustaceans listed as threatened or endangered are dependent upon vernal pool habitat.

Under CWA Section 401, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain certification that the proposed activity will comply with State water quality standards. The applicable Regional Water Quality Control Board must certify that a USACE Section 404 Permit action meets state water quality objectives by issuing a Water Quality Certification. California Department of Fish and Game provides comment on USACE permit actions under the Fish and Wildlife Coordination Act. Under CWA Section 402, any construction project that disturbs at least one acre of land requires enrollment in the State's construction general permitting program under the National Pollutant Discharge Elimination System and implementation of a storm water pollution prevention plan.

The United States Environmental Protection Agency (USEPA) and USACE (2008) issued joint guidance regarding Clean Water Act jurisdiction following the decision in the consolidated cases of Rapanos v. United States and Carabell v. United States. USACE and USEPA will assert jurisdiction over traditional navigable waters, and non-navigable tributaries that have relatively permanent flow, and adjacent wetlands. The agencies will decide jurisdiction on a case-by-case basis for non-navigable tributaries that do not have relatively permanent flow, and adjacent wetlands, based upon significant nexus criteria (Kennedy Test, Scalia Test). The agencies generally will not assert jurisdiction over ditches, swales or other erosional features, or isolated wetlands.

1.3.2 State Regulations

Waters of the State are regulated primarily under the California Water Code and the California Code of Regulations Title 23: Water and Title 27: Environmental Protection. All water features in California, on public and private lands, in both natural and artificial channels, including isolated wetland features and impermanent drainages that are not claimed as waters of the US, are considered waters of the State. Waters of the State are protected under the Porter-Cologne Water Quality Control Act (California Water Code, Division 7: Water Quality) and are regulated by the State Water Resources Control Board (SWRCB) and its 9 Regional Water Quality Control Boards.

All parties proposing to discharge materials that could affect waters of the State must file a report of waste discharge with the appropriate regional board. The regional board will then respond to the report by issuing waste discharge requirements (WDRs) in a public hearing, or by waiving WDRs (with or without conditions) for that proposed discharge. Both of the terms "discharge of waste" and "waters of the State" are broadly defined in the Porter-Cologne Act, such that discharges of waste include fill, any material resulting from human activity (including construction), or any other "discharge" that may directly or indirectly impact waters of the State.

Additional statewide regulations that protect wetlands and riparian areas include the Wetlands Conservation Policy (Executive Order W-59-93), also known as the State's "No Net Loss" Policy for

Wetlands; and the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (State Water Board Resolution No. 2004-0030).

California Fish and Game Code (§1600-1607, 5650F) protects fishery resources by regulating "...*any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake*." California Department of Fish and Wildlife (CDFW) requires notification prior to project commencement, and issuance of a Lake or Streambed Alteration Agreement, if a proposed project will result in the alteration or degradation of waters of the State. The limit of CDFW jurisdiction is currently interpreted to be the "stream zone", defined as "*that portion of the stream channel that restricts lateral movement of water*" and delineated at "*the top of the bank or the outer edge of any riparian vegetation, whichever is more landward*". CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement.

The California Coastal Act requires that most development avoid and buffer wetland resources (California Coastal Commission 2004, 2006). Policies include:

- Section 30231, which requires the maintenance and restoration (if feasible) of the biological productivity and quality of wetlands appropriate to maintain optimum populations of marine organisms and for the protection of human health.
- Section 30233, which limits the filling of wetlands to identified high priority uses, including certain boating facilities, public recreational piers, restoration, nature study, and incidental public services (such as burying cables or pipes). Any wetland fill must be avoided unless there is no feasible less environmentally damaging alternative, and authorized fill must be fully mitigated.

The California Coastal Commission (CCC)'s regulations establish a "one parameter definition" that only requires evidence of 1 of the 3 USACE parameters to establish wetland conditions:

> "*Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats*." (14 CCR Section 13577).

1.4 ENVIRONMENTAL SETTING

The Study Area is located within the High Cascade Range geographic subregion, which is contained within the Cascade Ranges geographic region of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Study Area and vicinity is in Climate Zone 2B – Warmer-Summer Intermountain Climate, defined by long warm summers and chilly winters (Sunset, 2021).

The topography of the Study Area is flat, and may have been made flat by the importation of soil and gravel. The elevation ranges from approximately 3,580 feet to 3,592 feet above mean sea level. Drainage runs west off the parcel in unnamed watercourses which drain into Big Springs Creek, then Browns Lake and Wagon Creek before reaching Lake Siskiyou. The land use of the Study Area are open space. The surrounding land uses include a motel, apartment complex, the Masonic Lodge, private estates and open space.

2.0 METHODOLOGY

The delineation was conducted in accordance with the:

- 1987 Corps of Engineers Wetland Delineation Manual
- 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). U.S. Army Engineer Research and Development Center Environmental Laboratory, Vicksburg, MS. 153 pp.

Methodology followed USACE and USEPA guidelines, and consisted of preliminary data gathering and research, field surveys, digital mapping, and documentation of final boundary determinations.

2.1 PRELIMINARY DATA GATHERING AND SYNTHESIS

Prior to conducting the field delineation the following information sources were reviewed:

- Client's engineering or design drawings (where available);
- United States Geologic Survey (USGS) 7.5-degree minute topographic quadrangle maps and aerial photography;
- United States Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey maps;
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate (Flood Hazard Boundary) Maps;
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory Maps; and
- Any readily-available studies performed previously.

2.2 DETERMINATION PROCEDURES

The purpose of the field determination was to: 1) identify any and all water features that are subject to federal jurisdiction (*i.e.*, waters of the US) within the Study Area; and 2) if present, determine the boundary of each water feature. The entire Study Area was assessed in such a manner as to view all areas to the degree necessary to determine the vegetation community types and the presence or absence of jurisdictional water features. Wetland field determination procedures followed the USACE *Wetlands Delineation Manual* technical guidelines for a Level 2 Routine Field Determination (Environmental Laboratory 1987). Additionally, the appropriate USACE regional supplement was also consulted.

The diagnostic environmental characteristics of hydrophytic vegetation, hydric soils, and wetland hydrology (i.e., 3-parameter approach) were used as the standard for determining if specific areas qualified as wetlands (Environmental Laboratory 1987). A subject area was determined to be a wetland if all 3 requisite characteristics were present; as a general rule, evidence of a minimum of one positive indicator for each parameter must be found in order to make a positive wetland determination.

Hydrophytic vegetation is defined as "...*the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils sufficient in duration to exert a controlling influence on the plant species present*." (Environmental Laboratory 1987). Hydrophytic vegetation indicators included: prevalence of vegetation; majority of dominant plant species are obligate or facultative wetland plants (hydrophytes); morphological or physiological adaptations to saturated soil conditions; and species listed on the *National List of Plant Species that Occur in Wetlands* (USFWS 2006a) and the *Regional List* (Region 10) (USFWS 2006b). This National List divides plant species into categories based upon their frequency of occurrence in wetlands.

These categories are: OBL = Obligate wetland plants that ocur almost always in wetlands under natural conditions (estimated probability greater than 99%); FACW = facultative wetland plants that usually occur in wetlands, but occasionally occur in non-wetlands (estimated probability 67 – 99%); FAC = facultative wetland plants that are equally likely to occur in wetlands or non-wetlands (estimated probability 34 – 66 %); FACU – facultative upland plants that usually occur in non-wetlands, but occasionally are found in wetlands (estimated probability 1 – 33 %); UPL = obligate upland plants that almost always occur in non-wetlands (estimated probability greater than 99%); NI and UNK = insufficient information to determine status; NL = not listed; NA = no agreement by Regional Panel on status; NO = species does not occur in specified region; * (asterisk) indicates tentative assignment; + (positive) or –(negative) sign indicates higher or lower frequency in its category, respectively. During field investigations, the percentage of hydrophytic plant coverage was determined based on the ratio of wetland indicator species coverage present to the total plant coverage present. More than 50 percent of the dominant plant species cover must be FAC, FACW, or OBL to meet the hydrophytic vegetation criterion.

Hydric soils are defined as soils that are "...*formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part*." (Environmental Laboratory 1987). A minimum one week of inundation or 14 consecutive days of saturation during the growing season is a typical requirement. The criteria for establishing the presence of hydric soils vary among different soil types and drainage classes. Hydric soil indicators include evidence of reducing or redoximorphic conditions (including sulfidic odor, organic streaking), gleyed, mottled, or low-chroma soils, iron and manganese concretions, and low dissolved oxygen concentration (aquic moisture regime); organic soils (histosols); or mineral soils saturated and rich in organics (histic epipedon) (NRCS 2006a). Richardson and Vepraskas (2001) present a thorough discussion of wetland soil science. In the absence of visible field indicators, hydric soil conditions may be determined according to two criteria: 1) all dominant plant species have an indicator status of OBL and/or FACW (at least one dominant plant species must be OBL); and 2) areas below the level of ordinary high water are frequently flooded for long duration or very long duration during the growing season and posses and aquic (reducing) moisture regime. Soils are also classified as hydric on non-hydric by NRCS (2006b).

Wetland hydrology "...*encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season*" (Environmental Laboratory 1987). Many factors influence site-specific hydrology, including the precipitation, stratigraphy, topography, soil permeability, and plant cover of the site. In general, inundation or saturation must occur for at least 5 percent of the growing season to qualify as wetland hydrology. The degree of inundation or saturation at the subject site can vary widely from year to year depending on rainfall patterns within the watershed. Primary wetland hydrology indicators include visual observations of inundation or soil saturation, water marks and water-stained leaves, sediment deposits, drift lines, and drainage patterns in wetlands.

Sampling locations were established within potential wetland areas and within adjacent uplands, where present, to determine the boundary of wetlands. At each sampling point, the location was georeferenced using a GPS receiver and marked on an aerial photograph; a numbered pin flag or lathe was placed, where necessary, to assist other surveyors. Information on vegetation, soils, and hydrology was recorded on a USACE *Routine Wetland Determination Data Form*.

Dominant and subdominant plant species in each vegetative stratum (e.g., tree, shrub, forb) that occurred within approximately 5 to 10 feet of the sampling point were identified and recorded, and their wetland indicator status determined. All visible flora observed were recorded in a field notebook, and identified to the lowest possible taxon; a hand lens was used where necessary. When a specimen could not be identified *in situ*, a photograph or voucher specimen (depending upon scientific

permit requirement) was taken and identified later in the laboratory using a dissecting scope where necessary. Taxonomic determinations and nomenclature followed these references: plants—Pavlik (1991), Brenzel (2007), Stuart and Sawyer (2001), Lanner (2002), Baldwin et al. (2012), Calflora (2019), University of California at Berkeley (2019a,b).

Where necessary, a soil pit was dug with a spade to expose at least 16 inches of soil profile, and the sample evaluated for hydric soil indicators. Munsell Soil Color Charts (2000 edition, Gretagmacbeth, Inc.) were used to determine soil matrix and mottle color (hue, value, and chroma), and soil type and particle size was also noted. NRCS (1999) Soil Taxonomy handbook was referenced for soil classification where necessary. Based on the results of the 3-parameter test, the extent of each potential wetland was mapped in the field using a GPS receiver capable of submeter accuracy and/or demarcated on aerial photographs for later "heads-up" digitization. Wetlands and other aquatic habitats were classified using the USFWS "*Classification System for Wetland and Deepwater Habitats*", or "Cowardin class" (Cowardin *et al*., 1979; USFWS 2014). A determination was made whether normal environmental conditions exist; atypical conditions followed a modified procedure described in the USACE Manual (Environmental Laboratory 1987). Geographic analyses, including acreage calculations, were performed using geographical information system software (ArcGIS 10, ESRI, Inc.).

For identification of water features other than wetlands that are subject to federal or State jurisdiction, 2 principal field characteristics were evaluated: 1) the presence of a channel; and 2) the presence of an ordinary high water mark. The ordinary high water mark is defined in 33 CFR Part 329.11 as the line on the shore established by the fluctuations of water, and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Other characteristics were noted, where possible: description of hydrologic feature type, length, approximate discharge volume, gradient, range between low and high water mark, width of riparian vegetation, etc. For determination of whether these water bodies constituted waters of the US, USACE regulations (33 CRF 328) were consulted. Data sheets for these non-wetland water bodies were completed at representative locations and were included in the Appendix.

A joint USEPA/USACE memorandum dated 2008 provided guidance to implementing the Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (hereafter referred to simply as "Rapanos") which addressed the jurisdiction over waters of the United States under the CWA. In Rapanos, the Supreme Court restricted where the federal government can apply the Clean Water Act, specifically by determining whether a wetland or tributary is a "water of the United States." According to USEPA and USACE (2008), jurisdiction will continue to be asserted over "all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide." These waters are referred to as traditional navigable waters. The agencies will also continue to assert jurisdiction over wetlands adjacent to traditional navigable waters, where "adjacent" means "bordering, contiguous, or neighboring." Finding a continuous surface connection is not required to establish adjacency under this definition (USEPA and USACE 2008).

A non-navigable tributary of a traditional navigable water is a non-navigable water body whose waters flow into a traditional navigable water either directly or indirectly by means of other tributaries. Clean Water Act jurisdiction will continue to be held over non-navigable tributaries that are "relatively permanent" – waters that typically (e.g., except due to drought) flow year-round or waters that have a continuous flow at least seasonally (e.g., typically three months). Justice Scalia emphasizes that relatively permanent waters do not include tributaries "*whose flow is 'coming and going at intervals...broken, fitful*.'" Therefore, "relatively permanent" waters do not include ephemeral tributaries which flow only in response to precipitation and intermittent streams which do not typically flow year-round or have continuous flow

at least seasonally (USEPA and USACE 2008). However, CWA jurisdiction over these waters will be evaluated under the significant nexus standard described next.

The agencies will assert jurisdiction over the following types of waters when they have a significant nexus with a traditional navigable water: (1) non-navigable tributaries that are not relatively permanent, (2) wetlands adjacent to non-navigable tributaries that are not relatively permanent, and (3) wetlands adjacent to, but not directly abutting, a relatively permanent tributary (e.g., separated from it by uplands, a berm, dike or similar feature). The agencies will assess the flow characteristics and functions of the tributary itself, together with the functions performed by any wetlands adjacent to that tributary, to determine whether collectively they have a significant nexus with traditional navigable waters. A waterbody possesses the requisite nexus, and thus becomes jurisdictional, if the waterbody, either alone or in combination with similarly situated lands in the region, significantly affects the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable' (USEPA and USACE 2008).

To assist in the interpretation of the Rapanos criteria, the USACE Jurisdictional Determination Form Instructional Guidebook was consulted (USACE and USEPA 2007).

3.0 RESULTS

3.1 FIELD SURVEY AND CONDITIONS

Consulting botanist Tim Nosal, MS. conducted a reconnaissance-level field survey on January 31, 2022. Per an expanded Project Area Dr. G. O. Graening conducted the expanded aquatic resources field assessment on May 20, 2022. A complete coverage, variable-intensity pedestrian survey was performed of the Study Area, modified to account for differences in terrain, vegetation density, and visibility. Sampling points were established at key locations and analyzed for the presence or absence of wetland (or for channels, ordinary high water mark) indicators; these points are documented in the Data Sheets in the Appendix. The results of the analyses of Study Area vegetation, soils, and hydrology are presented in the following sections, followed by the recommended jurisdictional determination.

3.2 VEGETATION

The Study Area contains the following terrestrial vegetation communities: Grassland, Black Cottonwood Forest, and Blackberry Scrub. These vegetation communities are discussed here and are delineated in the Exhibits.

Grassland: The grassland habitat is comprised largely of perennial grasses and annual and perennial herbs. Historic maps indicate that this area was once a wetland. However, the site was altered at some point in the past and the observed soils consist of well-drained gravelly fill material. Plants common in this habitat type include unidentified grasses, Bermuda grass (*Cynodon dactylon*), spearmint (*Mentha spicata*), sweet pea (*Lathyrus latifolius*), red-stemmed filaree (*Erodium cicutarium*), English plantain (*Plantago lanceolata*), sheep sorrel (*Rumex acetosella*), smooth cat's ear (*Hypochaeris glabra*) and various other species. This vegetation can be classified as the Holland Type "Non-native Grassland."

Black Cottonwood Forest: The northwestern portion of the Study Area is characterized by a dense canopy of mature trees. The forest vegetation consists of black cottonwood (*Populus angustifolia*) with occasional water birch (*Betula occidentalis*) and incense cedar (*Calocedrus decurrens*). The shrub layer within the forest is dominated by Himalayan blackberry (*Rubus armeniacus*) with an understory of sweet pea, periwinkle (*Vinca major*), common rush (*Juncus*

effusus), horsetail (*Equisetum* sp.) and other grasses and herbs. A small creek is found just outside of the northwestern parcel boundary. The segment of forest found adjacent to this creek has wetland soils. The forested habitat within the Study Area can be classified as the Holland Type "Montane Black Cottonwood Riparian Forest" or as "61.120.00 Black Cottonwood Forest and Woodland (CDFW 2022e).

Blackberry Scrub: Narrow bands of blackberry scrub were observed along the margins of the Study Area. The composition of the scrub vegetation includes Himalayan blackberry, water birch, willow (Salix sp.), California rose (*Rosa californica*), sweet pea, rush, Fuller's teasel (*Dipsacus fullonum*), common mullein (*Verbascum thapsus*) and broad-leaved cattail (*Typha latifolia*). Most of the blackberry scrub is underlain by wetland soils. This vegetation can be classified as the Holland Type "Great Valley Riparian Scrub" or as "63-906.01 Himalayan Blackberry Riparian Scrub" (CDFW 2021)".

