

**DRAFT**

**Initial Study and Mitigated Negative Declaration  
for the  
Hamman Tentative Subdivision Project**

---

**Biggs, California**

**Lead Agency:**



**City of Biggs  
465 C Street  
P.O. Box 307  
Biggs, California 95917**

**Prepared by:**



**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS

**55 Hanover Lane  
Chico, California 95973**

**September 2022**

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**DRAFT MITIGATED NEGATIVE DECLARATION**

<b>Lead Agency:</b>	City of Biggs
<b>Project Proponent:</b>	Hamman Real Estate
<b>Project Location:</b>	The Proposed Project is located in the City of Biggs on a 7.55-acre site located between Sixth Street and Eighth Street and south of Bannock Street in the City of Biggs, California. Assessor's Parcel Numbers (APN) associated with the property are 022-160-091 and 001-103-007 (Figures 1 and 2). The approximate center of the site is located at latitude 39.2433° and longitude -121.4237°.

**Project Executive Summary:**

The Proposed Project is located in the City of Biggs on a 7.55-acre site located between Sixth Street and Eighth Street and south of Bannock Street in the City of Biggs, California. Hamman Real Estate (owner) proposes a tentative subdivision map seeking to subdivide two existing parcels of land to allow for the development of a mini-storage facility on approximately 2.52 acres and creating 26 single-family lots, a stormwater retention basin (Lot 27) and public streets on 5.03 acres of land. The Proposed Project has been designed to allow the proposed mini-storage units to provide a buffer between the existing railroad tracks, municipal electric utility infrastructure and SunWest rice mill located west of the Project and the proposed residential component. The existing lots proposed for division under the proposed map are identified as Butte County APNs 022-160-091 and 001-103-007. The total combined acreage of the parcels is approximately 7.55 acres.

The southern portion of the Project Site is currently designated with a combination of land use designations in the City's General Plan Land Use Plan. The Proposed Project Site currently has two land use designations on the combined site and three zoning designations. In order to comply with the City of Biggs General Plan, the Project is proposing a General Plan Amendment and Rezoning, as described in further detail below.

**Public Review Period: To be determined**

### **Mitigation Measures Incorporated into the Project to Avoid Significant Effects:**

**AQ-1:** Prior to the issuance of individual building permits, the City of Biggs Building & Planning Department shall confirm that all construction documents and specifications stipulate that the installation of wood-burning hearths is prohibited. Natural gas-fueled hearths are acceptable.

*Timing/Implementation:* Prior to the Issuance of Building Permits

*Monitoring/Enforcement:* The City of Biggs Planning Department

### **Biological Resources**

**BIO-1: Special-Status Birds and Migratory Bird Treaty Act-Protected Birds.** The following measure is recommended to minimize impacts to all special-status birds and active nests:

- Project activities, including site grubbing and vegetation removal, shall be initiated outside of the bird-nesting season (February 1 – August 31).
- If Project activities cannot be initiated outside of the bird-nesting season, the following will occur:
  - A qualified biologist will conduct a pre-construction survey within 250 feet of the BSA, where accessible, within 7 days prior to the start of Project activities.
  - If an active nest (i.e., containing egg[s] or young) is observed within the BSA or in an area adjacent to the BSA where impacts could occur, then a species protection buffer will be established. The species protection buffer will be defined by a qualified biologist based on the species, nest type, and tolerance to disturbance. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails as determined by a qualified biologist. Nests shall be monitored by a qualified biologist once per week and a report submitted to the CEQA lead agency weekly.

*Timing/Implementation:* Prior to the Issuance of Demolition Permits

*Monitoring/Enforcement:* The City of Biggs Planning Department

### **Cultural Resources**

**CUL-1: Cultural or Archaeological Resource Discovery.** All construction plans and grading plans shall include the following:

If subsurface deposits believed to be cultural, archaeological or human in origin are discovered during any roadway or future construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify



the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the City and landowner. If the find is determined to be eligible for inclusion in the NRHP or CRHR, the City shall consult on a finding of eligibility and implement appropriate treatment measures. Work may not resume within the no-work radius until the City, through consultation as appropriate, determines that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to its satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Butte County Coroner (in accordance with Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate information center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

*Timing/Implementation:*

*During construction*

*Monitoring/Enforcement:*

*The City of Biggs Planning Department and construction lead.*

## **Geology and Soils**

**GEO-1: Unanticipated Discovery – Paleontological Resource.** If paleontological resources (i.e., fossil remains) are discovered during excavation activities, the contractor will notify the City and cease excavation within 100 feet of the find until a qualified paleontological professional can provide an evaluation of the site. The qualified paleontological professional will evaluate

the significance of the find and recommend appropriate measures for the disposition of the site (e.g. fossil recovery, curation, data recovery, and/or monitoring). Construction activities may continue on other parts of the construction site while evaluation and treatment of the paleontological resource takes place.

*Timing/Implementation: During construction*

*Monitoring/Enforcement: The City of Biggs Planning Department.*

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ECORP Consulting, Inc.