Riparian vegetation is mapped in the Exhibits. Obligate wetland plants are present within the Study Area.

Plants Observed at 735 Chestnut Street, Mount Shasta in January, April, and May 2022

Common Name	**Scientific Name**
California dandelion	*Agoseris grandiflora ssp. grandiflora*
Bentgrass	*Agrostis sp.*
Foxtail	*Alopecurus sp.*
Water birch	*Betula occidentalis*
Rescue brome	*Bromus catharticus*
Incense cedar	*Calocedrus decurrens*
Mountain whitethorn	*Ceanothus cordulatus*
Chicory	*Cichorium intybus*
Red stemmed miner's lettuce	*Claytonia rubra*
Red osier dogwood	*Cornus sericea*
Douglas' hawthorn	*Crataegus douglasii*
Bermuda grass	*Cynodon dactylon*
Scotch broom	*Cytisus scoparius*
Orchard grass	*Dactylis glomerata*
Fuller's teasel	*Dipsacus fullonum*
Whitlow grass	*Draba verna*
Sticky cinquefoil	*Drymocallis glandulosa*
Slender wheatgrass	*Elymus trachycaulus*
Willowherb	*Epilobium sp.*
Horsetail	*Equisetum sp.*
Red-stemmed filaree	*Erodium cicutarium*
White stem filaree	*Erodium moschatum*
Rattail sixweeks grass	*Festuca myuros*
Fescue	*Festuca sp.*
Bedstraw	*Galium aparine*
Shortpod mustard	*Hirschfeldia incana*
Jagged chickweed	*Holosteum umbellatum*
Meadow barley	*Hordeum brachyantherum*
Klamath weed	*Hypericum perforatum*
Smooth cat's-ear	*Hypochaeris glabra*
Common rush	*Juncus effusus*
Rush	*Juncus sp.*
Prickly lettuce	*Lactuca serriola*
Henbit	*Lamium amplexicaule*
Purple dead nettle	*Lamium purpureum*
Sweet pea	*Lathyrus latifolius*
Hawkbit	*Leontodon saxatilis*
Field pepperweed	*Lepidium campestre*
Purpleflower honeysuckle	*Lonicera conjugialis*
Bird's-foot trefoil	*Lotus corniculatus*
Sweetclover	*Melilotus sp.*
Spearmint	*Mentha spicata*

Common Name	**Scientific Name**
Slender phlox	*Microsteris gracilis*
Small-flowered evening primrose	*Oenothera biennis*
Timothy grass	*Phleum pratense*
Ponderosa pine	*Pinus ponderosa*
English plantain	*Plantago lanceolata*
Bulbous bluegrass	*Poa bulbosa*
Knot grass	*Polygonum arenastrum*
Black cottonwood	*Populus trichocarpa*
Cherry plum	*Prunus cerasifera*
Cudweed	*Pseudognaphalium sp.*
Buttercup	*Ranunculus sp.*
White-stemmed gooseberry	*Ribes inerme*
California rose	*Rosa californica*
Himalayan blackberry	*Rubus armeniacus*
Sheep sorrel	*Rumex acetosella*
Willow	*Salix sp.*
Bouncing bet	*Saponaria officinalis*
Goldenrod	*Solidago sp.*
Douglas spirea	*Spirea douglasii*
Aster	*Symphyotrichum sp.*
Dandelion	*Taraxacum officinale*
Salsify	*Tragopogon sp.*
Hop clover	*Trifolium dubium*
Clover	*Trifolium sp.*
Broad leaf cattail	*Typha latifolia*
Common mullein	*Verbascum thapsus*
Bird’s-eye speedwell	*Veronica persica*
Vetch	*Vicia sp.*
Periwinkle	*Vinca major*

3.3 SOIL TYPES

Digital soil survey maps from NRCS' SSURGO 2.2 Database were consulted for this study (NRCS 2017), and mapped soil units occurring within the Study Area are as follows:

- #138: Diyou loam, peat substratum (459047), wet meadow, Fluvaquentic Haploxerolls, somewhat poorly drained, Hydric: Yes

Mapped soil units within the Study Area were found to be designated "hydric" by NRCS. NRCS provides this disclaimer: "*Lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but they are not a substitute for observations made during on-site investigations*." (http://soils.usda.gov/use/hydric/overview.html). From our test pits, upland soils have a yellow-brown color (Munsell matrix color 2.5Y 5/3), with no mottles, and a texture of sandy loam transitioning to hardpan, and very dry. In contrast, wetlands soils have a very dark brown color (Munsell matrix color 2.5Y 5/3), but with little mottling, and a loamy or peaty texture transitioning into greater clay content and organics and resulting darker colors, and saturated.

3.4 HYDROLOGY

The topography of the Study Area is flat, and has been made flat by the importation of soil and gravel. The general direction of surface runoff in the Study Area is to the south (see Exhibits). Drainage from this region flows to a municipal storm sewer system, which then flows into Big Springs Creek, then Browns Lake and Wagon Creek before reaching Lake Siskiyou. Annual precipitation is over 40 inches per year (Western Regional Climate Center 2019).

According to the FEMA Flood Hazard Boundary Map of the region, the property is not located within a flood zone. Because wetlands often occur within floodplains, these FEMA Flood Hazard Boundary Maps may assist the delineator in determining if wetland hydrology exists within the Study Area.

3.5 NATIONAL WETLANDS INVENTORY / PREVIOUS DELINEATIONS

No previously published wetland delineation reports were identified through background research or provided by the Client. The USFWS National Wetland Inventory (NWI) digital maps of the Study Area were also consulted. Regional mapped wetland features are shown in the Exhibits, where illustrative. Some NWI wetlands were mapped within the Study Area. Adjacent properties have mapped wetland features as well. Note, however, that this database was not used to conclude that a wetland was present or absent in the Study Area.

3.6 DELINEATION RESULTS AND JURISDICTIONAL RECOMMENDATIONS

All hydrologic features were identified and mapped within the Study Area, and subjected to the delineation criteria set forth by each regulatory agency. These features are summarized in the following tables and mapped in the Exhibits. This map has not been verified by USACE or SWRCB, and thus represents an unofficial demarcation of the potential limits of jurisdiction. Various survey points were established for the delineation of this Study Area, and corresponding data sheets can be found in the Appendix.

Seven aquatic resource features were identified:

Channel #Ch1
intermittent stream; OHWM 1 to 4 feet in width, 2 to 3 inches deep; channelized along fenceline; drains a wet meadow upgradient; flows into a corrugated metal pipe culvert (municipal stormwater

system); surrounded by a riverine wetland (Wetland #W1). Vegetation in the channel was mostly lacking, but some horsetail was present. The overstory was alder and willow and berry brambles.

Channel #Ch2
intermittent stream; OHWM 1 to 2 feet in width, 1 to 3 inches deep; channelized; originates from a corrugated plastic pipe and flows into a vertical corrugated metal pipe (drop inlet; municipal stormwater system); surrounded by a riverine wetland (Wetland #W3). Vegetation in the channel was mostly lacking, but some horsetail was present. Vegetation in the channel and surrounding wetland consists of black cottonwood, birch, dogwood, horsetail, wild rose, curly dock, spearmint, and berry brambles.

Wetland #W1
riverine seasonal marsh; 0.040 acre; surrounds intermittent channel #Ch1; dominated by berry brambles.

Wetland #W2
isolated, palustrine seasonal marsh; 0.001 acre; dominated by berry brambles and cattails.

Wetland #W3
palustrine forested (black cottonwood) wetland and seasonal marsh; 0.034 acre; surrounds intermittent channel #Ch2. Vegetation in the wetland and associated riparian habitat consists of black cottonwood, birch, dogwood, horsetail, wild rose, curly dock, spearmint, and berry brambles.

Wetland #Ditch1
isolated, palustrine blackberry scrub (a linear depression in a wet meadow); 0.008 acre; may or may not flow into a drop inlet (municipal stormwater system); dominated by berry brambles.

Wetland #Ditch2
isolated, palustrine blackberry scrub (a linear depression in a wet meadow); 0.008 acre; flows into a drop inlet (municipal stormwater system); dominated by berry brambles.

No other channels or wetlands were detected within the Study Area. No other data points / test pits gave indications of channel indicators or hydric soils, and hydrophytes were generally lacking.

Aquatic Resources Classification			Aquatic Resource Size			
Resource Name	**Cowardin**	**Location (Lat/Long)**	**(sq. ft.)**	**(acre)**	**length (ft)**	**width (ft)**
Channels						
Ch1	R4SB6	41.31818,-122.31631	584	0.013	220	1 to 4
Ch2	R4SB6	41.31866,-122.31742	310	0.007	180	1 to 2
		Total Channels	**894**	**0.021**	**400**	
Wetlands						
W1	R4SB7	41.31818,-122.31631	1756	0.040		
W2	PFO6	41.31850,-122.31679	39	0.001		
W3	R4SB7	41.31866,-122.31742	1472	0.034		
Ditch 1	PSS3	41.31824,-122.31719	354	0.008		
Ditch 2	PSS3	41.31774,-122.31657	334	0.008		
		Total Wetlands	**3955**	**0.091**		

3.6.1 Water Resources Potentially Subject to Federal Jurisdiction

All identified hydrologic features were subjected to the 3-parameter test, the Hydrology Criterion (Scalia Test), and the Significant Nexus (Kennedy) Test. Based upon these criteria, the following 4 features within the Study Area were determined to be potentially subject to USACE jurisdiction:

- channel #Ch1 and the associated riverine wetlands #W1
- channel #Ch2 and the associated riverine wetland #W3

These channels could be considered potentially-jurisdictional waters of the US because they have channel indicators and an Ordinary High Water Mark, and may be connected to downstream navigable waters of the US via the City's municipal stormwater sewer system. Furthermore, they meet the Scalia Test of relative permanency because it flows at least 3 months out of the year.

3.6.2 Isolated or Upland Features Not Expected To Be Subject to Federal Regulation

The other wetland features delineated—#W2, Ditch #1, and Ditch#2—are understood not to be jurisdictional (see Exhibits) because they are isolated from downstream navigable waters. They all fail the connectivity criterion. They all fall under the category described by USEPA & USACE (2008) as:

> "*Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) are generally not waters of the United States because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters. In addition, ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water are generally not waters of the United States because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters*."

3.6.3 Water Resources Potentially Subject to State Jurisdiction

All identified hydrologic features were subjected to the 3-parameter test, the broad (and vague) definition of waters of the State as currently enforced by SWRCB, and the "stream zone" as currently enforced by CDFW. Based upon these criteria, the following 7features totaling within the Study Area were determined to be potentially subject to State jurisdiction:

- Channel #Ch1
- Channel #Ch2
- Wetland #W1
- Wetland #W2
- Wetland #W3
- Wetland #Ditch1
- Wetland #Ditch2

Even the isolated wetland features may be subject to State Water Resources Control Board control (via the Porter-Cologne Act). The riparian zones surrounding channels #Ch1 and #Ch2 meet the criteria of the "stream zone" as defined by CDFW and may be protected under Fish and Game Code Section 1600 et seq. (see Exhibits).

3.6.4 Upland Features Not Expected To Be Subject to State Regulation

The rest of the Study Area is not expected to be subject to State regulation.

4.0 IMPACT ANALYSES, MITIGATIONS MEASURES, AND RECOMMENDATIONS

4.1 POTENTIAL PROJECT IMPACTS TO JURISDICTIONAL WATERS

Specific details of a development project were not provided, so the following discussion evaluates the general potential for construction-related activities to adversely affect water resources according to the criteria set forth in Section 2.3. The significance of impacts to water resources and aquatic habitats depends upon the condition of the existing water resources and their proximity to Project-related impacts, whether impacts are temporary or permanent, and the effectiveness of measures implemented to protect these resources from impacts.

Potential direct impacts to water resources could occur during construction by modification or destruction of stream banks or riparian vegetation or the filling of wetlands or channels. Potential indirect impacts to water resources could occur during construction by increased erosion and sedimentation in receiving water bodies due to soil disturbance. Unless project design and implementation can completely avoid and protect the water resources within the Study Area, aquatic permits will need to be obtained and mitigation measures implemented.

4.1.1 Recommended Mitigation Measures

This Aquatic Resources Delineation Report can be submitted to USACE and the applicable RWQCB for verification. If the USACE determines that the mapped water features are subject to their jurisdiction, a CWA Section 404 permit must be obtained, and mitigation performed, before these water features are disturbed or altered. CWA 401 water quality certification from RWQCB will also be necessary if a Section 404 permit is issued. If the sum of affected water resources is less than 0.5 acre, a Nationwide Permit may be obtained from USACE. If the sum of affected water resources is greater than 0.5 acre, a Section 404 Individual Permit must be obtained from USACE. Compliance with all the terms and conditions of the appropriate USACE permit and implementation of compensatory, minimization, and avoidance mitigation would minimize impacts to waters of the US to a less than significant level.

If project implementation requires construction in, or disturbance to, a stream channel or a “stream zone” (e.g., riparian habitat), a California Fish and Game Code Section 1600 Streambed Alteration Agreement with CDFW may be needed before ground disturbance is initiated. CWA 401 water quality certification from the RWQCB may also be necessary if a Streambed Alteration Agreement is formed. This Streambed Alteration Agreement and Water Quality Certification typically require compensatory mitigation for loss of jurisdictional waters. Compliance with all the terms and conditions of the appropriate State permit(s) and implementation of compensatory, minimization, and avoidance mitigation would minimize impacts to waters of the State to a less than significant level.

If the area of disturbance totals 1 acre or more, the landowner and its designated general contractor must enroll under the State Water Quality Control Board’s Construction General Permit prior to the initiation of construction. In conjunction with enrollment under this Permit, a Storm Water Pollution Prevention Plan, Erosion Control Plan, and a Hazardous Materials Management/Spill Response Plan must be created and implemented during construction to avoid or minimize the potential for erosion, sedimentation, or accidental release of hazardous materials. Implementation of these measures mandated by law would reduce potential construction-related impacts to water quality to a less-than-significant level. No mitigation is necessary.

5.0 REFERENCES

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6.0 QUALIFICATIONS OF SURVEYORS AND REPORT PREPARERS

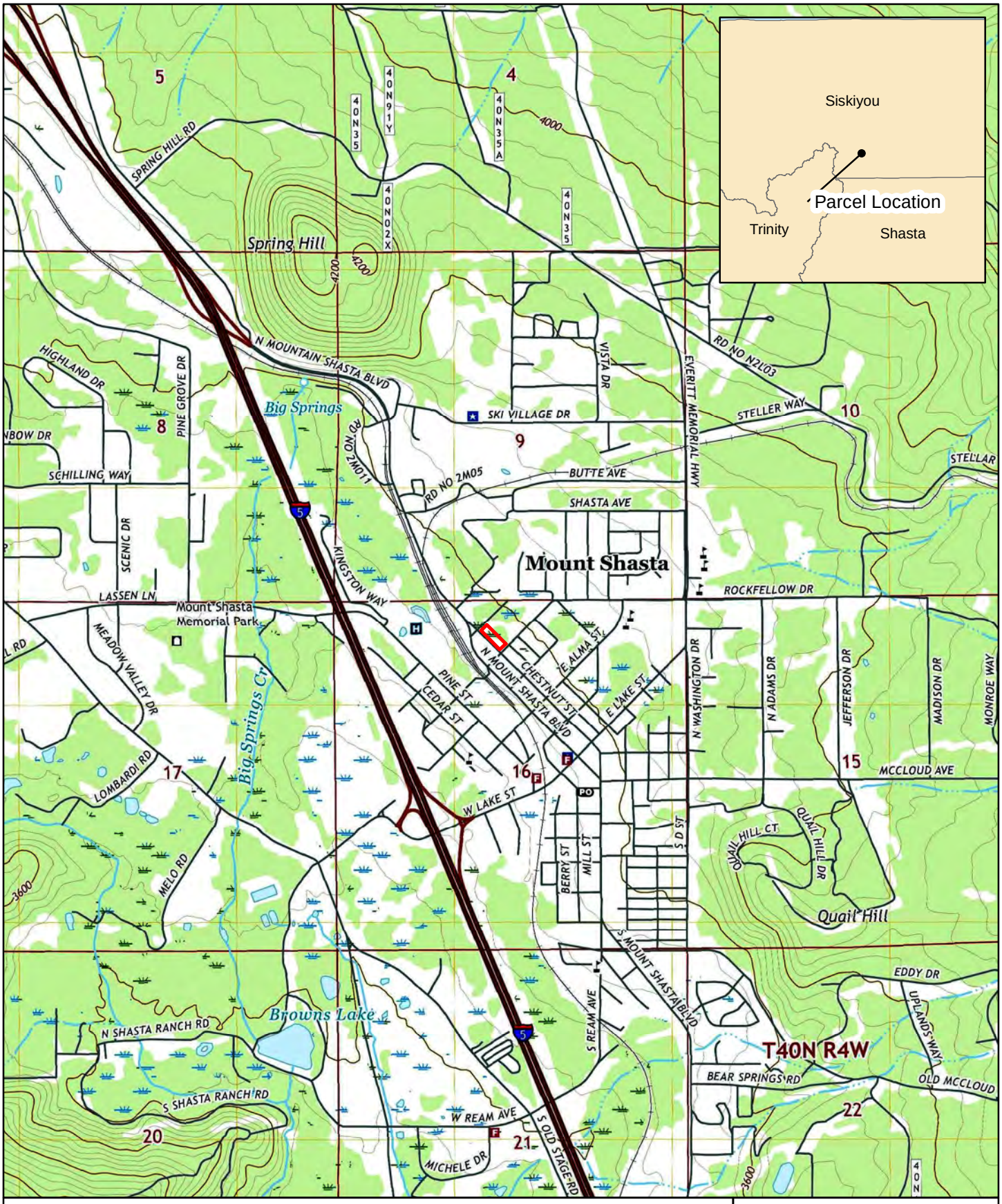
G.O. GRAENING, Ph.D.

G. O. Graening holds a Ph.D. in Biological Sciences and a Master of Science in Biological Engineering, and is a certified arborist (International Society of Arboriculture) and certified professional in storm water quality (EnviroCert Int'l). Dr. Graening has 13 years of experience in environmental assessment and research, including the performance of numerous wetland delineations and aquatic restoration projects. Dr. Graening also serves as an adjunct professor of biology at California State University Sacramento and is an active researcher in the area of conservation biology and groundwater ecology.

TIMOTHY R. D. NOSAL, M.S.

Mr. Nosal holds a B.S. and M.S. in Biological Sciences. Mr. Nosal has statewide experience performing sensitive plant and animal surveys in addition to terrestrial vegetation investigations. Mr. Nosal has over 25 years of experience in botanical surveys, environmental assessment, and teaching with employers that include California Department of Fish and Wildlife, State Water Resources Control Board, American River College, MTI College and Pacific Municipal Consultants. Mr. Nosal has intensive experience with the flora of the Pine Hill region includes leading numerous field trips exploring the botany of the region, co-authoring a fuel management plan for Pine Hill, and a Master's thesis on Stebbins's morning glory (*Calystegia stebbinsii*), an endangered plant of this region.

7.0 EXHIBITS



Study Area

0 1,250 2,500 Feet

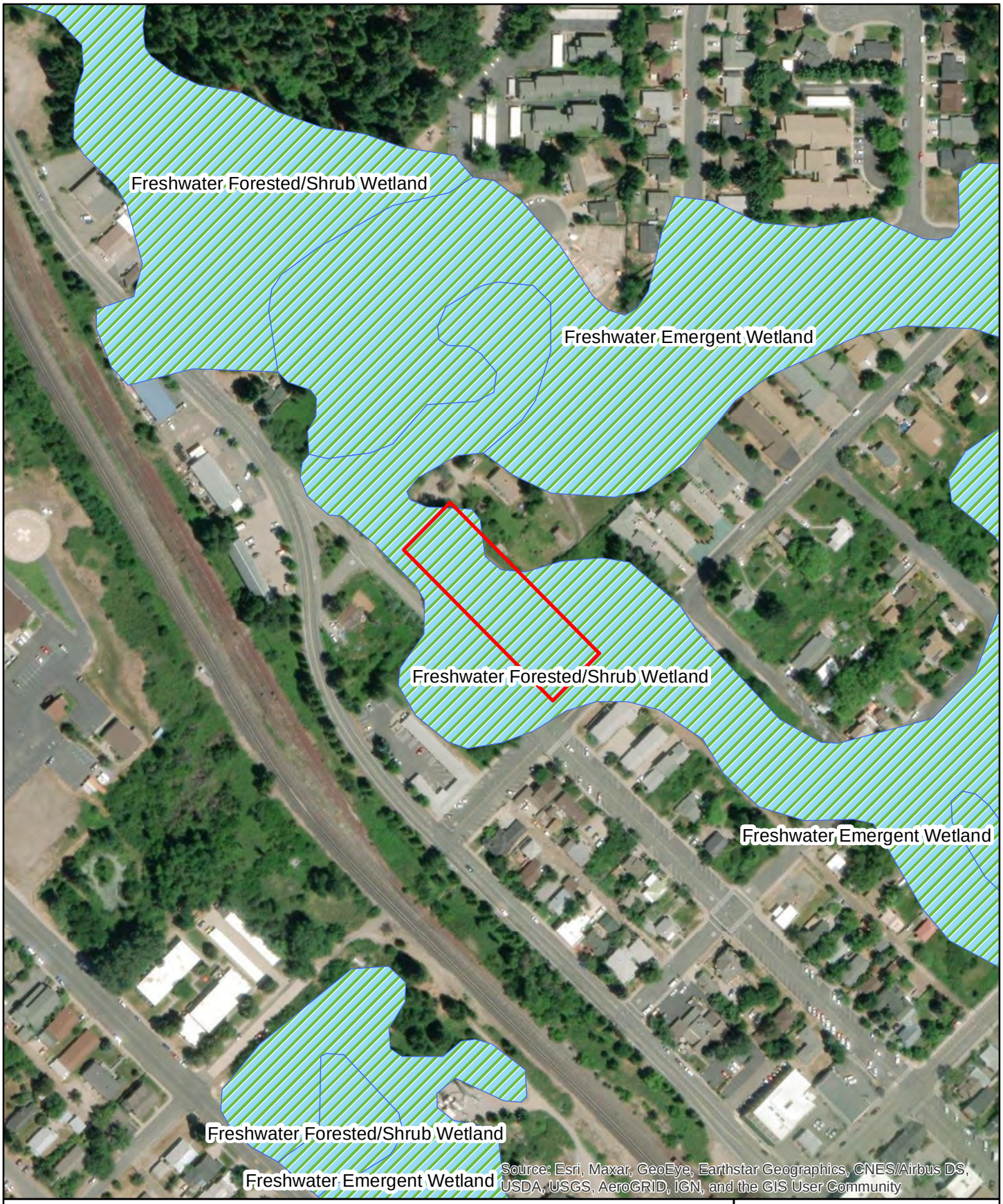
1:24,000

735 Chestnut Street
Parcel Location Map

NATURAL INVESTIGATIONS COMPANY

Map Date 1/25/2022

City of Mount Shasta 2018 Quadrangle:Township 40N, Range 4W, Section 16



Study Area

Wetlands and Channels

0 150 300 Feet

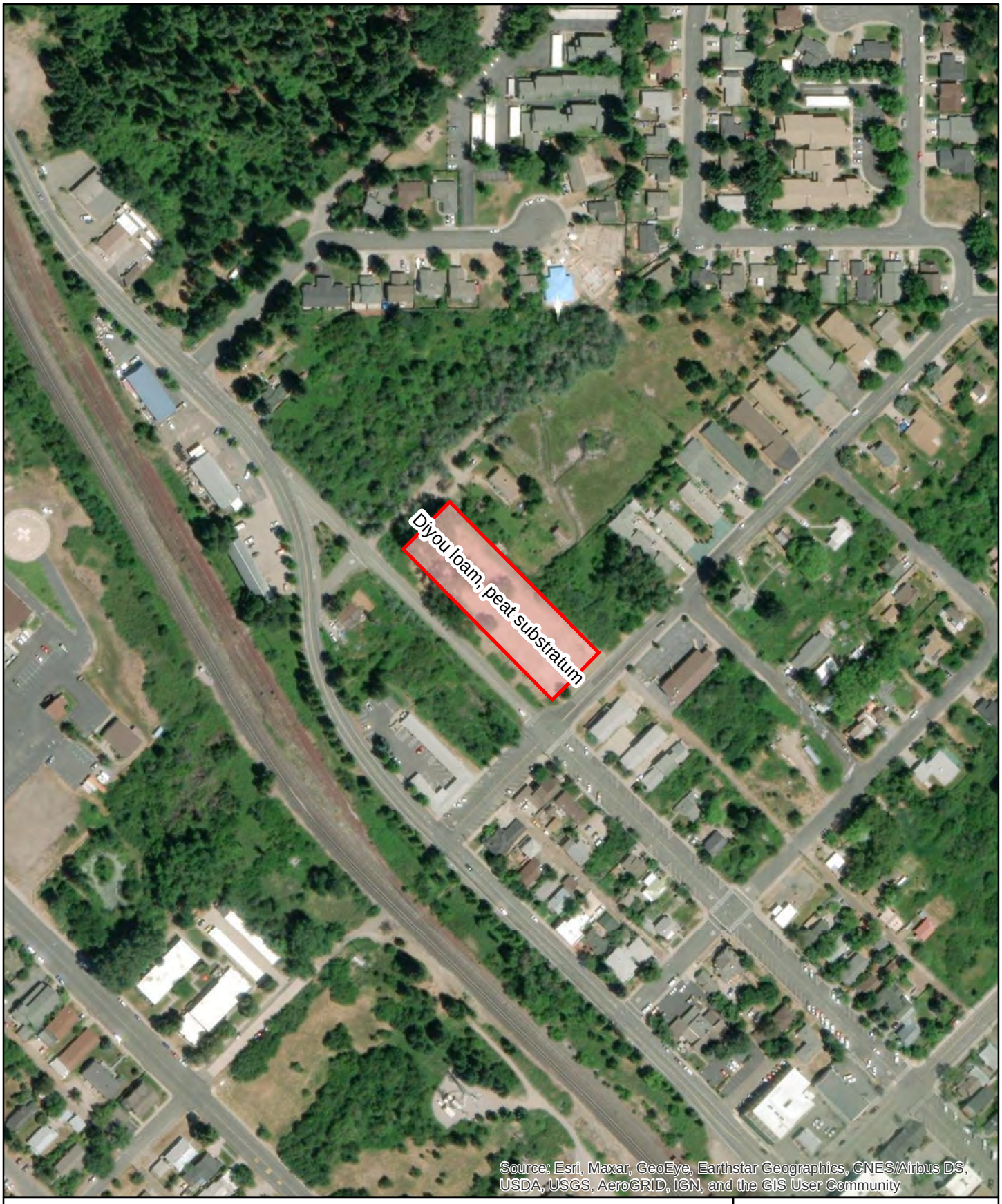
1:3,000

735 Chestnut Street
National Wetlands Inventory
Features Map

Natural Investigations Company

Map Date 1/25/2022

City of Mount Shasta 2018 Quadrangle:Township 40N, Range 4W, Section 16



Study Area

0 150 300 Feet

1:3,000

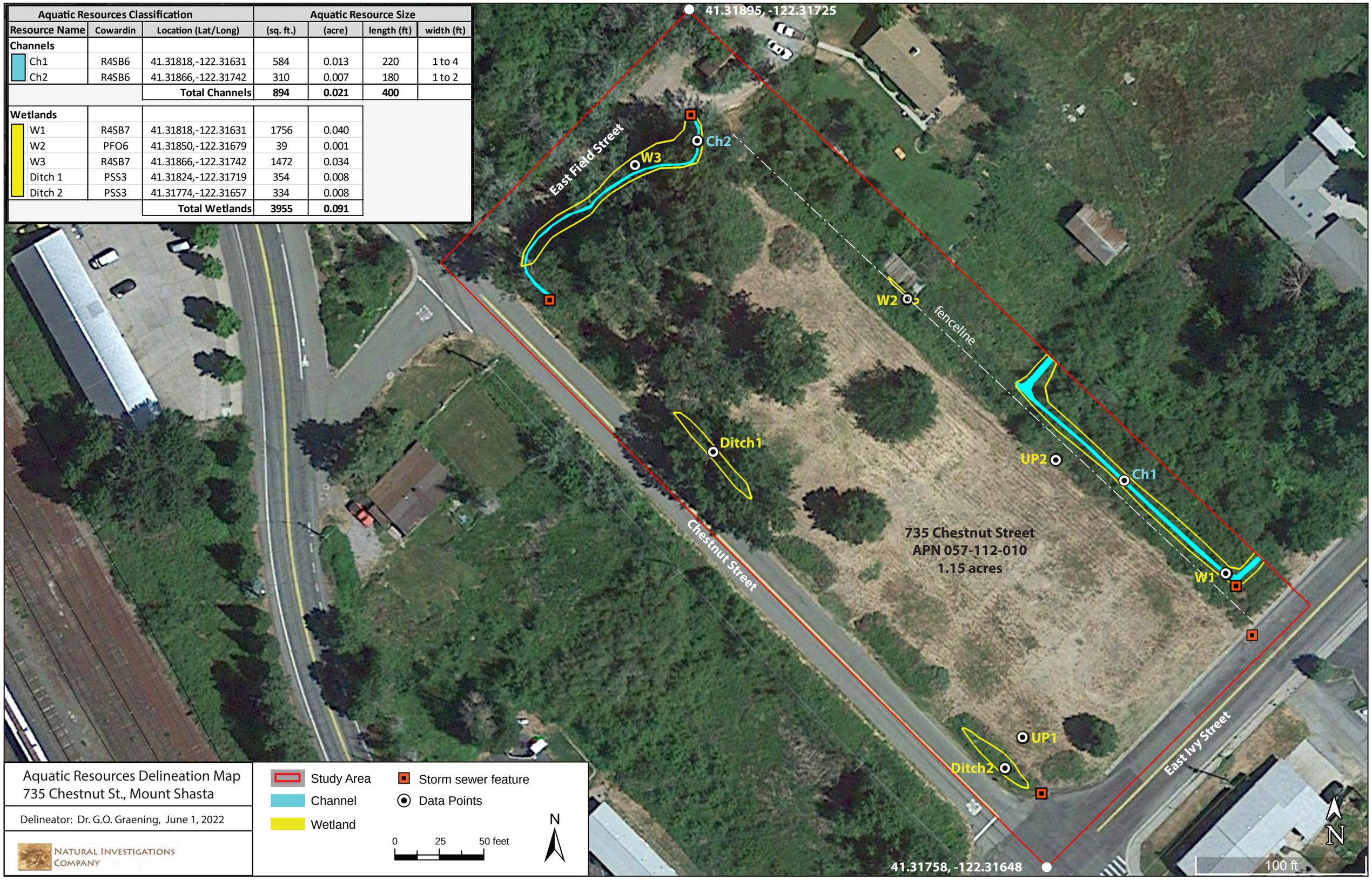
735 Chestnut Street
USDA Soils Map

Natural Investigations Company

Map Date 1/25/2022

City of Mount Shasta 2018 Quadrangle:Township 40N, Range 4W, Section 16

Aquatic Resources Classification			Aquatic Resource Size			
Resource Name	Cowardin	Location (Lat/Long)	(sq. ft.)	(acre)	length (ft)	width (ft)
Channels						
Ch1	R4SB6	41.31818,-122.31631	584	0.013	220	1 to 4
Ch2	R4SB6	41.31866,-122.31742	310	0.007	180	1 to 2
		Total Channels	**894**	**0.021**	**400**	
Wetlands						
W1	R4SB7	41.31818,-122.31631	1756	0.040		
W2	PFO6	41.31850,-122.31679	39	0.001		
W3	R4SB7	41.31866,-122.31742	1472	0.034		
Ditch 1	PSS3	41.31824,-122.31719	354	0.008		
Ditch 2	PSS3	41.31774,-122.31657	334	0.008		
		Total Wetlands	**3955**	**0.091**		



Aquatic Resources Delineation Map
735 Chestnut St., Mount Shasta

Delineator: Dr. G.O. Graening, June 1, 2022

Natural Investigations Company

Study Area
Channel
Wetland
Storm sewer feature
Data Points

0 25 50 feet

N

8.0 APPENDIX A – WETLAND DELINEATION FIELD DATA SHEETS

DATA FORM - ROUTINE WETLAND DETERMINATION

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: California
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community:
Sample Plot: W1

VEGETATION

Tree stratum	% Cover	Dominant?	Indicator status
Betula			
Salix	20	Y	OBL

Shrub stratum	% Cover	Dominant?	Indicator status
Rubus			FACW
Rosa			FAC

Hebaceous stratum	% Cover	Dominant?	Indicator status
Equisetum	25	Y	OBL

Percent of dominant species that are OBL, FACW, or FAC (excluding FAC-): 2 of 2 = 100 %

Comments:

HYDROLOGY

Depth of surface water: 1-3"
Depth to free water in pit: –
Depth to saturated soil: –

Primary Indicators:		Secondary Indicators:	
✓	Inundated		Oxidized rhizosphere in upper 12 in.
✓	Saturated in upper 12 in.		
	Water marks	✓	Water-stained leaves
	Drift lines		Local soil survey data
	Sediment deposits		FAC neutral test
✓	Drainage patterns in wetlands		Other

Comments:

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls
Matches Profile? Only where fill dirt is not present
Drainage Class: somewhat poorly drained

Depth	Matrix Color	Mottle Color	Mottle Abundance, Size, Contrast	Soil Texture
0-10	10YR 2/1			peat, clay, loam

	Histol	✓	Reducing conditions (test)	✓	Gleyed
	Histic epipedon	✓	High organic content surface layer	✓	Organic streaking
	Sulfidic odor		Redox concentrations (w/in 10")		Organic pan
	Probable aquic moisture regime		Concretions (w/in 3", >2mm)	Yes	On hydric soils list

Comments:

WETLAND DETERMINATION

Hydrophytic Vegetation? Yes
Hydric Soils? Yes
Wetland Hydrology? Yes

Is this sample plot within a wetland? Yes

Comments:

DATA FORM - ROUTINE WETLAND DETERMINATION

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: California
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community:
Sample Plot: WW2

VEGETATION

Tree stratum	% Cover	Dominant?	Indicator status
Betula			

Shrub stratum	% Cover	Dominant?	Indicator status
Dipsacus	5		OBL
Typha	30	Y	OBL
Rubus	20	Y	FACW

Hebaceous stratum	% Cover	Dominant?	Indicator status
Various grasses		N	FAC

Percent of dominant species that are OBL, FACW, or FAC (excluding FAC-): 2 of 2 = 100 %

Comments:

HYDROLOGY

Depth of surface water: 2"
Depth to free water in pit: 0"
Depth to saturated soil: 0"

Primary Indicators:		Secondary Indicators:	
✓	Inundated		Oxidized rhizosphere in upper 12 in.
✓	Saturated in upper 12 in.		
	Water marks		Water-stained leaves
✓	Drift lines		Local soil survey data
✓	Sediment deposits		FAC neutral test
	Drainage patterns in wetlands		Other

Comments:

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls
Matches Profile? Only where fill dirt is not present
Drainage Class: somewhat poorly drained

Depth	Matrix Color	Mottle Color	Mottle Abundance, Size, Contrast	Soil Texture
0-10	10YR 2/1			peat, clay, loam

	Histol	✓	Reducing conditions (test)		Gleyed
	Histic epipedon	✓	High organic content surface layer	✓	Organic streaking
	Sulfidic odor		Redox concentrations (w/in 10")	✓	Organic pan
	Probable aquic moisture regime		Concretions (w/in 3", >2mm)	Yes	On hydric soils list

Comments:

WETLAND DETERMINATION

Hydrophytic Vegetation? Y
Hydric Soils? Y
Wetland Hydrology? Y

Is this sample plot within a wetland? Yes

Comments:

DATA FORM - ROUTINE WETLAND DETERMINATION

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: California
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community: Riparian
Sample Plot: WET 3

VEGETATION

Tree stratum	% Cover	Dominant?	Indicator status
Populus			
Cornus			
Salix			

Shrub stratum	% Cover	Dominant?	Indicator status
Rosa			

Hebaceous stratum	% Cover	Dominant?	Indicator status
Rumex			
Equisetum	30	Y	OBL

Percent of dominant species that are OBL, FACW, or FAC (excluding FAC-): 1 of 1 = 100 %

Comments:

HYDROLOGY

Depth of surface water: 0 - 1"
Depth to free water in pit: 0"
Depth to saturated soil: 0"

Primary Indicators:		Secondary Indicators:	
	Inundated		Oxidized rhizosphere in upper 12 in.
✓	Saturated in upper 12 in.		
	Water marks	✓	Water-stained leaves
	Drift lines		Local soil survey data
✓	Sediment deposits		FAC neutral test
✓	Drainage patterns in wetlands		Other

Comments:

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls
Matches Profile? Only where fill dirt is not present
Drainage Class: somewhat poorly drained

Depth	Matrix Color	Mottle Color	Mottle Abundance, Size, Contrast	Soil Texture
0-6	10YR 2/1			Peat, clay, loam
6				hardpan / cobble

	Histol		Reducing conditions (test)		Gleyed
	Histic epipedon	✓	High organic content surface layer		Organic streaking
	Sulfidic odor		Redox concentrations (w/in 10")	✓	Organic pan
✓	Probable aquic moisture regime		Concretions (w/in 3", >2mm)	Yes	On hydric soils list

Comments:

WETLAND DETERMINATION

Hydrophytic Vegetation? Y
Hydric Soils? Y
Wetland Hydrology? Y

Is this sample plot within a wetland? Yes

Comments:

DATA FORM - ROUTINE WETLAND DETERMINATION

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: California
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community:
Sample Plot: Ditch 1

VEGETATION

Tree stratum	% Cover	Dominant?	Indicator status
Populus	10	N	

Shrub stratum	% Cover	Dominant?	Indicator status
Rubus	90	Y	OBL

Hebaceous stratum	% Cover	Dominant?	Indicator status

Percent of dominant species that are OBL, FACW, or FAC (excluding FAC-): 1 of 1 = 100 %

Comments:

HYDROLOGY

Depth of surface water: _____
Depth to free water in pit: _____
Depth to saturated soil: _____

Primary Indicators:		Secondary Indicators:	
	Inundated		Oxidized rhizosphere in upper 12 in.
	Saturated in upper 12 in.		
	Water marks		Water-stained leaves
	Drift lines		Local soil survey data
	Sediment deposits		FAC neutral test
	Drainage patterns in wetlands		Other

Comments:

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls
Matches Profile? Only where fill dirt is not present
Drainage Class: somewhat poorly drained

Depth	Matrix Color	Mottle Color	Mottle Abundance, Size, Contrast	Soil Texture
0-8	10YR 2/1			peat loam

	Histol	✓	Reducing conditions (test)		Gleyed
	Histic epipedon		High organic content surface layer		Organic streaking
	Sulfidic odor		Redox concentrations (w/in 10")	✓	Organic pan
	Probable aquic moisture regime		Concretions (w/in 3", >2mm)	Yes	On hydric soils list

Comments:

WETLAND DETERMINATION

Hydrophytic Vegetation? _____
Hydric Soils? _____
Wetland Hydrology? _____

Is this sample plot within a wetland? _____

Comments:

DATA FORM - ROUTINE WETLAND DETERMINATION

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: California
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community:
Sample Plot: Ditch 2

VEGETATION

Tree stratum	% Cover	Dominant?	Indicator status

Shrub stratum	% Cover	Dominant?	Indicator status
Typha	20	Y	OBL
Rubus	60	Y	OBL

Hebaceous stratum	% Cover	Dominant?	Indicator status
grasses	10		FAC

Percent of dominant species that are OBL, FACW, or FAC (excluding FAC-): 2 of 2 = 100 %

Comments:

HYDROLOGY

Depth of surface water: 0
Depth to free water in pit: 2"
Depth to saturated soil: 1"

Primary Indicators:		Secondary Indicators:	
	Inundated		Oxidized rhizosphere in upper 12 in.
✓	Saturated in upper 12 in.		
	Water marks	✓	Water-stained leaves
	Drift lines		Local soil survey data
✓	Sediment deposits		FAC neutral test
	Drainage patterns in wetlands		Other

Comments: in ditch near drop inlet

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls

Matches Profile? Only where fill dirt is not present
Drainage Class: somewhat poorly drained

Depth	Matrix Color	Mottle Color	Mottle Abundance, Size, Contrast	Soil Texture
0-6	10YR 2/1			peat loam
6+				clay

	Histol	✓	Reducing conditions (test)		Gleyed
	Histic epipedon	✓	High organic content surface layer		Organic streaking
	Sulfidic odor		Redox concentrations (w/in 10")		Organic pan
	Probable aquic moisture regime		Concretions (w/in 3", >2mm)	Yes	On hydric soils list

Comments:

WETLAND DETERMINATION

Hydrophytic Vegetation? Y
Hydric Soils? Y
Wetland Hydrology? Y

Is this sample plot within a wetland? YES

Comments:

DATA FORM - ROUTINE WETLAND DETERMINATION

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: California
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community:
Sample Plot: UP1

VEGETATION

Tree stratum	% Cover	Dominant?	Indicator status
n/a			

Shrub stratum	% Cover	Dominant?	Indicator status
n/a			

Hebaceous stratum	% Cover	Dominant?	Indicator status
Lathyrus lat.	10	N	FACU
Bromus	20	N	FACU
Festuca myuros	40	Y	FACU

Percent of dominant species that are OBL, FACW, or FAC (excluding FAC-): 0 of _____ = _____ %

Comments:

HYDROLOGY

Depth of surface water: n/a
Depth to free water in pit: n/a
Depth to saturated soil: >6"

Primary Indicators:		Secondary Indicators:	
	Inundated		Oxidized rhizosphere in upper 12 in.
	Saturated in upper 12 in.		
	Water marks		Water-stained leaves
	Drift lines		Local soil survey data
	Sediment deposits		FAC neutral test
	Drainage patterns in wetlands		Other

Comments:

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls
Matches Profile? Only where fill dirt is not present
Drainage Class: somewhat poorly drained

Depth	Matrix Color	Mottle Color	Mottle Abundance, Size, Contrast	Soil Texture
0-5	2.5Y 5/3	n/a	n/a	sandy loam
5+	2.5Y 5/3	n/a		hardpan

	Histol		Reducing conditions (test)		Gleyed
	Histic epipedon		High organic content surface layer		Organic streaking
	Sulfidic odor		Redox concentrations (w/in 10")		Organic pan
	Probable aquic moisture regime		Concretions (w/in 3", >2mm)	Yes	On hydric soils list

Comments: imported fill present

WETLAND DETERMINATION

Hydrophytic Vegetation? No
Hydric Soils? No
Wetland Hydrology? No

Is this sample plot within a wetland? No

Comments:

DATA FORM - ROUTINE WETLAND DETERMINATION

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: California
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community:
Sample Plot: UP 2

VEGETATION

Tree stratum	% Cover	Dominant?	Indicator status
n/a			

Shrub stratum	% Cover	Dominant?	Indicator status
n/a			

Hebaceous stratum	% Cover	Dominant?	Indicator status
Festuca myuros	50	Y	FACU
Bromus		N	FACU
Lathyrus		N	FACU

Percent of dominant species that are OBL, FACW, or FAC (excluding FAC-): 0 of _____ = _____ %

Comments:

HYDROLOGY

Depth of surface water: n/a
Depth to free water in pit: n/a
Depth to saturated soil: >8

Primary Indicators:		Secondary Indicators:	
	Inundated		Oxidized rhizosphere in upper 12 in.
	Saturated in upper 12 in.		
	Water marks		Water-stained leaves
	Drift lines		Local soil survey data
	Sediment deposits		FAC neutral test
	Drainage patterns in wetlands		Other

Comments:

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls
Matches Profile? Only where fill dirt is not present
Drainage Class: somewhat poorly drained

Depth	Matrix Color	Mottle Color	Mottle Abundance, Size, Contrast	Soil Texture
0-8	2.5YR 4/4	n/a		sandy loam
8+	2.5YR 4/5	n/a		to hardpan

	Histol		Reducing conditions (test)		Gleyed
	Histic epipedon		High organic content surface layer		Organic streaking
	Sulfidic odor		Redox concentrations (w/in 10")		Organic pan
	Probable aquic moisture regime		Concretions (w/in 3", >2mm)	Yes	On hydric soils list

Comments: imported fill present

WETLAND DETERMINATION

Hydrophytic Vegetation? No
Hydric Soils? NO
Wetland Hydrology? No

Is this sample plot within a wetland? No

Comments:

DATA SHEET - ROUTINE DETERMINATION: NON-WETLAND WATERS OF US

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: Calfornia
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community: riparian
Sample Plot: SH 1

VEGETATION

Species	% Cover	Dominant?	Indicator Status		Species	% Cover	Dominant?	Indicator Status
Betula								
Salix								
Rubus	60	Y	FACW					
Cornus								
Equisetum								

Width of Riparian Vegetation: 1 to 10 feet

Comments/Notes:

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls
Drainage Class: somewhat poorly drained
Matches Profile? y/n
On hydric soil list? yes
Only where fill dirt is not present

Comments/Notes:

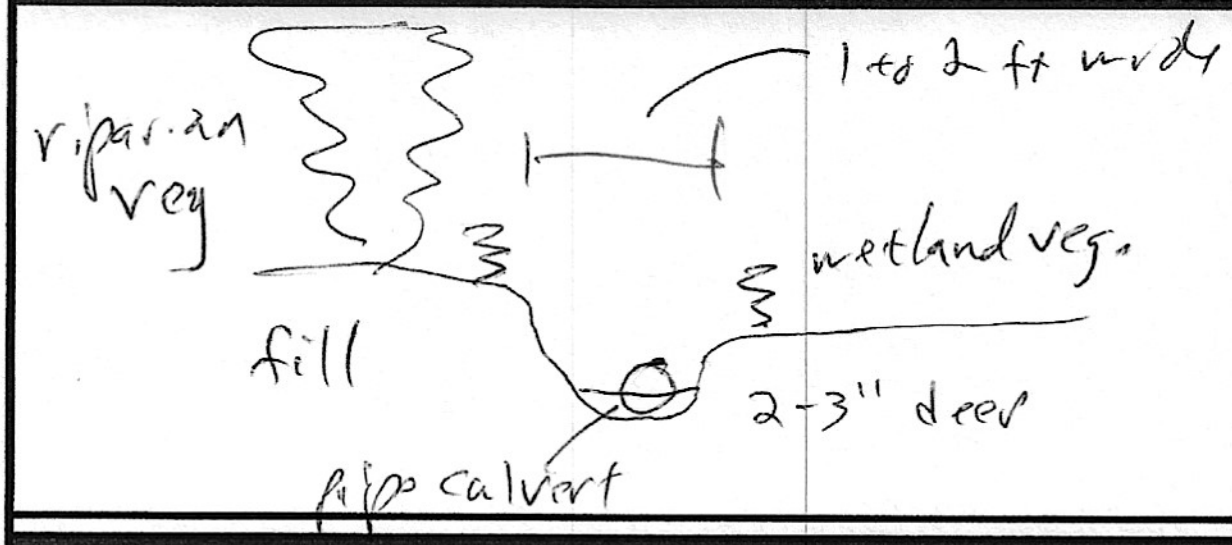
HYDROLOGY

Is water present? yes
Depth of surface water: 2-3"
Flow rate:
Or depth to saturated soil:
Is a channel present? yes
Channel width: 1 to 24 feet

Ordinary High Water Mark Indicators Present:			
✓	Inundated		
	Shelving		Destruction of vegetation
✓	Water marks / stained leaves		Exposed cobble / bedrock
	Drift lines	✓	Litter/debris present
	Sediment deposits		Recent bank erosion

Comments/Notes: flows to pipe culvert.

SKETCH OF CHANNEL CROSS-SECTION



WATERS OF THE US DETERMINATION

OHWM Present? Yes
Hydrophytic Vegetation? Yes
Wetland Hydrology? Yes

Is this feature a potential Waters of the US? Yes

Comments/Notes:

DATA SHEET - ROUTINE DETERMINATION: NON-WETLAND WATERS OF US

Project ID: Housing development at 735 Chestnut St, Mt. Shasta
Client: AEI Consultants
Investigator: Dr. Geo Graening
Do normal circumstances exist on the site? no: fill present
Is it an atypical situation? no
Is the area a potential problem area? no

Date: 24-May-2022
State: Calfornia
County: Siskiyou
Township, Range, Section: T40N, R4W, S16
Plant Community: riparian
Sample Plot: CH 2

VEGETATION

Species	% Cover	Dominant?	Indicator Status		Species	% Cover	Dominant?	Indicator Status
Cornus					Rumex			OBL
Populus	25	Y	FACW					
Salix			OBL					
Equisetum	20	Y	OBL					
Rosa								

Width of Riparian Vegetation: 10 to 50 feet

Comments/Notes:

SOILS

Mapped Soil Unit: #138: Diyou loam, peat substratum
Taxonomy: Fluvaquentic Haploxerolls
Drainage Class: somewhat poorly drained
Matches Profile? y/n On hydric soil list? yes
Only where fill dirt is not present

Comments/Notes:

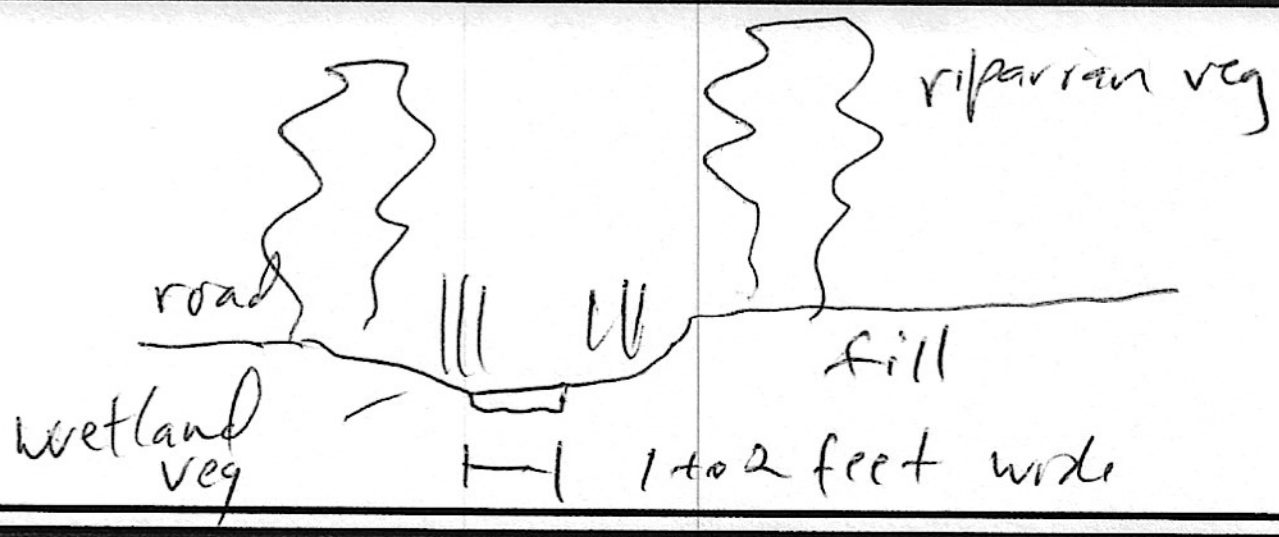
HYDROLOGY

Is water present? Yes
Depth of surface water: 1 to 3"
Flow rate:
Or depth to saturated soil:
Is a channel present? yes
Channel width: 1 to 2 feet

Ordinary High Water Mark Indicators Present:			
✓	Inundated		
✓	Shelving	✓	Destruction of vegetation
	Water marks / stained leaves		Exposed cobble / bedrock
✓	Drift lines	✓	Litter/debris present
	Sediment deposits	✓	Recent bank erosion

Comments/Notes: channelized intermittent creek

SKETCH OF CHANNEL CROSS-SECTION



WATERS OF THE US DETERMINATION

OHWM Present? Yes
Hydrophytic Vegetation? Yes
Wetland Hydrology? Yes

Is this feature a potential Waters of the US? Yes

Comments/Notes:

9.0 APPENDIX B – PHOTOS FROM FIELD DELINEATION

Appendix D

Botanical Survey Report

AEI Consultants

July 18, 2022

Ms. McKenzie Dibble
Danco Group
5251 Ericson Way
Arcata, CA 95521

RE: Biological Resources Assessment
735 Chestnut Street, Mount Shasta, CA 96067
AEI Project No. 455591

Dear Ms. Dibble,

AEI Consultants (AEI) is pleased to provide the Botanical Survey Report for the proposed multi-family residential development located at 735 Chestnut Street, Mount Shasta, CA. The Biological Resources Assessment assessed the 1.15-acre Project Area.