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Gallaway Enterprises, December 2021
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ECORP Consulting, Inc. June 24, 2022

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ECORP Consulting

Appendix E – Noise Calculations  
ECORP Consulting

**ACRONYMS AND ABBREVIATIONS**

<b>Term</b>	<b>Description</b>
2018 Plan	2018 Triennial Air Quality Attainment Plan
°F	Degrees Fahrenheit
AB	Assembly Bill
ADT	Average Daily Trips
AF	Acre-Feet
AMSL	Above mean sea level
APN	Assessor's Parcel Numbers
BCAG	Butte County Association of Governments
BCAQMD	Butte County Air Quality Management District
BCFD	Butte County Fire Department
BCSO	Butte County Sheriff's Office
BMPs	Best Management Practices
BRA	Biological Resources Assessment
BRWMA	Butte Regional Waste Management Authority
BSA	Biological Study Area
BTP	Biggs Area Bicycle Transportation Plan
BUSD	Biggs Unified School District
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code

<b>Term</b>	<b>Description</b>
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
C-G	General Commercial
CGS	California Geological Survey
CH <sub>4</sub>	methane
City	City of Biggs
CNEL	Community Noise Equivalent Level
CNDDDB	California Natural Diversity Data Base
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
County	Butte County
CRHR	California Register of Historic Places
DADs	Designated Area Deputies
dB	Decibel
dBA	Decibel is A-weighted
DEIR	Draft Environmental Impact Report
DOC	California Department Of Conservation
DOF	California Department of Finance
DPM	Diesel particulate matter
DMR	Division of Mine Reclamation
DSD	California Division of Safety of Dams
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
ECHO	Enforcement and Compliance History Online
EIR	Environmental Impact Report
EO	Executive Order
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMSR	Final Municipal Services Review
FTA	Federal Transit Administration
GHG	Greenhouse Gas
gpd	gallons per day
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plans
IPaC	Information Planning and Conservation System
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
IS	Initial Study
IS/MND	Initial Study/(Mitigated) Negative Declaration
ITE	Institute of Transportation Engineers
kWh	Kilowatt hour



<b>Term</b>	<b>Description</b>
LAFCO	Local Agency Formation Commission
LDR	Low Density Residential
$L_{eq}$	Measure of Ambient Noise
LI	Light Industrial General Plan Designation
Ldn	Equivalent Daily Noise Level
LOS	Level of Service
M-1	Light Industrial Zoning District
MBTA	Migratory Bird Treaty Act
MDR	Medium Density Residential
mgd	Million gallons per day
MLD	Most Likely Descendent
MMI	Modified Mercalli Intensity
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
$N_2O$	nitrous oxide
NAHC	Native American Heritage Commission
NEIC	Northeast Information Center
NIOSH	National Institute for Occupational Safety and Health
$NO_x$	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSVAB	Northern Sacramento Valley Air Basin
$O_3$	Ozone
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter Less than 2.5 Microns in Diameter
$PM_{10}$	Particulate Matter Less than 10 Microns in Diameter
ppm	Parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
Project or Proposed Project	Hamman Tentative Subdivision Project
R-2	Medium Density Residential
RD 883	Reclamation District 883
RHNP	Regional Housing Needs Plan
ROG	Reactive Organic Gases
RTP	Regional Transportation Plan
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCSO	Sheriff Community Service Officer
SF	Square Feet
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
$SO_2$	sulfur dioxide
SRA	State Responsibility Area

<b>Term</b>	<b>Description</b>
SR	State Route
SWE	surface to water elevation
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TCR	Tribal Cultural Resources
UCMP	University of California Museum of Paleontology
UPRR	Union Pacific Railroad
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
WWTP	Wastewater Treatment Plant

## 1.0 BACKGROUND

### 1.1 Summary

<b>Project Title:</b>	Hamman Subdivision Project
<b>Lead Agency Name and Address:</b>	City of Biggs 465 C Street PO Box 307 Biggs, California 95917
<b>Contact Person and Phone Number:</b>	Dennis Schmidt, Interim City Administer (530) 868-0100 Bob Summerville, Senior Planner (530) 868-6008
<b>Project Location:</b>	The Proposed Project is located in the City of Biggs on a 7.55-acre site located between Sixth Street and Eighth Street and south of Bannock Street in the City of Biggs, California. APNs associated with the property are 022-160-091 and 001-103-007 (Figures 1 and 2). The approximate center of the site is located at latitude 39.2433° and longitude - 121.4237°.
<b>General Plan Designation:</b>	Medium Density Residential and Low Density Residential
<b>Zoning:</b>	APN 001-103-007: R-2 (Medium Density Residential). APN 022-160-091 (split-zoned): C-G (General Commercial) and M-1 (Light Industrial)

### 1.2 Introduction

The City of Biggs is the Lead Agency for this Initial Study/Negative Declaration (IS/MND), which has been prepared to identify and assess the anticipated environmental impacts of the proposed Hamman Tentative Subdivision Project (Project or Proposed Project) and mitigate potentially significant environmental effects. This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code [PRC], § 21000 et seq.) and State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of Projects over which they have discretionary authority before acting on those Projects. A CEQA IS/MND is generally used to determine the potentially significant environmental affects and mitigate those to be less than significant.