The report includes the second site visit conducted for the late bloom period of the Project Area, and the absence of special-status plant species within the Project Area. If you have any additional questions or would like clarifications, please contact me at johni.etheridge@aeiconsultants.com or 831.524.1153.

Sincerely,

Johni Etheridge
Senior Project Manager
AEI Consultants
Phone: 831.524.1153
Email: johni.etheridge@aeiconsultants.com

BOTANICAL SURVEY REPORT
FOR THE
HOUSING DEVELOPMENT PROJECT AT
735 CHESTNUT STREET, MOUNT SHASTA, CALIFORNIA

July 14, 2022

Prepared by:

G.O. Graening, PhD and/or Tim Nosal, MS
Natural Investigations Company, Inc.
3104 O Street, #221, Sacramento, CA 95816

NATURAL INVESTIGATIONS CO.
WWW.NATURALINVESTIGATIONS.COM

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1. PROJECT LOCATION AND DESCRIPTION

Property Information: 735 Chestnut Street, Mount Shasta, APN 057-112-010, 1.15-acres

The Subject Property is a proposed residential development for multifamily housing with parking, and ornamental landscaping. A specific project footprint / architectural layout was not available.

2. BIOLOGICAL SETTING

The Subject Property is located within the High Cascade Range geographic subregion, which is contained within the Cascade Ranges geographic region of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Subject Property and vicinity is in Climate Zone 2B – Warmer-Summer Intermountain Climate, defined by long warm summers and chilly winters (Sunset, 2021).

The topography of the Subject Property is flat, and may have been made flat by the importation of soil and gravel. The elevation ranges from approximately 3,580 feet to 3,592 feet above mean sea level. Drainage runs west off the parcel in unnamed watercourses which drain into Big Springs Creek, then Browns Lake and Wagon Creek before reaching Lake Siskiyou. The land use of the Subject Property is undeveloped open space. The site appears to have been disturbed in the past. Most of the soils on the Subject Property appear to be fill material. The northwestern edge of the parcel appears to be largely undisturbed, except for the channelization of a stream. The surrounding land uses include a motel, apartment complex, the Masonic Lodge, private estates, and open space.

3. SURVEY METHODOLOGY

Survey methodology included the following protocols:

- California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.

- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento Fish and Wildlife Office, Sacramento, California. 2 pp.

- California Native Plant Society. 2001. CNPS botanical survey guidelines.

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting the field survey, the following information sources were reviewed:

- Aerial photography of the Subject Property (current and historical)
- United States Geologic Service 7.5 degree-minute topographic quadrangles
- USFWS National Wetland Inventory
- USDA Natural Resources Conservation Service soil survey maps
- California Natural Diversity Database (CNDDB), electronically updated monthly by subscription
- California Native Plant Society's database *Inventory of Rare and Endangered Plants of California* (online edition).

3.2. FIELD SURVEYS

Dates of botanical field surveys (indicating the botanical field surveyor(s) that surveyed each area on each survey date), and total person-hours spent:

- Tim Nosal, MS., January 31, 2022, half day
- Tim Nosal, MS., March 17, 2022, majority of day.
- Dr. Geo Graening, July 8, 2022, portion of day.

Note: The qualifications of the botanical field surveyors and report authors are summarized at the end of this report.

Description of Survey Area: A specific project footprint was not provided, so we defined the survey area as the entire property.

Note: A map of the survey area is shown in the Exhibits.

A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible taxa observed were recorded in a field notebook. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDB within the vicinity of the Subject Property and those species on the CNPS or USFWS species lists.

Taxa were identified to the taxonomic level necessary to determine whether or not they are a special status plant. When a specimen could not be identified in the field, a photograph was taken and/or a specimen was pressed and identified in the laboratory using a dissecting scope where necessary. Dr. Graening holds the following scientific collection permits: CDFW Scientific Collecting Permit No. SC-006802; and CDFW Plant Voucher Specimen Permit 09004. Tim Nosal holds CDFW Plant Voucher Specimen Permit 2081(a)-16-102-V. Taxonomic determinations were facilitated by referencing museum specimens or by various texts, including the following: Powell and Hogue (1979); Pavlik (1991); (1993); Brenzel (2012); Stuart and Sawyer (2001); Lanner (2002); Sibley (2003); Baldwin et al. (2012); Calflora (2022); CDFW (2022b,c); NatureServe 2022; and University of California at Berkeley (2022a,b).

3.3. MAPPING AND OTHER ANALYSES

The locations of any special-status species or vegetation communities sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Vegetation community types occurring in the Survey Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded. Locations of any species' occurrences and sensitive natural community boundaries detected within the Project Area were digitized to produce the final maps. Geographic analyses were performed using geographical information system software (ArcGIS 11, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2022), Calflora (2022); CDFW (2022a,b,c); and University of California at Berkeley (2022a,b).

3.4. Previous Studies

No previous studies were identified.

3.5. List of Special Status Plants with Potential to Occur in the Region

A list of special-status plant species with potential to occur in the region was compiled based upon the following:

- A spatial query of the CNDDB using a 10-mile buffer around the Subject Property.
- A 9-quadrangle query of the California Native Plant Society's database *Inventory of Rare and Endangered Plants of California* (online edition).

The databases were queried and any reported occurrences of special-status species were plotted in relation to the Subject Property boundary using GIS software (see exhibits). The CNDDB has reported occurrences of marsh skullcap (*Scutellaria galericulata*); broad-nerved hump moss (*Meesia uliginosa*); woodnymph (*Moneses uniflora*); Siskiyou clover (*Trifolium siskiyouense*); and three-ranked hump moss (*Meesia triquetra*) within the Subject Property. These occurrences are an artifact of the mapping process at CNDDB. The location for these occurrences is very vaguely reported as "Mount Shasta City" or "Sisson" (the historic name for Mount Shasta City). The exact location of these occurrences is not known. Within a 10-mile buffer of the Subject Property boundary, the CNDDB reported several special-status species occurrences, summarized in the Appendix.

The black cottonwood forest, grassland, and wetland habitats within the Subject Property are suitable for numerous non-listed, special-status plant species. These potential special-status species consist of:

- Vanilla-grass (*Anthoxanthum nitens ssp. nitens*)
- Shasta County arnica (*Arnica vernosa*)
- Scalloped moonwort (*Botrychium crenulatum*)
- Mingan moonwort (*Botrychium minganense*)
- Northwestern moonwort (*Botrychium pinnatum*)
- Rattlesnake fern (*Botrypus virginianus*)
- Buxbaum's sedge (*Carex buxbaumii*)
- Mountain lady's-slipper (*Cypripedium montanum*)
- Coast fawn lily (*Erythronium revolutum*)
- Redwood lily (*Lilium rubescens*)
- Three-ranked hump moss (*Meesia triquetra*)
- Woodnymph (*Moneses uniflora*)
- Northern adder's-tongue (*Ophioglossum pusillum*)
- Rosy orthocarpus (*Orthocarpus bracteosus*)
- Cascade grass-of-Parnassus (*Parnassia cirrata var. intermedia*)
- Marsh skullcap (*Scutellaria galericulata*)
- Redding checkerbloom (*Sidalcea celata*)
- Northern slender pondweed (*Stuckenia filiformis ssp. alpina*)
- Cylindrical trichodon (*Trichodon cylindricus*)
- Siskiyou clover (*Trifolium siskiyouense*)
- Henderson's triteleia (*Triteleia hendersonii*)

4. RESULTS

4.1. LIST OF PLANT TAXA DETECTED DURING FIELD SURVEY(S)

All plant taxa detected during the botanical field surveys are listed in the Appendix.

During the botanical field surveys, no special-status plant taxa were detected within the Subject Property.

Deposition locations of voucher specimens: n/a

4.2. LIST OF VEGETATION COMMUNITIES DETECTED DURING FIELD SUVERY(S)

The Subject Property contains the following terrestrial vegetation communities: Grassland, Black Cottonwood Forest, and Blackberry Scrub. These vegetation communities are discussed here and are delineated in the Exhibits.

Grassland: The grassland habitat is comprised largely of perennial grasses and annual and perennial herbs. Historic maps indicate that this area was once a wetland. However, the Subject Property was altered at some point in the past and the observed soils consist of well-drained gravelly fill material. The dominant species across this habitat is bulbous bluegrass (*Poa bulbosa*). Other plants common in this habitat type include Bermuda grass (*Cynodon dactylon*), spearmint (*Mentha spicata*), sweet pea (*Lathyrus latifolius*), red-stemmed filaree (*Erodium cicutarium*), English plantain (*Plantago lanceolata*), dandelion (*Taraxacum officinale*), California dandelion (*Agoseris grandiflora*), English plantain (*Plantago lanceolata*), sheep sorrel (*Rumex acetosella*), smooth cat's ear (*Hypochaeris glabra*) and various other species. This vegetation can be classified as the Holland Type "Non-native Grassland."

Cottonwood / Birch Riparian Forest: The northwestern portion of the Subject Property is characterized by a dense canopy of mature trees. The forest vegetation consists of black cottonwood (*Populus angustifolia*) with occasional water birch (*Betula occidentalis*) and incense cedar (*Calocedrus decurrens*). The shrub layer within the forest is dominated by Himalayan blackberry (*Rubus armeniacus*) with an understory of sweet pea, periwinkle (*Vinca major*), common rush (*Juncus effusus*), horsetail (*Equisetum* sp.) and other grasses and herbs. A small creek is found just outside of the northwestern parcel boundary. The segment of forest found adjacent to this creek has wetland soils. The forested habitat within the Subject Property can be classified as the Holland Type "Montane Black Cottonwood Riparian Forest" or as "61.120.00 Black Cottonwood Forest and Woodland (CDFW 2022e).

Blackberry Scrub: Narrow bands of blackberry scrub were observed along the margins of the Subject Property. The composition of the scrub vegetation includes Himalayan blackberry, water birch, willow (*Salix*), California rose (*Rosa californica*), sweet pea, rush, Fuller's teasel (*Dipsacus fullonum*), common mullein (*Verbascum thapsus*) and broad-leaved cattail (*Typha latifolia*). Most of the blackberry scrub is underlain by wetland soils. This vegetation can be classified as the Holland Type "Great Valley Riparian Scrub" or as "63-906.01 Himalayan Blackberry Riparian Scrub" (CDFW 2021)".

General vegetation communities occurring in the Subject Property and surrounding boundary were mapped (see Exhibits). More specifically, the following terrestrial natural communities occur in the Project Area (as categorized by CDFW 2019):

During the field survey, the following sensitive natural communities were detected in within the Property Area:

- 61.120.00 Black Cottonwood Forest and Woodland
- 63.906.01 Himalayan Blackberry Riparian Scrub
- 11.200.xx Disturbed Wetland

4.3. Adequacy of Botanical Field Survey(s)

Potential for a false negative botanical field survey: Unlikely since an early-season and a late-season botanical field survey was performed.

Did climatic conditions affect the botanical field survey results? There were no unusual climatic conditions other than unusual heat spells.

Did the timing of botanical field surveys affect the comprehensiveness of botanical field surveys?
Site conditions allowed for ready observation of vegetative and flowering plants throughout the blooming period.

5. POTENTIAL PROJECT IMPACTS

5.1. Special-status Plant Populations

No special-status plant species were reported by CNDDB in the Subject Property or surrounding Property. No special-status plant species were detected in the Subject Property during the early and late season botanical field surveys. Special-status species are most likely to occur in sensitive and high quality habitats. Implementation of the proposed project will not directly impact any known special status plant population.

5.2. Sensitive Natural Communities

The Subject Property does contain sensitive natural communities: Black Cottonwood Forest & Woodland and Himalayan Blackberry Riparian Scrub. Project implementation could require the removal of some of these sensitive habitats.

6. MITIGATION MEASURES / RECOMMENDATIONS

Since early-season and a late-season botanical field surveys were performed, additional botanical surveys are not deemed necessary.

If project implementation requires the removal of sensitive natural communities (Black Cottonwood Forest & Woodland and Himalayan Blackberry Riparian Scrub), these communities are protected under various aquatic resource regulations. During the process of obtaining permits to fill in wetlands, modify channels, or remove riparian habitat, compensatory mitigation is required by the permitting agencies to offset losses to these sensitive habitats. The mitigation consists of the creation or restoration of wetlands, or the

purchase of preserve lands with similar habitat types. Mitigation measures implemented as part of aquatic permit issuance will be protective of sensitive habitats associated with water resources.

7. QUALIFICATIONS OF BOTANICAL FIELD SURVEYORS AND REPORT AUTHORS

G.O. GRAENING, Ph.D., M.S.E.
Dr. Graening holds a PhD in Biological Sciences and a Master of Science in Biological and Agricultural Engineering. Dr. Graening is an adjunct Professor at California State University at Sacramento, and is an active researcher in the area of conservation biology; his publication list is available online at http://www.csus.edu/indiv/g/graeningg/pubs.htm. Dr. Graening is also a Certified Arborist (ISA # WE-6725A). Dr. Graening has 28 years of experience in environmental assessment, including previous employment with The Nature Conservancy, Tetra Tech Inc., and CH2M Hill, Inc.

TIMOTHY R. D. NOSAL, M.S.
Mr. Nosal holds a B.S. and M.S. in Biological Sciences. Mr. Nosal has statewide experience performing sensitive plant and animal surveys in addition to terrestrial vegetation investigations. Mr. Nosal has over 25 years of experience in botanical surveys, environmental assessment, and teaching with employers that include California Department of Fish and Wildlife, State Water Resources Control Board, American River College, MTI College and Pacific Municipal Consultants. Mr. Nosal has intensive experience with the flora of the Pine Hill region includes leading numerous field trips exploring the botany of the region, co-authoring a fuel management plan for Pine Hill, and a Master's thesis on Stebbins's morning glory (*Calystegia stebbinsii*), an endangered plant of this region.

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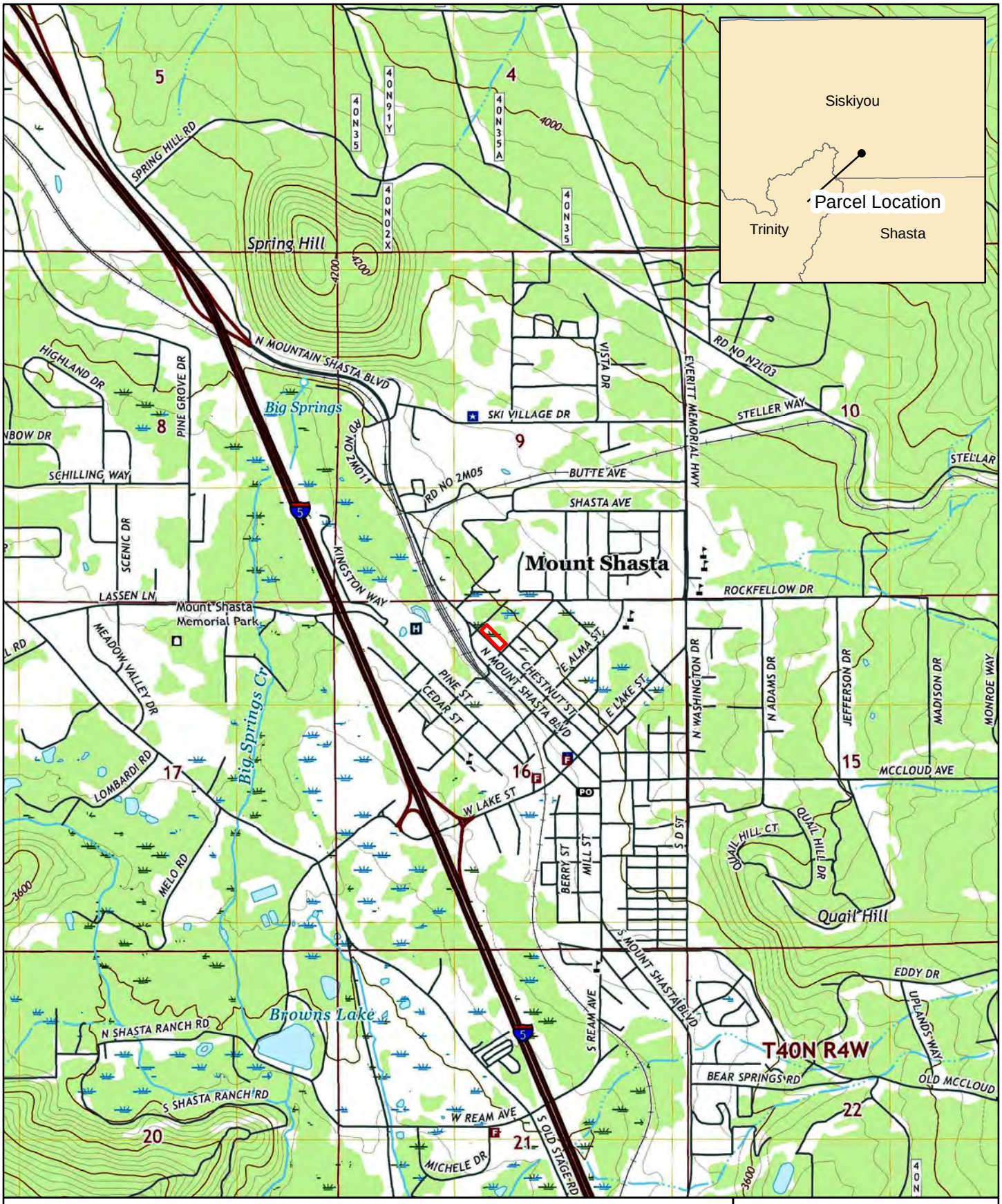
EXHIBITS



Subject Property

0 1,250 2,500 Feet

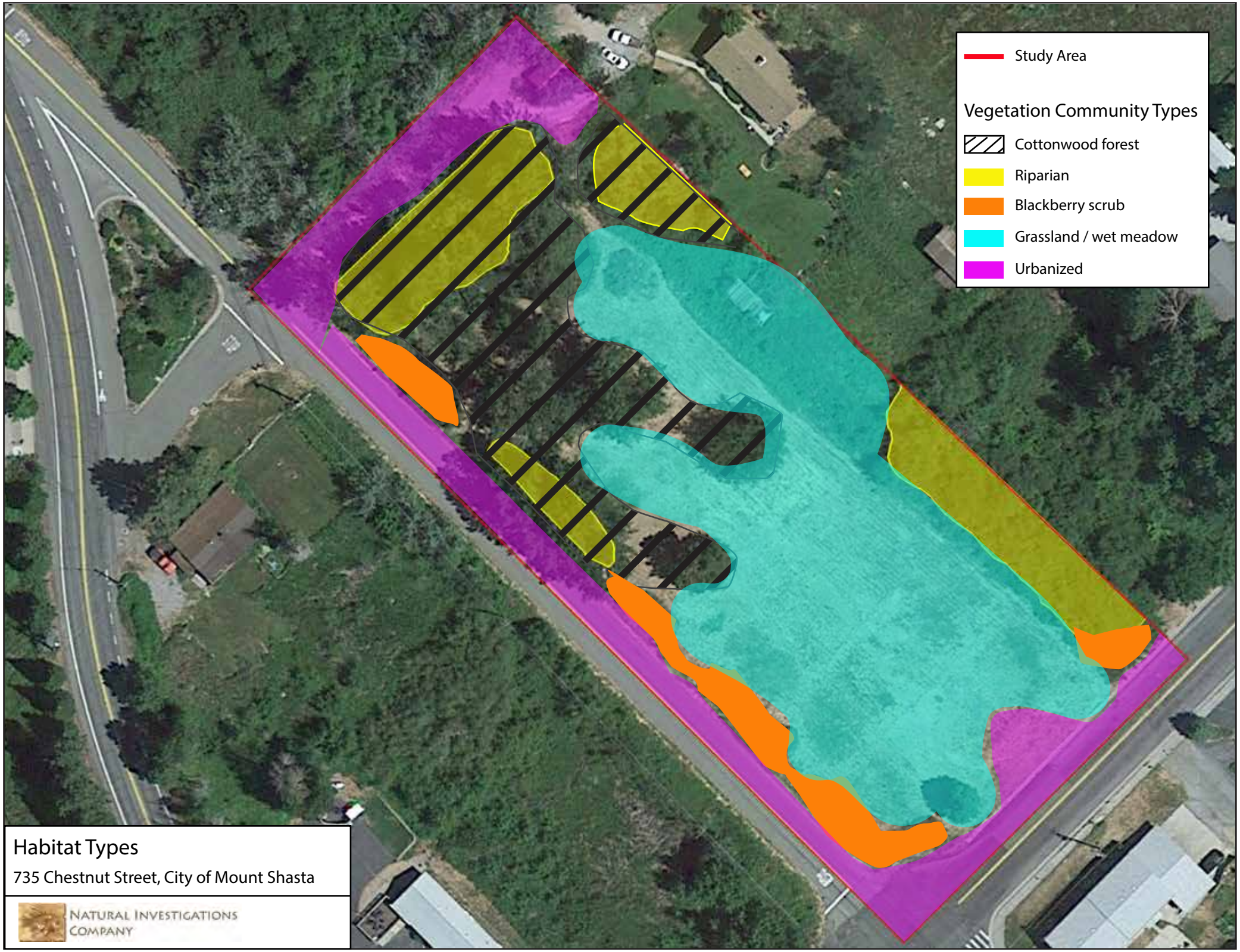
1:24,000

735 Chestnut Street
Parcel Location Map

NATURAL INVESTIGATIONS COMPANY

Map Date 1/25/2022

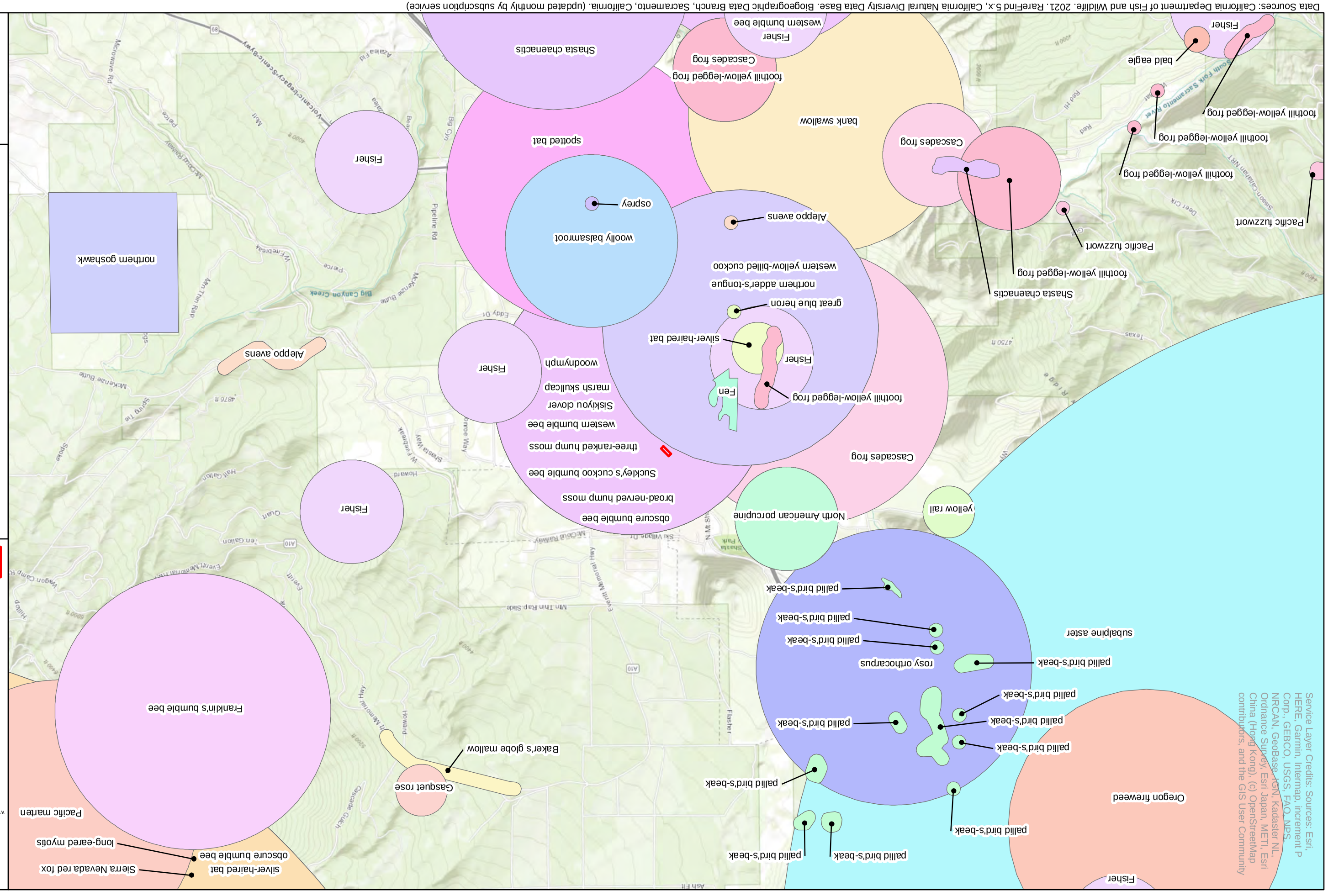
City of Mount Shasta 2018 Quadrangle:Township 40N, Range 4W, Section 16


Study Area
Vegetation Community Types
Cottonwood forest
Riparian
Blackberry scrub
Grassland / wet meadow
Urbanized
Habitat Types
735 Chestnut Street, City of Mount Shasta
Natural Investigations Company

NATURAL INVESTIGATIONS COMPANY

Map Date 1/26/22

735 Chestnut Street
CNDDB Special-Status Species Occurrences


Subject Property
0
0.5
1
Miles
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Franklin's bumble bee
Pacific marten
long-eared myotis
obscure bumble bee
silver-haired bat
Sierra Nevada red fox
Baker's globe mallow
Gasquet rose
palid bird's-beak
palid bird's-beak
palid bird's-beak
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palid bird's-beak
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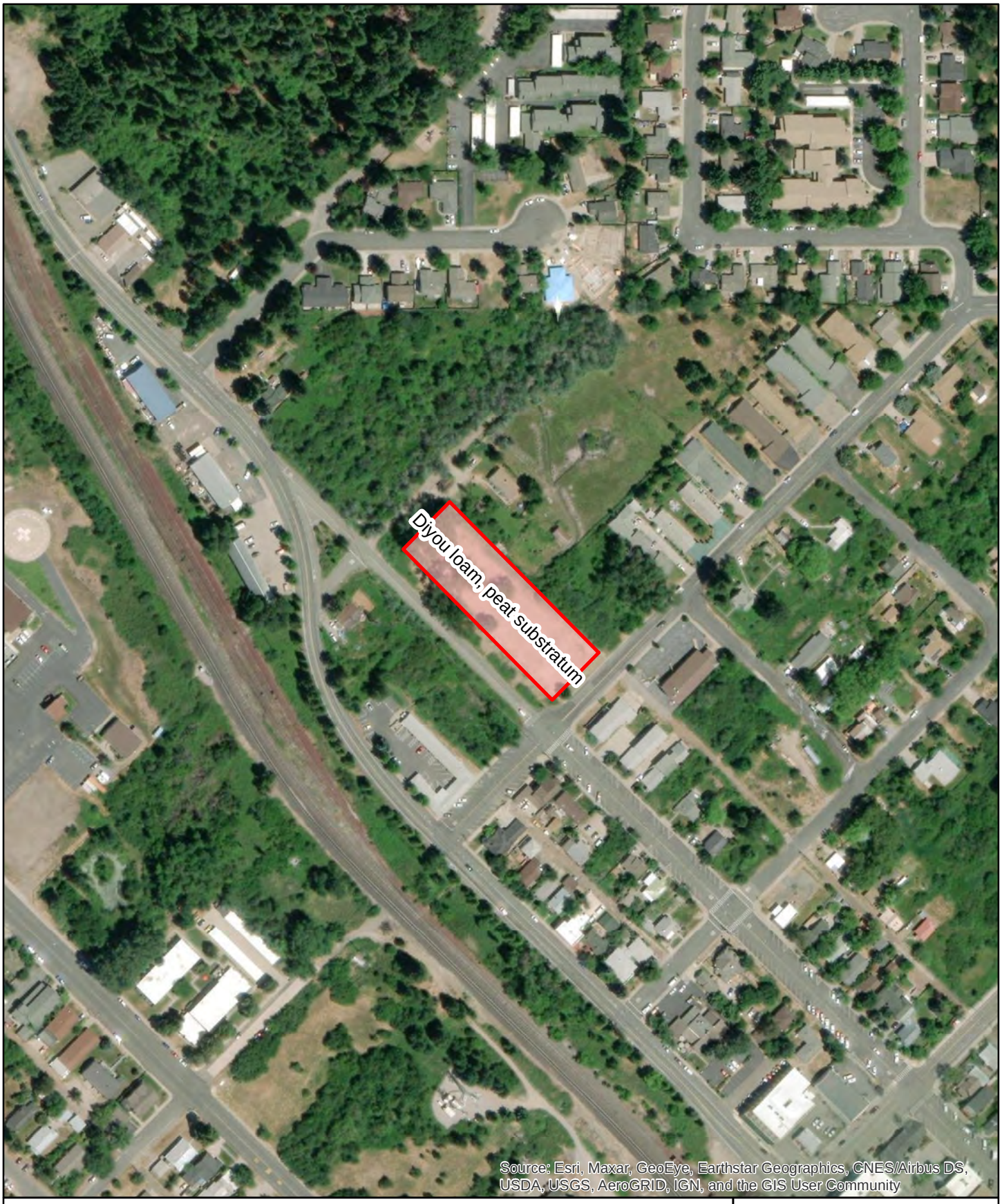
rosy orthocarpus
subalpine aster
Oregon fireweed
Fisher
yellow rail
North American porcupine
Cascades frog
obscure bumble bee
broad-nerved hump moss
Suckley's cuckoo bumble bee
three-ranked hump moss
western bumble bee
Siskiyou clover
marsh skullcap
woodnymph
Fisher
Fisher
Fisher



Subject Property

0 150 300 Feet

1:3,000

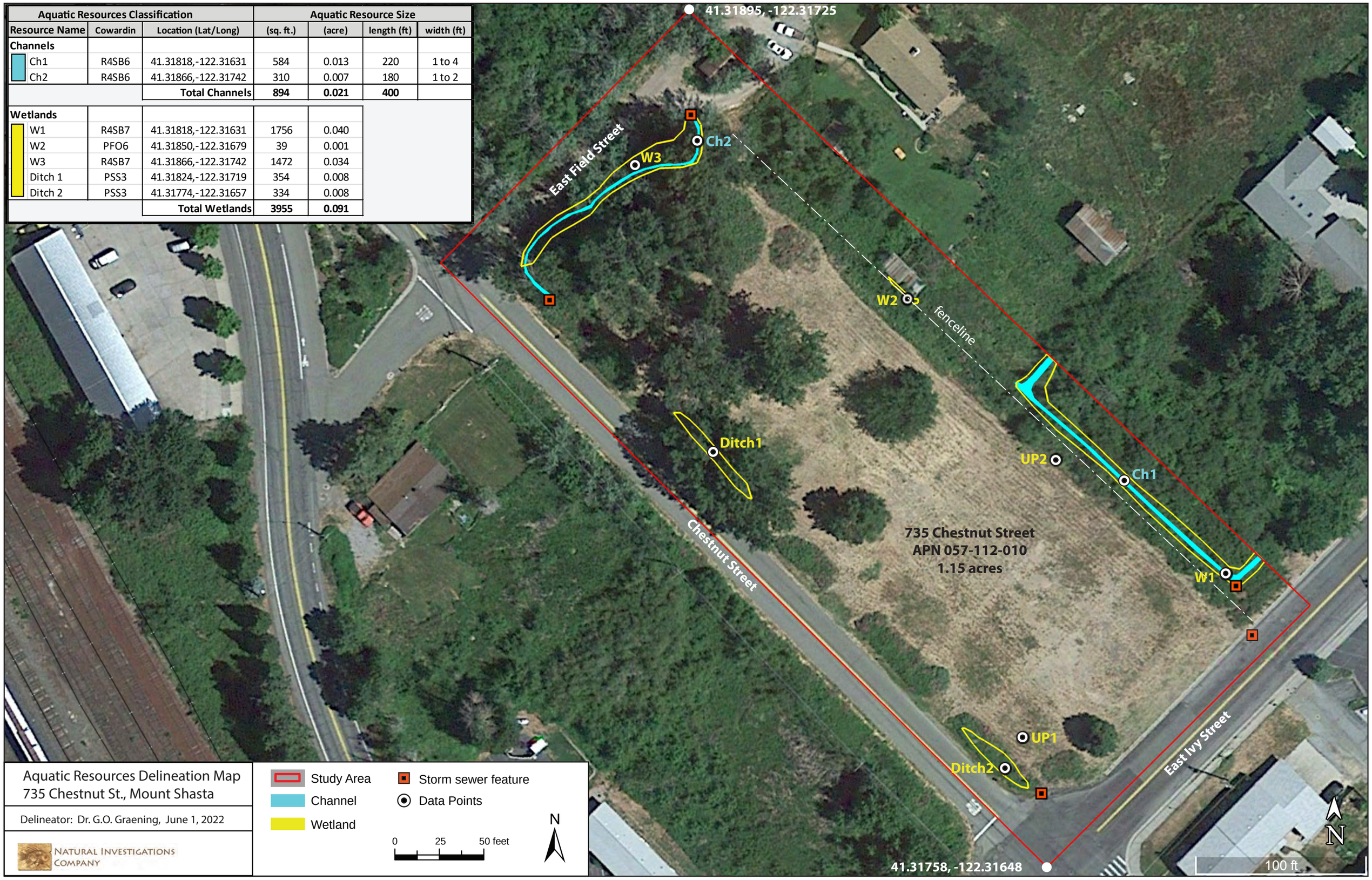
735 Chestnut Street
USDA Soils Map

Natural Investigations Company

Map Date 1/25/2022

City of Mount Shasta 2018 Quadrangle:Township 40N, Range 4W, Section 16

Aquatic Resources Classification			Aquatic Resource Size			
Resource Name	Cowardin	Location (Lat/Long)	(sq. ft.)	(acre)	length (ft)	width (ft)
Channels						
Ch1	R4SB6	41.31818,-122.31631	584	0.013	220	1 to 4
Ch2	R4SB6	41.31866,-122.31742	310	0.007	180	1 to 2
		Total Channels	**894**	**0.021**	**400**	
Wetlands						
W1	R4SB7	41.31818,-122.31631	1756	0.040		
W2	PFO6	41.31850,-122.31679	39	0.001		
W3	R4SB7	41.31866,-122.31742	1472	0.034		
Ditch 1	PSS3	41.31824,-122.31719	354	0.008		
Ditch 2	PSS3	41.31774,-122.31657	334	0.008		
		Total Wetlands	**3955**	**0.091**		