### 1.3 Environmental Setting /Surrounding Land Uses

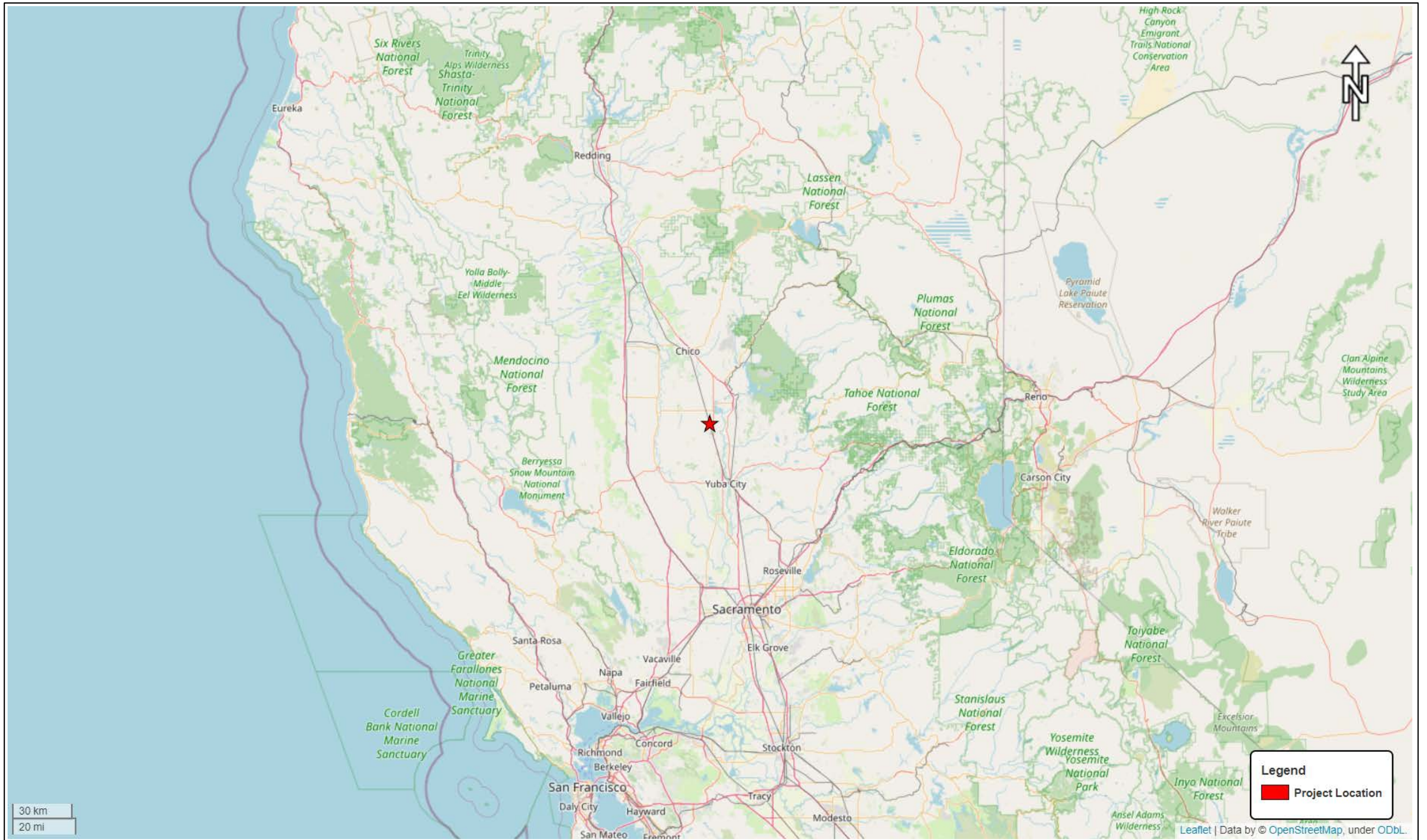
The Project Site is currently vacant and unused land. The site has previously been used for dry-land field crops and contains miscellaneous ruderal grasses and vegetation. The site was previously occupied by an abandoned single-family detached dwelling. The structure was demolished and removed prior to the submittal of this application. With the demolition of the abandoned and dilapidated residential structure, the associated septic tank and potable water well was also abandoned and remediated. The relatively flat Project Site has been heavily disturbed by other activities including tilling, disking, and mowing of grass

and weeds to reduce fire hazard due to vegetation growth. Soils within the Project Site are clay loams with a deep restrictive layer within 20 to 40 inches in depth.

The Project Site is traversed in a north-south direction by existing City of Biggs-owned electrical utility lines along its western boundary. Hamilton Slough, the primary storm drainage and water reclamation drainage in the city, is located immediately south of the Project Site. The portion of the Hamilton Slough adjacent to the Project's southern boundary is void of vegetation aside from sparse grasses and ruderal weeds, indicating regular vegetation management. Regional access to the city and the Project Site would be provided by the City's existing grid-street pattern supported by Dakota Avenue and roadways south of the city along with Sixth and Trent streets.

The Project Site is surrounded by existing development. Two existing single-family residential dwelling units taking access from Sixth and Bannock streets are located along the northern property line; multiple single-family residential dwellings are located on the east-side of Sixth Street along the eastern property line; Hamilton Slough and an existing single-family dwelling unit are located on the southern property line of the Project; and Union Pacific Railroad (UPRR) tracks and the City of Biggs electric utility substation and electric service equipment are located on the western property line of the Project. The Sunwest Milling Company rice mill is located across the railroad tracks to the west of the Project Site.



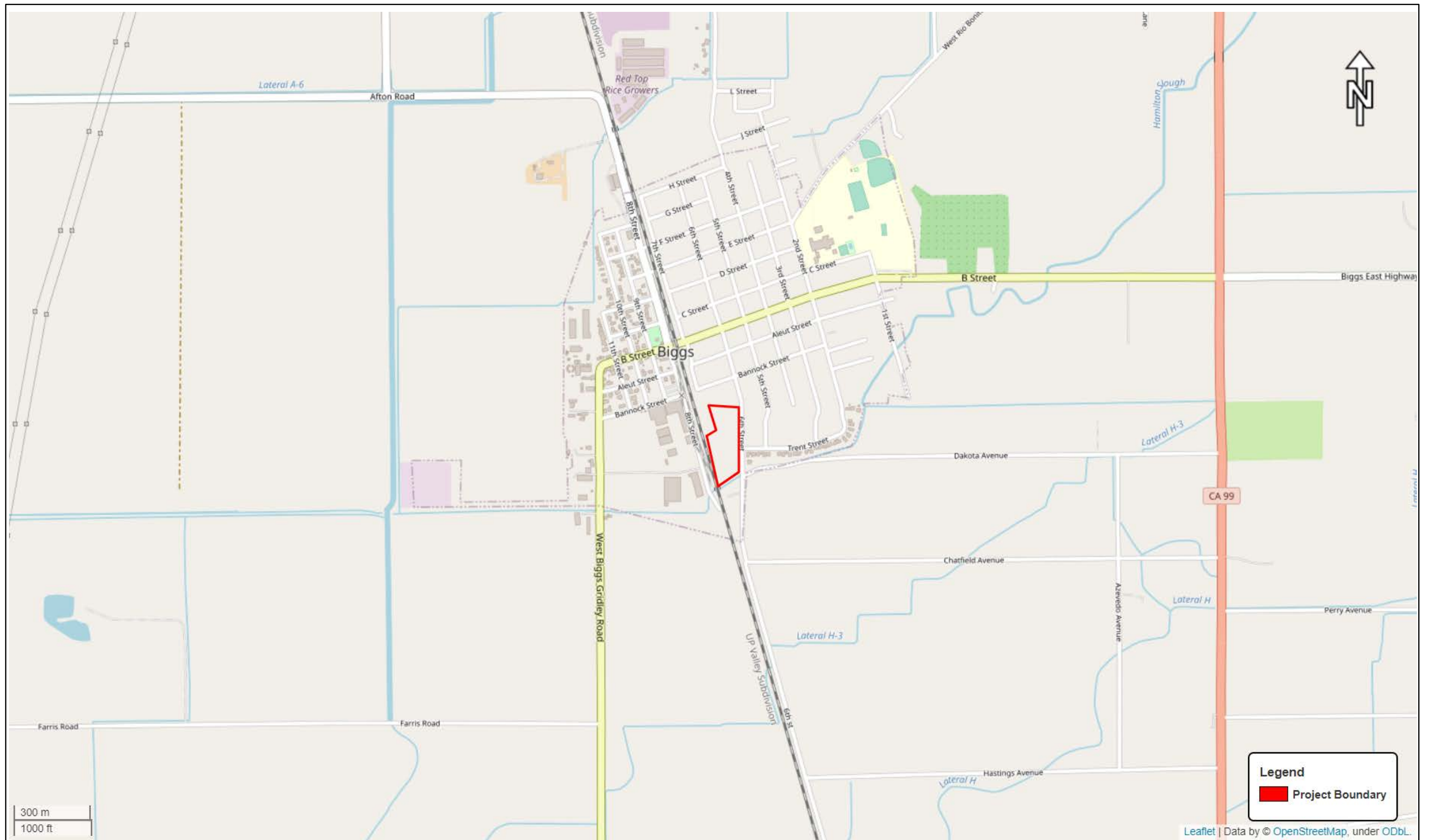