Aquatic Resources Delineation Map
735 Chestnut St., Mount Shasta

Delineator: Dr. G.O. Graening, June 1, 2022

Natural Investigations Company

Study Area
Channel
Wetland
Storm sewer feature
Data Points

0 25 50 feet

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APPENDIX: CNDDB AND CNPS SPECIES LISTS

Special-status Species Reported by CNDDB and CNPS in the Vicinity of the Subject Property

Common Name	Scientific Name	Status*	General Habitat**	Microhabitat**	Potential to Occur in Project Area***
Shasta maidenhair fern	*Adiantum shastense*	4.3	Lower montane coniferous forest	Carbonate (sometimes)	Absent: No habitat onsite.
Siskiyou onion	*Allium siskiyouense*	4.3	Lower montane coniferous forest, Upper montane coniferous forest	Rocky, Serpentinite (sometimes)	Absent: No habitat onsite.
Vanilla-grass	*Anthoxanthum nitens ssp. nitens*	2B.3	Meadow & seep; Wetland	Wet sites. 3-1895 m.	Potential to occur: Suitable habitat present.
Klamath manzanita	*Arctostaphylos klamathensis*	1B.2	Chaparral; Lower montane coniferous forest; Subalpine coniferous forest; Upper montane coniferous forest; Ultramafic	Rocky outcrops and slopes. On gabbro or serpentine. 1380-2250 m.	Absent: No habitat onsite.
Shasta County arnica	*Arnica venosa*	4.2	Cismontane woodland, Lower montane coniferous forest	Disturbed areas (often), Roadsides (often)	Potential to occur: Suitable habitat present.
Mt. Shasta arnica	*Arnica viscosa*	4.3	Subalpine coniferous forest, Upper montane coniferous forest	Rocky	Absent: No habitat onsite.
Woolly balsamroot	*Balsamorhiza lanata*	1B.2	Cismontane woodland	Open woods, grassy slopes. Volcanic substrates. 575-1830 m.	Absent: No habitat onsite.
Silky balsamroot	*Balsamorhiza sericea*	1B.3	Lower montane coniferous forest		Absent: No habitat onsite.
Scalloped moonwort	*Botrychium crenulatum*	2B.2	Bog & fen; Lower montane coniferous forest; Meadow & seep; Marsh & swamp; Upper montane coniferous forest; Wetland	Moist meadows, freshwater marsh, and near creeks. 1185-3110 m.	Potential to occur: Suitable habitat present.
Mingan moonwort	*Botrychium minganense*	2B.2	Bog & fen; Lower montane coniferous forest; Meadow & seep; Upper montane coniferous forest; Wetland	Creekbanks in mixed conifer forest. 1190-3295 m.	Potential to occur: Suitable habitat present.
Northwestern moonwort	*Botrychium pinnatum*	2B.3	Lower montane coniferous forest; Meadow & seep; Upper montane coniferous forest	Creekbanks. 1645-2045 m.	Potential to occur: Suitable habitat present.
Pumice moonwort	*Botrychium pumicola*	2B.2	Alpine boulder & rock field; Alpine; Subalpine coniferous forest	On loose pumice gravel, at high elevations. 2750 m in california.	Absent: No habitat onsite.
Rattlesnake fern	*Botrypus virginianus*	2B.2	Bog & fen; Lower montane coniferous forest; Meadow & seep; Riparian forest; Upper montane coniferous forest; Wetland	Streambanks 710-1405 m.	Potential to occur: Suitable habitat present.
Rough harebell	*Campanula scabrella*	4.3	Alpine boulder and rock field		Absent: No habitat onsite.
Castle Crags harebell	*Campanula shetleri*	1B.3	Lower montane coniferous forest	In protected rock crevices in granite. 1215-1830 m.	Absent: No habitat onsite.
Wilkin's harebell	*Campanula wilkinsiana*	1B.2	Meadow & seep; Subalpine coniferous forest; Upper montane coniferous forest	Often on streambanks in meadows. 1265-2590 m.	Absent: No habitat onsite.
Fleshy toothwort	*Cardamine bellidifolia var. pachyphylla*	4.3	Alpine boulder and rock field, Subalpine coniferous forest, Upper montane coniferous forest	Rocky, Scree, Talus	Absent: No habitat onsite.
Buxbaum's sedge	*Carex buxbaumii*	4.2	Bogs and fens, Marshes and swamps, Meadows and seeps		Potential to occur: Suitable habitat present.
Geyer's sedge	*Carex geyeri*	4.2	Great Basin scrub, Lower montane coniferous forest		Absent: No habitat onsite.
Mud sedge	*Carex limosa*	2B.2	Bog & fen; Freshwater marsh; Lower montane coniferous forest; Meadow & seep; Marsh & swamp; Upper montane coniferous forest; Wetland	In floating bogs and soggy meadows and edges of lakes. 1370-2790 m.	Absent: No habitat onsite.
Siskiyou sedge	*Carex scabriuscula*	4.3	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	Mesic, Seeps (sometimes), Serpentinite (sometimes)	Absent: No habitat onsite.
Split-hair paintbrush	*Castilleja schizotricha*	4.3	Upper montane coniferous forest	Carbonate (often), Decomposed granitic, Marble (often), Serpentinite (often)	Absent: No habitat onsite.
Shasta chaenactis	*Chaenactis suffrutescens*	1B.3	Lower montane coniferous forest; Upper montane coniferous forest; Ultramafic	Sandy or serpentine soils. 730-2255 m.	Absent: No habitat onsite.
Rydberg's spring beauty	*Claytonia obovata*	4.3	Subalpine coniferous forest	Openings (usually), Rocky, Talus	Absent: No habitat onsite.
Marsh claytonia	*Claytonia palustris*	4.3	Marshes and swamps, Meadows and seeps, Upper montane coniferous forest		Absent: No habitat onsite.
Serpentine spring beauty	*Claytonia serpenticola*	4.3	Subalpine coniferous forest, Upper montane coniferous forest	Openings (usually), Rocky, Serpentinite (usually)	Absent: No habitat onsite.
Tracy's collomia	*Collomia tracyi*	4.3	Broadleafed upland forest, Lower montane coniferous forest	Rocky, Serpentinite (sometimes)	Absent: No habitat onsite.

Common Name	Scientific Name	Status*	General Habitat**	Microhabitat**	Potential to Occur in Project Area***
Pallid bird's-beak	*Cordylanthus tenuis ssp. pallescens*	1B.2	Lower montane coniferous forest	Gravelly openings in brush patches next to coniferous forest; on volcanic alluvium. 1070-1615 m.	Absent: No habitat onsite.
Jepson's dodder	*Cuscuta jepsonii*	1B.2	Broadleaved upland forest; Lower montane coniferous forest; Upper montane coniferous forest	Primary host species are Ceanothus diversifolius and Ceanothus prostratus. 1200-2745 m.	Absent: No habitat onsite.
California lady's-slipper	*Cypripedium californicum*	4.2	Bogs and fens, Lower montane coniferous forest	Seeps, Serpentinite (usually), Streambanks	Absent: No habitat onsite.
Mountain lady's-slipper	*Cypripedium montanum*	4.2	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest		Potential to occur: Suitable habitat present.
California pitcherplant	*Darlingtonia californica*	4.2	Bogs and fens, Meadows and seeps	Mesic, Seeps (usually), Serpentinite (usually)	Low potential to occur: Marginal habitat is present.
Golden alpine draba	*Draba aureola*	1B.3	Alpine boulder & rock field; Alpine; Subalpine coniferous forest; Ultramafic	On serpentine or volcanic outcrops. 2315-3050 m.	Absent: No habitat onsite.
Mt. Eddy draba	*Draba carnosula*	1B.3	Subalpine coniferous forest; Upper montane coniferous forest; Ultramafic	On talus or small boulder-fields; known from both serpentine and granite. 1645-2560 m.	Absent: No habitat onsite.
Howell's draba	*Draba howellii*	4.3	Subalpine coniferous forest		Absent: No habitat onsite.
Oregon fireweed	*Epilobium oreganum*	1B.2	Bog & fen; Lower montane coniferous forest; Meadow & seep; Upper montane coniferous forest; Ultramafic; Wetland	In and near springs and bogs; at least sometimes on serpentine. 575-2075 m.	Absent: No habitat onsite.
Humboldt County fuchsia	*Epilobium septentrionale*	4.3	Broadleafed upland forest, North Coast coniferous forest	Rocky (sometimes), Sandy (sometimes)	Low potential to occur: Marginal habitat is present.
Siskiyou fireweed	*Epilobium siskiyouense*	1B.3	Alpine boulder & rock field; Subalpine coniferous forest; Upper montane coniferous forest; Ultramafic	On slopes in gravelly, serpentine soils. 1675-2440 m.	Absent: No habitat onsite.
Waldo daisy	*Erigeron bloomeri var. nudatus*	2B.3	Lower montane coniferous forest; Upper montane coniferous forest; Ultramafic	In open areas on dry rocky outcrops on serpentine. 730-1740 m.	Absent: No habitat onsite.
Snow fleabane daisy	*Erigeron nivalis*	2B.3	Alpine boulder & rock field; Meadow & seep; Subalpine coniferous forest	On volcanic rock outcrops in cracks and crevices. 1780-2895 m.	Absent: No habitat onsite.
Klamath rock daisy	*Erigeron petrophilus var. viscidulus*	4.3	Chaparral, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	Serpentinite (sometimes)	Absent: No habitat onsite.
Trinity buckwheat	*Eriogonum alpinum*	CE/1B.2	Alpine boulder & rock field; Alpine; Subalpine coniferous forest; Upper montane coniferous forest; Ultramafic	Rocky soils and scree slopes in open and windswept areas on serpentine substrate. 1990-2625 m.	Absent: No habitat onsite.
Congdon's buckwheat	*Eriogonum congdonii*	4.3	Lower montane coniferous forest	Openings, Rocky, Serpentinite	Absent: No habitat onsite.
Pyrola-leaved buckwheat	*Eriogonum pyrolifolium var. pyrolifolium*	2B.3	Alpine boulder & rock field	Sandy or gravelly sites; on pumice. 1885-3170 m.	Absent: No habitat onsite.
Siskiyou buckwheat	*Eriogonum siskiyouense*	4.3	Lower montane coniferous forest		Absent: No habitat onsite.
Greene's buckwheat	*Eriogonum strictum var. greenei*	4.3	Lower montane coniferous forest		Absent: No habitat onsite.
Ternate buckwheat	*Eriogonum ternatum*	4.3	Lower montane coniferous forest		Absent: No habitat onsite.
Mt. Eddy buckwheat	*Eriogonum umbellatum var. humistratum*	4.3	Alpine boulder and rock field, Chaparral, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest	Rocky, Serpentinite (usually)	Absent: No habitat onsite.
Slender cottongrass	*Eriophorum gracile*	4.3	Bogs and fens, Meadows and seeps, Upper montane coniferous forest	Acidic	Absent: No habitat onsite.
Shasta limestone monkeyflower	*Erythranthe taylorii*	1B.1	Cismontane woodland; Lower montane coniferous forest	Openings, carbonate crevices and rocky outcrops. 325-1040 m.	Absent: No habitat onsite.
Pink-margined monkeyflower	*Erythranthe trinitiensis*	1B.3	Cismontane woodland; Lower montane coniferous forest; Meadow & seep; Upper montane coniferous forest; Ultramafic	Often on serpentine and along roadsides. 1370-1950 m.	Absent: No habitat onsite.
Klamath fawn lily	*Erythronium klamathense*	2B.2	Meadow & seep; Upper montane coniferous forest	1215-1985 m.	Absent: No habitat onsite.
Coast fawn lily	*Erythronium revolutum*	2B.2	Bog & fen; Broadleaved upland forest; North coast coniferous forest; Wetland	Mesic sites; streambanks. 60-1405 m.	Potential to occur: Suitable habitat present.
Siskiyou aster	*Eucephalus glabratus*	4.3	Lower montane coniferous forest, Upper montane coniferous forest	Openings, Rocky	Absent: No habitat onsite.
Subalpine aster	*Eurybia merita*	2B.3	Upper montane coniferous forest	1300-2000 m.	Absent: No habitat onsite.
Modoc green-gentian	*Frasera albicaulis var. modocensis*	2B.3	Great Basin scrub; Upper montane coniferous forest	Openings. 900-1750 m.	Absent: No habitat onsite.

Common Name	Scientific Name	Status*	General Habitat**	Microhabitat**	Potential to Occur in Project Area***
Scott Mountain bedstraw	*Galium serpenticum ssp. scotticum*	1B.2	Lower montane coniferous forest; Ultramafic	Generally on north-facing slopes on serpentine in mixed conifer forest. 950-2225 m.	Absent: No habitat onsite.
Aleppo avens	*Geum aleppicum*	2B.2	Great Basin scrub; Lower montane coniferous forest; Meadow & seep	1020-1990 m.	Absent: No habitat onsite.
Scott Mountain howellanthus	*Howellanthus dalesianus*	4.3	Lower montane coniferous forest; Meadow & seep; Subalpine coniferous forest; Upper montane coniferous forest; Ultramafic	Dry meadows or openings in coniferous forest community on serpentine soil. 1025-2105 m.	Absent: No habitat onsite.
Little hulsea	*Hulsea nana*	2B.3	Alpine boulder & rock field; Subalpine coniferous forest	Rocky or gravelly sites; on volcanic substrates. 1705-3170 m.	Absent: No habitat onsite.
Alkali hymenoxys	*Hymenoxys lemmonii*	2B.2	Great Basin scrub; Lower montane coniferous forest; Meadow & seep	Subalkaline soils. 805-2745 m.	Absent: No habitat onsite.
Baker's globe mallow	*Iliamna bakeri*	4.2	Chaparral; Pinon & juniper woodlands	Often in burned areas. Volcanic substrates. 1000-2500 m.	Absent: No habitat onsite.
Castle Crags ivesia	*Ivesia longibracteata*	1B.3	Lower montane coniferous forest	Crevices in granitic cliffs. About 1200-1400 m.	Absent: No habitat onsite.
Pickering's ivesia	*Ivesia pickeringii*	1B.2	Lower montane coniferous forest; Meadow & seep; Ultramafic; Wetland	Mesic clay; usually serpentine seeps. 850-1525 m.	Absent: No habitat onsite.
Hutchison's lewisia	*Lewisia kelloggii ssp. hutchisonii*	3.2	Upper montane coniferous forest	Openings	Absent: No habitat onsite.
Redwood lily	*Lilium rubescens*	4.2	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	Roadsides (sometimes), Serpentinite (sometimes)	Potential to occur: Suitable habitat present.
Purple-flowered Washington lily	*Lilium washingtonianum ssp. purpurascens*	4.3	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest	Serpentinite (often)	Absent: No habitat onsite.
Peck's lomatium	*Lomatium peckianum*	2B.2	Chaparral; Cismontane woodland; Lower montane coniferous forest; Pinon & juniper woodlands	Rocky slopes, flats, and sometimes grassy openings, in yellow pine-black oak woodland, on volcanic soils. 685-1180 m.	Absent: No habitat onsite.
Three-ranked hump moss	*Meesia triquetra*	4.2	Bog & fen; Meadow & seep; Subalpine coniferous forest; Upper montane coniferous forest; Wetland	Moss growing on mesic soil. Saturated bogs, fens, seeps and meadows in coniferous to subalpine forests. 1300-2955 m.	Present: Species has been previously documented to occur within the Study Area.
Broad-nerved hump moss	*Meesia uliginosa*	2B.2	Bog & fen; Meadow & seep; Subalpine coniferous forest; Upper montane coniferous forest; Wetland	Moss on damp soil. Often found on the edge of fens or raised above the fen on hummocks/shrub bases. 1095-2805 m.	Absent: No habitat onsite.
Woodnymph	*Moneses uniflora*	2B.2	Broadleaved upland forest; North coast coniferous forest	50-260 m.	Present: Species has been previously documented to occur within the Study Area.
Northern adder's-tongue	*Ophioglossum pusillum*	2B.2	Meadow & seep; Marsh & swamp; Wetland	Marsh edges, low pastures, grassy roadside ditches. Also described as in "open swamp." 1085-1900 m.	Potential to occur: Suitable habitat present.
Rosy orthocarpus	*Orthocarpus bracteosus*	2B.1	Meadow & seep; Wetland	1000-2000 m.	Potential to occur: Suitable habitat present.
Shasta orthocarpus	*Orthocarpus pachystachyus*	1B.1	Great Basin scrub; Meadow & seep; Valley & foothill grassland	Alluvial plains, hillsides. 835-1525 m.	Absent: No habitat onsite.
Cascade grass-of-Parnassus	*Parnassia cirrata var. intermedia*	2B.2	Bog & fen; Meadow & seep;	Rocky serpentine soil. Occurs in wetlands.	Potential to occur: Suitable habitat present.
Thread-leaved beardtongue	*Penstemon filiformis*	4.2	Cismontane woodland; Lower montane coniferous forest; Ultramafic	Dry stony sites, grassy openings, & meadows, often along trails & logging roads; sometimes on serpentine. 180-2135 m.	Absent: No habitat onsite.
Shasta beardtongue	*Penstemon heterodoxus var. shastensis*	4.3	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	Clay, Mesic (often), Volcanic	Absent: No habitat onsite.
Siskiyou phacelia	*Phacelia leonis*	1B.3	Meadow & seep; Upper montane coniferous forest; Ultramafic	Sandy, moist soil, sometimes on serpentine. 1085-2195 m.	Absent: No habitat onsite.
Horned butterwort	*Pinguicula macroceras*	2B.2	Bog & fen; Ultramafic; Wetland	Meadow edges, seepage areas. Serpentine soil. 20-1830 m.	Absent: No habitat onsite.
Profuse-flowered pogogyne	*Pogogyne floribunda*	4.2	Meadows and seeps, Vernal pools		Absent: No habitat onsite.
Mt. Eddy sky pilot	*Polemonium eddyense*	1B.2	Alpine boulder & rock field; Ultramafic	Serpentinite or peridotite, rocky. 2620-2685 m.	Absent: No habitat onsite.
Mt. Shasta sky pilot	*Polemonium pulcherrimum var. shastense*	1B.2	Alpine boulder & rock field; Subalpine coniferous forest; Upper montane coniferous forest	Sometimes volcanic. 2190-3780 m.	Absent: No habitat onsite.
Northern holly fern	*Polystichum lonchitis*	3	Subalpine coniferous forest, Upper montane coniferous forest		Absent: No habitat onsite.
Crested potentilla	*Potentilla cristae*	1B.3	Alpine boulder & rock field; Subalpine coniferous forest; Ultramafic	Seasonally wet swales and seeps; gravelly or rocky sites; often on serpentine. 1825-2560 m.	Absent: No habitat onsite.