Map Date: 7/6/2022  
Photo (or Base) Source: Open Street Maps 2022

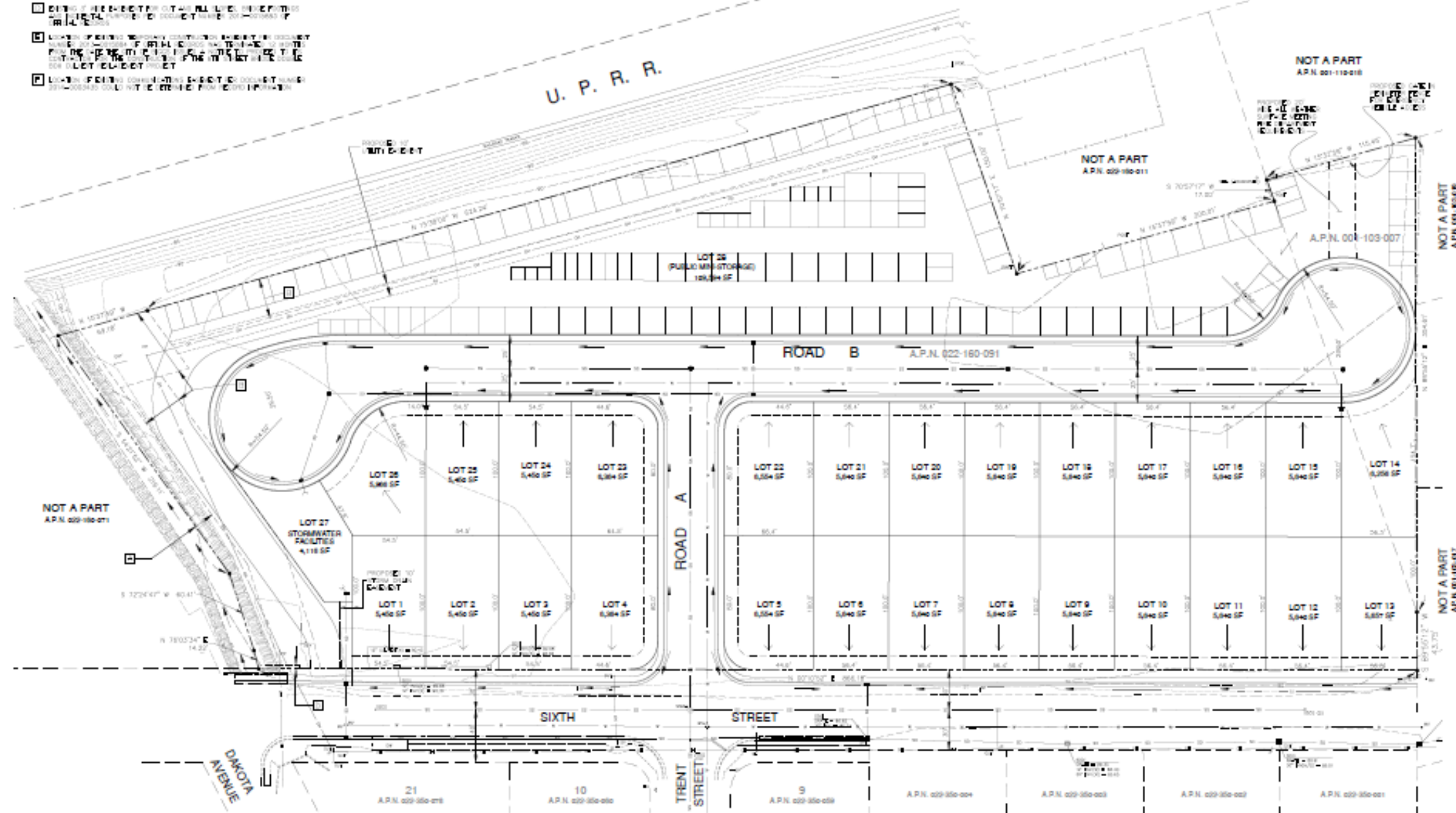
**Figure 1. Regional Location Map**

2022-110 Hamman Subdivision Map





**Figure 2. Project Location Map**  
 2022-110 Hamman Subdivision Map

[illegible]

PROPOSE PROJECT FOLLOWING

PROPOSE TIME-PAID AND PROJECT USE

PROPOSE CIVIL, UTILITY AND (SPECIAL)

PROPOSE PUBLICLY AVAILABLE

PROPOSE PUBLIC BENEFIT

PROPOSE MAINTENANCE

PROPOSE STORM DRAIN

PROPOSE SANITARY DRAIN

PROPOSE ALTERNATIVE

PROPOSE RECREATION

PROPOSE STORM DRAIN OR STORM DRAIN

ESTIMATE PROJECT USE

ESTIMATE USE OF CONCRETE

ESTIMATE USE OF FIBERGLASS

ESTIMATE USE OF FIBERGLASS

ESTIMATE STORM DRAIN USE

ESTIMATE GROUND WATER CONTAMINATION (SPECIAL)