Common Name	Scientific Name	Status*	General Habitat**	Microhabitat**	Potential to Occur in Project Area***
Pacific fuzzwort	*Ptilidium californicum*	4.3	Lower montane coniferous forest; Upper montane coniferous forest	Epiphytic on fallen and decaying logs and stumps. Rarely on boulders over humus. 340-1860 m.	Absent: No habitat onsite.
Showy raillardella	*Raillardella pringlei*	1B.2	Bog & fen; Meadow & seep; Upper montane coniferous forest; Ultramafic; Wetland	Streambanks, wet meadows, and bogs in areas of serpentinized rock. 1295-2135 m.	Absent: No habitat onsite.
Gasquet rose	*Rosa gymnocarpa var. serpentina*	1B.3	Chaparral; Cismontane woodland; Ultramafic	Serpentinite. Often on roadsides, sometime on ridges, streambanks, and in openings. 365-2230 m.	Absent: No habitat onsite.
Marsh skullcap	*Scutellaria galericulata*	2B.2	Lower montane coniferous forest; Meadow & seep; Marsh & swamp; Wetland	Swamps and wet places. 0-1950 m.	Present: Species has been previously documented to occur within the Study Area.
Heckner's stonecrop	*Sedum laxum ssp. heckneri*	4.3	Lower montane coniferous forest, Upper montane coniferous forest		Absent: No habitat onsite.
Redding checkerbloom	*Sidalcea celata*	3	Cismontane woodland		Potential to occur: Suitable habitat present.
Cascade alpine campion	*Silene suksdorfii*	2B.3	Alpine boulder & rock field; Subalpine coniferous forest; Upper montane coniferous forest	Rocky, volcanic soils. 1745-3050 m.	Absent: No habitat onsite.
Northern slender pondweed	*Stuckenia filiformis ssp. alpina*	2B.2	Marshes and swamps		Potential to occur: Suitable habitat present.
Short-podded thelypodium	*Thelypodium brachycarpum*	4.2	Chaparral, Lower montane coniferous forest, Meadows and seeps		Absent: No habitat onsite.
Cylindrical trichodon	*Trichodon cylindricus*	2B.2	Broadleaved upland forest; Meadow & seep; Upper montane coniferous forest	Moss growing in openings on sandy or clay soils on roadsides, stream banks, trails or in fields. 35-2005 m.	Potential to occur: Suitable habitat present.
Siskiyou clover	*Trifolium siskiyouense*	1B.1	Meadow & seep; Wetland	Mesic sites. 880-1500 m.	Present: Species has been previously documented to occur within the Study Area.
Yellow triteleia	*Triteleia crocea var. crocea*	4.3	Lower montane coniferous forest		Absent: No habitat onsite.
Trinity Mountains triteleia	*Triteleia crocea var. modesta*	4.3	Lower montane coniferous forest		Absent: No habitat onsite.
Henderson's triteleia	*Triteleia hendersonii*	2B.2	Cismontane woodland	Open slopes and roadbanks. 760-1200 m.	Potential to occur: Suitable habitat present.
Little-leaved huckleberry	*Vaccinium scoparium*	2B.2	Subalpine coniferous forest	Rocky, subalpine woods. Sometimes serpentine. 1035-2200 m.	Absent: No habitat onsite.
Copeland's speedwell	*Veronica copelandii*	4.3	Meadows and seeps, Subalpine coniferous forest		Absent: No habitat onsite.

*Definitions of Status Codes: FE = Federally listed as endangered; FT = Federally listed as threatened; FPE = Federally proposed for listing as endangered; FPT = Federally proposed for listing as threatened; FC = Candidate for Federal listing; MB = Migratory Bird Act; CE = California State listed as endangered; CT = California State listed as threatened; CCSSC = California species of special concern; CR = California rare species; CFP = California fully protected species; CNPS (California Native Plant Society) List 1A = Plants presumed extinct in California by CNPS; CNPS List 1B = CNPS designated rare or endangered plants in California and elsewhere; and CNPS List 2 = CNPS designated rare or endangered plants in California, but more common elsewhere. Global Ranking: G1 = Critically Imperiled; G2 = Imperiled; G3 = Vulnerable. State Ranking: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable.

**Copied verbatim from CNDDB, unless otherwise noted.

***Definitions of Occurrence Probability Rankings:

- Present: Species was observed during site visit. Or
- Present: Species has been previously documented to occur within the Study Area.
- Potential to occur: Suitable habitat present.
- Low potential to occur: Marginal habitat is present.
- Absent: No habitat onsite.

APPENDIX: LIST OF PLANT TAXA DETECTED IN THE SUBJECT PROPERTY AND IMMEDIATE VICINITY

A list of all plant taxa occurring in the Subject Property with all taxa identified to the taxonomic level necessary to determine whether or not they are a special status plant;

Plants Observed at 735 Chestnut Street, Mount Shasta
on January 31, April 25, and July 8, 2022

Common Name	**Scientific Name**
California dandelion	*Agoseris grandiflora ssp. grandiflora*
Bentgrass	*Agrostis sp.*
Foxtail	*Alopecurus sp.*
Water birch	*Betula occidentalis*
Rescue brome	*Bromus catharticus*
Incense cedar	*Calocedrus decurrens*
Mountain whitethorn	*Ceanothus cordulatus*
Bachelor's button	*Centaurea cyanus*
Chicory	*Cichorium intybus*
Red stemmed miner's lettuce	*Claytonia rubra*
Red osier dogwood	*Cornus sericea*
Douglas' hawthorn	*Crataegus douglasii*
Bermuda grass	*Cynodon dactylon*
Scotch broom	*Cytisus scoparius*
Orchard grass	*Dactylis glomerata*
Fuller's teasel	*Dipsacus fullonum*
Whitlow grass	*Draba verna*
Sticky cinquefoil	*Drymocallis glandulosa*
Slender wheatgrass	*Elymus trachycaulus*
Willowherb	*Epilobium sp.*
Horsetail	*Equisetum sp.*
Red-stemmed filaree	*Erodium cicutarium*
White stem filaree	*Erodium moschatum*
Rattail sixweeks grass	*Festuca myuros*
Fescue	*Festuca sp.*
Bedstraw	*Galium aparine*
Shortpod mustard	*Hirschfeldia incana*
Jagged chickweed	*Holosteum umbellatum*
Meadow barley	*Hordeum brachyantherum*
Klamath weed	*Hypericum perforatum*
Smooth cat's-ear	*Hypochaeris glabra*
Common rush	*Juncus effusus*
Rush	*Juncus sp.*
Prickly lettuce	*Lactuca serriola*
Henbit	*Lamium amplexicaule*
Purple dead nettle	*Lamium purpureum*
Sweet pea	*Lathyrus latifolius*
Hawkbit	*Leontodon saxatilis*
Field pepperweed	*Lepidium campestre*
Purpleflower honeysuckle	*Lonicera conjugialis*
Bird's-foot trefoil	*Lotus corniculatus*

Common Name	**Scientific Name**
Sweetclover	*Melilotus sp.*
Spearmint	*Mentha spicata*
Slender phlox	*Microsteris gracilis*
Small-flowered evening primrose	*Oenothera biennis*
Timothy grass	*Phleum pratense*
Ponderosa pine	*Pinus ponderosa*
English plantain	*Plantago lanceolata*
Bulbous bluegrass	*Poa bulbosa*
Knot grass	*Polygonum arenastrum*
Black cottonwood	*Populus trichocarpa*
Cherry plum	*Prunus cerasifera*
Cudweed	*Pseudognaphalium sp.*
Buttercup	*Ranunculus sp.*
White-stemmed gooseberry	*Ribes inerme*
California rose	*Rosa californica*
Himalayan blackberry	*Rubus armeniacus*
Sheep sorrel	*Rumex acetosella*
Willow	*Salix sp.*
Bouncing bet	*Saponaria officinalis*
Goldenrod	*Solidago sp.*
Douglas spirea	*Spirea douglasii*
Aster	*Symphyotrichum sp.*
Dandelion	*Taraxacum officinale*
Salsify	*Tragopogon sp.*
Hop clover	*Trifolium dubium*
Clover	*Trifolium sp.*
Broad leaf cattail	*Typha latifolia*
Common mullein	*Verbascum thapsus*
Bird’s-eye speedwell	*Veronica persica*
Vetch	*Vicia sp.*
Periwinkle	*Vinca major*

APPENDIX: SITE PHOTOS

Appendix E

Special-Status Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
Phone: (530) 842-5763 Fax: (530) 842-4517

In Reply Refer To: November 28, 2022
Project Code: 2023-0019041
Project Name: Mountain Townhomes

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
(530) 842-5763

Project Summary

Project Code: 2023-0019041
Project Name: Mountain Townhomes
Project Type: Residential Construction
Project Description: Housing development.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.31825675,-122.31689367658657,14z

Counties: Siskiyou County, California

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Candidate

Insects

NAME	STATUS
Franklin's Bumble Bee *Bombus franklini* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7022	Endangered
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Conifers and Cycads

NAME	STATUS
Whitebark Pine *Pinus albicaulis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1748	Proposed Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency:	HELIX Environmental Planning, Inc.
Name:	Patrick Martin
Address:	11 Natomas Street
Address Line 2:	Suite 155
City:	Folsom
State:	CA
Zip:	95630
Email	patrickm@helixepi.com
Phone:	9163658700

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (City of Mount Shasta (4112233) OR Mount Eddy (4112234) OR Weed (4112244) OR Hotlum (4112243) OR Mt. Shasta (4112242) OR McCloud (4112232) OR Girard Ridge (4112222) OR Dunsmuir (4112223) OR Seven Lakes Basin (4112224))
 AND Elevation IS greater than OR equal to "2000"
 AND Elevation IS less than OR equal to "5000"

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01085	***Ambystoma macrodactylum sigillatum*** southern long-toed salamander	None	None	G5T4	S3	SSC
AAABA01010	***Ascaphus truei*** Pacific tailed frog	None	None	G4	S3S4	SSC
AAABH01051	***Rana boylii pop. 1*** foothill yellow-legged frog - north coast DPS	None	None	G3TNRQ	S4	SSC
AAABH01060	***Rana cascadae*** Cascades frog	None	Candidate Endangered	G3G4	S3	SSC
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNKC01010	***Pandion haliaetus*** osprey	None	None	G5	S4	WL
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC12060	***Accipiter gentilis*** northern goshawk	None	None	G5	S3	SSC
ABNKD06071	***Falco peregrinus anatum*** American peregrine falcon	Delisted	Delisted	G4T4	S3S4	FP
ABNME01010	***Coturnicops noveboracensis*** yellow rail	None	None	G4	S1S2	SSC
ABNNM03110	***Larus californicus*** California gull	None	None	G5	S4	WL
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNUA01010	***Cypseloides niger*** black swift	None	None	G4	S2	SSC
ABPAE33040	***Empidonax traillii*** willow flycatcher	None	Endangered	G5	S1S2	
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S2	
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G1G2	S1S2	SSC
AFC4E02153	***Cottus klamathensis polyporus*** Lower Klamath marbled sculpin	None	None	G4T2T4	S2S4	SSC
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G3G4	S3S4	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC07010	***Euderma maculatum*** spotted bat	None	None	G4	S3	SSC
AMACD02011	***Eumops perotis californicus*** western mastiff bat	None	None	G4G5T4	S3S4	SSC
AMAEA0102L	***Ochotona princeps schisticeps*** gray-headed pika	None	None	G5T4	S2S4	
AMAEB03011	***Lepus americanus klamathensis*** Oregon snowshoe hare	None	None	G5T3T4Q	S2	SSC
AMAFJ01010	***Erethizon dorsatum*** North American porcupine	None	None	G5	S3	
AMAJA03016	***Vulpes vulpes necator pop. 1*** Sierra Nevada red fox - southern Cascades DPS	None	Threatened	G5TNR	S1	
AMAJF01020	***Pekania pennanti*** Fisher	None	None	G5	S2S3	SSC
AMAJF01030	***Martes caurina*** Pacific marten	None	None	G4G5	S3	
AMAJF03010	***Gulo gulo*** wolverine	None	Threatened	G4	S1	FP
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
CTT51200CA	***Fen*** Fen	None	None	G2	S1.2	
IICOL58010	***Atractelmis wawona*** Wawona riffle beetle	None	None	G3	S1S2	
IIHYM24250	***Bombus occidentalis*** western bumble bee	None	Candidate Endangered	G2G3	S1	
IIHYM24350	***Bombus suckleyi*** Suckley's cuckoo bumble bee	None	Candidate Endangered	G2G3	S1	
IIHYM24380	***Bombus caliginosus*** obscure bumble bee	None	None	G2G3	S1S2	
IITRI11040	***Cryptochia shasta*** confusion caddisfly	None	None	G1G2	S1S2	
IITRI19060	***Rhyacophila lineata*** Castle Crags rhyacophilan caddisfly	None	None	G1G3	S1S2	
IMGAS60040	***Hesperarion plumbeus*** leaden slug	None	None	G1	S1	
IMGASA4080	***Vespericola sierranus*** Siskiyou hesperian	None	None	G3	S1S2	
IMGASB2010	***Megomphix californicus*** Natural Bridge megomphix	None	None	G1G2	S1S2	
NBHEP2U010	***Ptilidium californicum*** Pacific fuzzwort	None	None	G4G5	S3S4	4.3

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
NBMUS4L020	***Meesia triquetra*** three-ranked hump moss	None	None	G5	S4	4.2
NBMUS4L030	***Meesia uliginosa*** broad-nerved hump moss	None	None	G5	S3	2B.2
PDAPI1B1G0	***Lomatium peckianum*** Peck's lomatium	None	None	G4	S1	2B.2
PDAST11047	***Balsamorhiza lanata*** woolly balsamroot	None	None	G3	S3	1B.2
PDAST200H0	***Chaenactis suffrutescens*** Shasta chaenactis	None	None	G2G3	S2S3	1B.3
PDAST530C0	***Hymenoxys lemmonii*** alkali hymenoxys	None	None	G4	S2S3	2B.2
PDASTEB030	***Eurybia merita*** subalpine aster	None	None	G5	SH	2B.3
PDCAM020W0	***Campanula shetleri*** Castle Crags harebell	None	None	G2	S2	1B.3
PDCUS011T0	***Cuscuta jepsonii*** Jepson's dodder	None	None	G3	S3	1B.2
PDERI180Y0	***Vaccinium scoparium*** little-leaved huckleberry	None	None	G5	S3	2B.2
PDGEN05018	***Frasera albicaulis var. modocensis*** Modoc green-gentian	None	None	G5T3T4	S2S3	2B.3
PDHYD0C2N0	***Phacelia leonis*** Siskiyou phacelia	None	None	G3	S2?	1B.3
PDMAL0K010	***Iliamna bakeri*** Baker's globe mallow	None	None	G4	S3	4.2
PDONA060P0	***Epilobium oreganum*** Oregon fireweed	None	None	G2	S2	1B.2
PDPHR01080	***Erythranthe taylorii*** Shasta limestone monkeyflower	None	None	G2	S2	1B.1
PDROS0S010	***Geum aleppicum*** Aleppo avens	None	None	G5	S2	2B.2
PDROS0X0D0	***Ivesia pickeringii*** Pickering's ivesia	None	None	G2	S2	1B.2
PDROS0X0U0	***Ivesia longibracteata*** Castle Crags ivesia	None	None	G1	S1	1B.3
PDROS1J1V1	***Rosa gymnocarpa var. serpentina*** Gasquet rose	None	None	G5T3T4	S2	1B.3
PDSAX0P0E1	***Parnassia cirrata var. intermedia*** Cascade grass-of-Parnassus	None	None	GNRTNR	S3	2B.2
PDSCR0J0S3	***Cordylanthus tenuis ssp. pallescens*** pallid bird's-beak	None	None	G4G5T1	S1	1B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDSCR1H030	***Orthocarpus bracteosus*** rosy orthocarpus	None	None	G3	S1	2B.1
PDSCR1H0L0	***Orthocarpus pachystachyus*** Shasta orthocarpus	None	None	G1	S1	1B.1
PMLIL21070	***Triteleia hendersonii*** Henderson's triteleia	None	None	G4	S1	2B.2
PMPOA35041	***Anthoxanthum nitens ssp. nitens*** vanilla-grass	None	None	G5T5	S2	2B.3
PPOPH010H0	***Botrypus virginianus*** rattlesnake fern	None	None	G5	S2	2B.2
PPOPH020F0	***Ophioglossum pusillum*** northern adder's-tongue	None	None	G5	S1	2B.2

Record Count: 66