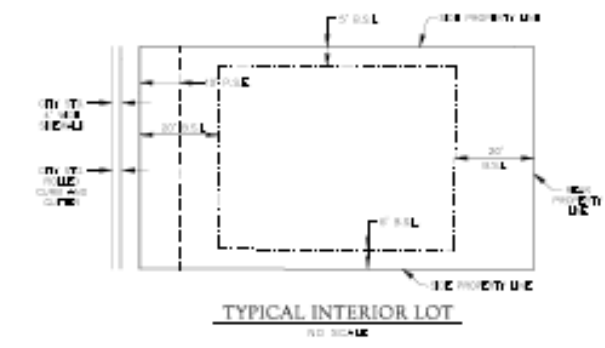
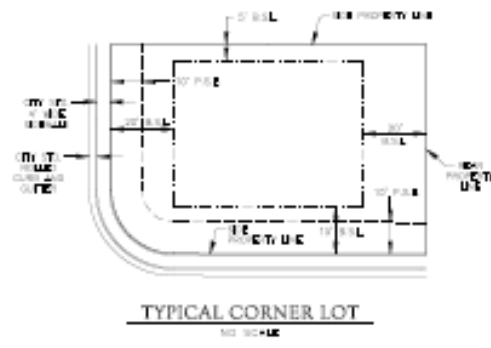
ESTIMATE GROUND WATER CONTAMINATION (SPECIAL)

ESTIMATE MATERIALS REQUIRED

```

00000000 EDITING BROADCAST/FIELD FLAG
00000001 EDITING SECTION OF FIELD FLAG
00000002 EDITING STEREO CHANNELS DEPT CODE
00000003 EDITING SATELLITE OR DISC RELEASE CUT
00000004 EDITING PALSER VALUE
00000005 EDITING PULSED MODE
00000006 EDITING ECHOES
00000007 EDITING PRE-EQ-MAIN CONTROL VALUE
00000008 EDITING MAIN POST
00000009 EDITING POWER PAUSE
0000000A EDITING TITLE NAME PAUSE
0000000B EDITING BUY NUMBER
0000000C EDITING PAUSE NUMBER
0000000D EDITING STREET UNIT
0000000E EDITING DISCOUNT
0000000F LIT NAME OF THE SOURCE TRACK NUMBER
00000010 MULTIPLE TRACKS LIMIT 1 AND 2
00000011 PROGRAM SURF-E FLOR
00000012 PROGRAM LIT SURF-E FLOR

```



VESTING  
TENTATIVE SUBDIVISION MAP

FOR  
KORY HAMMAN

BEING A PORTION OF LOTS 11, 12, AND 13 AS SHOWN ON THE "MAP OF BIGGS COLONY NO. 1" RECORDED IN BOOK 4 OF MAPS AT PAGE 88 AND A PORTION OF BLOCK 5 AS SHOWN ON THE "MAP OF DOTY'S ADDITION (BIGGS CAL)" RECORDED IN BOOK 4 OF MAPS AT PAGE 8, ALL BEING LOCATED IN SECTION 14, TOWNSHIP 18 NORTH, RANGE 2 EAST, M<sup>2</sup>D<sup>2</sup>N, CITY OF BIGGS COUNTY OF BUTTE STATE OF CALIFORNIA



**R.A.R.**  
ROLLS ANDERSON & ROLLS  
ENGINEERS  
115 KILBURN ROAD, LONDON, N.W.11 1AB  
TELEPHONE: 0208 451 2222

OCTOBER, 2021 20162 SHEET 2 OF 2

Map Date: 7/6/2022  
Photo (or Base) Source: *Rolls Anderson & Rolls 2022*



**Figure 3. Project Site Plan**  
*2022-110 Hamman Subdivision Map*

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## 2.0 PROJECT DESCRIPTION

### 2.1 Project Characteristics

Hamman Real Estate (Owner) proposes a tentative subdivision map seeking to subdivide two existing parcels of land to allow for the development of a mini-storage facility on approximately 2.52 acres and creating 26 single-family lots, a stormwater retention basin (Lot 27) and public streets, on 5.03 acres of land. The Proposed Project has been designed to allow the proposed mini-storage units to provide a buffer between the existing railroad tracks, municipal electric utility infrastructure and SunWest rice mill located west of the Project and the proposed residential component. The existing lots proposed for division under the proposed map are identified as Butte County APNs 022-160-091 and 001-103-007. The total combined acreage of the two parcels is approximately 7.55 acres.

As proposed, the Project would provide one new primary access point to the residential portion of the Project at the existing intersection of Sixth and Trent streets. The new primary entrance is designated as *Road A* on the proposed map (Figure 3). Access to the proposed residential lots would be provided by Sixth Street and a newly proposed *Road B* internal to the Project. A new driveway entrance providing access to the mini-storage component of the Project is proposed to be located approximately 233 feet south of proposed Road A (Figure 3). The proposed mini-storage access drive is proposed as a 20-foot improved driveway south of proposed Lot 1 while the proposed storm water basin is proposed north of the bank slope of the Hamilton Slough drainage lying south of the property. An improved 10-foot all-weather secondary emergency access point is proposed to be located in the northwest corner of the proposed subdivision. The proposed emergency access road is proposed to exit the Project Site onto an existing parcel owned by the City of Biggs and used as the access point to the City's electric service infrastructure.

The Project proposes to connect to existing utility services (i.e., potable water, sewer and electric) owned and operated by the City of Biggs. Project storm water drainage would be directed to a proposed storm water basin located in the southern portion of the site and exiting the proposed basin to existing City of Biggs storm water infrastructure located in Sixth Street, eventually falling into the Hamilton Slough. The Project would be provided emergency life safety and fire protection service by the City via the City's contract with Butte County California Department of Forestry and Fire Protection (CAL FIRE); with law enforcement service by the City via the City's contract with the Butte County Sheriff's Office and with electrical service by the City of Biggs.

The southern portion of the Project Site is currently designated with a combination of land use designations in the City's General Plan Land Use Plan. The Proposed Project Site currently has two land use designations on the combined site and three zoning designations. The Low Density Residential (LDR) designation has been placed on the southern third of the site with the Medium Density Residential (MDR) land use designation applied to the northern two thirds of the Project Site. The LDR designation contemplates the use of the land for single-family homes, second dwelling units, and other compatible uses. This land use designation would be expected to result in the form of detached dwellings on individual lots. The MDR designation allows for a variety of residential living environments, including single-family detached dwellings on small lots, townhomes, duplex residences, multi-story dwellings, and

other compatible uses. As proposed, both parcels would be used for single-family detached dwellings having lot sizes ranging from 5,450 to 6,256 square feet (SF). The zoning on the site is a combination of three zoning districts with the northernmost parcel located in the R-2, MDR zoning district, the narrow rectangular-shaped portion in the northern of APN 001-103-007 located in the C-G, General Commercial zoning district, and the southern two thirds of the site located in the M-1, Light Industrial zoning district.

### **2.1.1 General Plan Amendment and Rezone**

In order to comply with the City of Biggs General Plan, the Project is proposing a General Plan Amendment and Rezoning. Specifically, the residential component of the Project would be designated MDR in the General Plan and zoned with the R-2 (MDR) zoning classification, and the mini-storage area would be redesignated Light Industrial (LI) in the General Plan and rezoned with the M-1, Light Industrial zoning district (see Figures 4 and 5). As previously described, the MDR land use designation allows for a variety of residential living environments, including single-family detached dwellings on small lots. Single-family residential uses are permitted in the R-2 district at a gross density between 6.0 and 14.0 units/gross acre (pursuant to Biggs Municipal Code Chapter 14.270) and would be consistent with the General Plan as proposed pursuant to the City's Land Use and Zoning Compatibility table. The residential component of the Proposed Project creates a gross density of 7.45 dwelling units per acre, consistent with the MDR General Plan designation. The 2.52-acre mini-storage component is proposed to be redesignated LI and rezoned to the M-1, Light Industrial zoning district. The LI General Plan designation is intended to include industrial and some commercial operations and facilities that produce little or no external noise, odors, glare, air pollution, fire hazards, or safety hazards. Uses expected in this designation include storage facilities. Public/mini-storage is a permitted use in the M-1 district (pursuant to Biggs Municipal Code Chapter 14.360).

### **2.1.2 Construction**

Construction activities associated with the Proposed Project would require site preparation, grading, utility connections, building construction, and frontage improvements (e.g., new curb, gutter, sidewalk, and driveway construction). Construction staging and storage areas are anticipated to be on the Project Site. Construction of the Project would not require the use of a pile driver, as a deep foundation is not included as part of the Project design.

## **2.2 Regulatory Requirements, Permits, and Approvals**

The following approvals and regulatory permits would be required for implementation of the Proposed Project.

ASSESSORS PARCEL NUMBERS: 022-160-091 & 001-103-007  
PARCEL AREA: 7.55 ACRES ±

EXISTING:	
A.P.N. 001-103-007	MDR (MEDIUM DENSITY RESIDENTIAL)
A.P.N. 022-160-091	LDR (LOW DENSITY RESIDENTIAL)
	MDR (MEDIUM DENSITY RESIDENTIAL)
PROPOSED:	
A.P.N. 001-103-007	M-1 (LIGHT INDUSTRIAL)
	MDR (MEDIUM DENSITY RESIDENTIAL)
A.P.N. 022-160-091	M-1 (LIGHT INDUSTRIAL)
	MDR (MEDIUM DENSITY RESIDENTIAL)

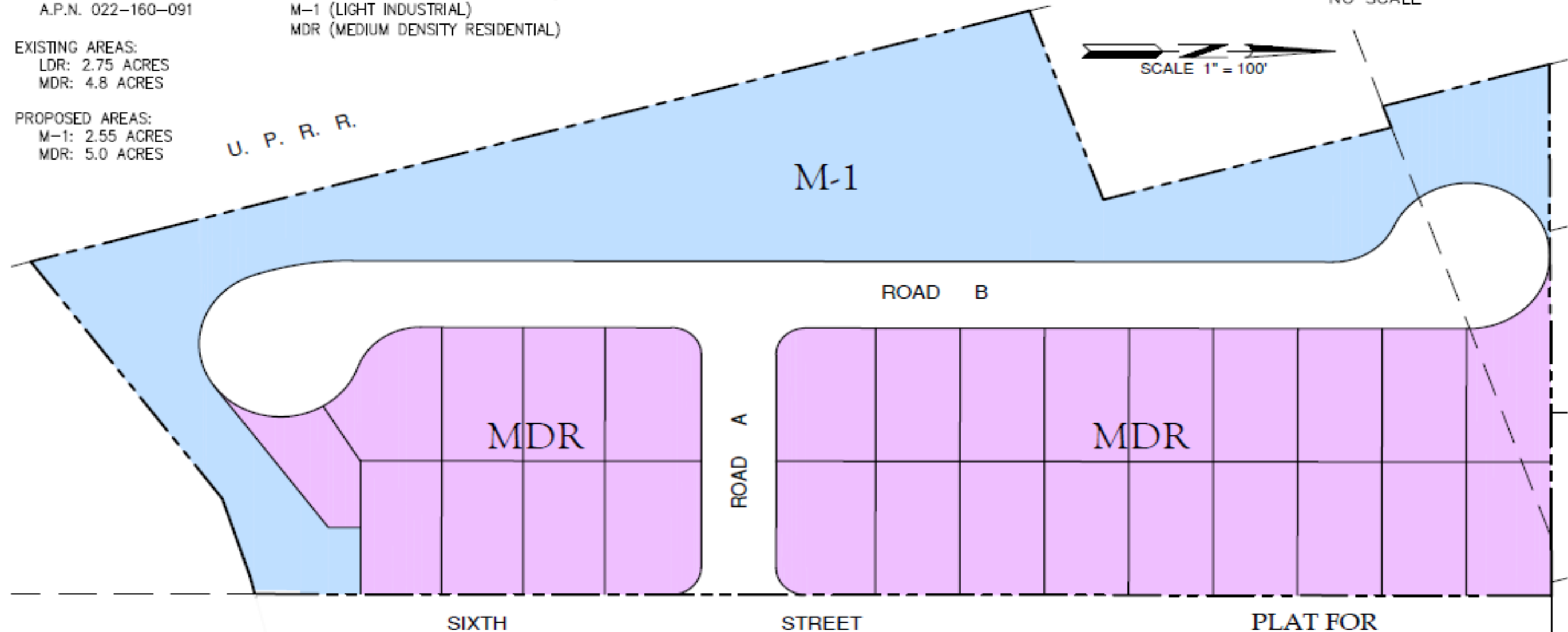
SHEPPARD FAMILY TRUST ETAL  
1791 HIGHWAY 99  
GRIDLEY, CA 95948  
(530) 846-2567

ROLLS, ANDERSON & ROLLS  
PAUL W. RABO -- RCE 72209  
115 YELLOWSTONE DRIVE, CHICO, CA 95973  
(530) 895-1422

KORY HAMMAN  
1791 HIGHWAY 99  
GRIDLEY, CA 95948  
(530) 846-2567



LOCATION MAP  
NO SCALE



MDR	MEDIUM DENSITY RESIDENTIAL
M-1	LIGHT INDUSTRIAL

FOR  
KORY HAMMAN

 **RAR**  
**ROLLS ANDERSON & ROLLS**  
CIVIL ENGINEERS  
115 YELLOWSTONE DRIVE • CHICO, CALIFORNIA 95973-5811  
TELEPHONE 530-895-1422

AUGUST, 2022 20162 SHEET 1 OF 1

Map Date: 9/21/2022  
Photo (or Base) Source: *Rolls Anderson & Rolls 2022*



### Figure 4. Project General Plan Amendment

2022-110 Hamman Subdivision Map

## PROPERTY DATA

ASSESSORS PARCEL NUMBERS:  
PARCEL AREA:

022-160-091 & 001-103-007  
7.55 ACRES ±

## ZONING

EXISTING:

A.P.N. 001-103-007  
A.P.N. 022-160-091

R-2 (MEDIUM DENSITY RESIDENTIAL)  
C-G (GENERAL COMMERCIAL)  
M-1 (LIGHT INDUSTRIAL)

PROPOSED:

A.P.N. 001-103-007  
A.P.N. 022-160-091

R-2 (MEDIUM DENSITY RESIDENTIAL)  
M-1 (LIGHT INDUSTRIAL)  
R-2 (MEDIUM DENSITY RESIDENTIAL)  
M-1 (LIGHT INDUSTRIAL)

PROPOSED AREAS:

M-1: 2.55 ACRES  
R-2: 5.0 ACRES

EXISTING AREAS:

C-G: 1.6 ACRES  
M-1: 5.5 ACRES  
R-2: 0.45 ACRES

## OWNER

SHEPPARD FAMILY TRUST ETAL  
1791 HIGHWAY 99  
GRIDLEY, CA 95948  
(530) 846-2567

## ENGINEER

ROLLS, ANDERSON & ROLLS  
PAUL W. RABO -- RCE 72209  
115 YELLOWSTONE DRIVE, CHICO, CA 95973  
(530) 895-1422

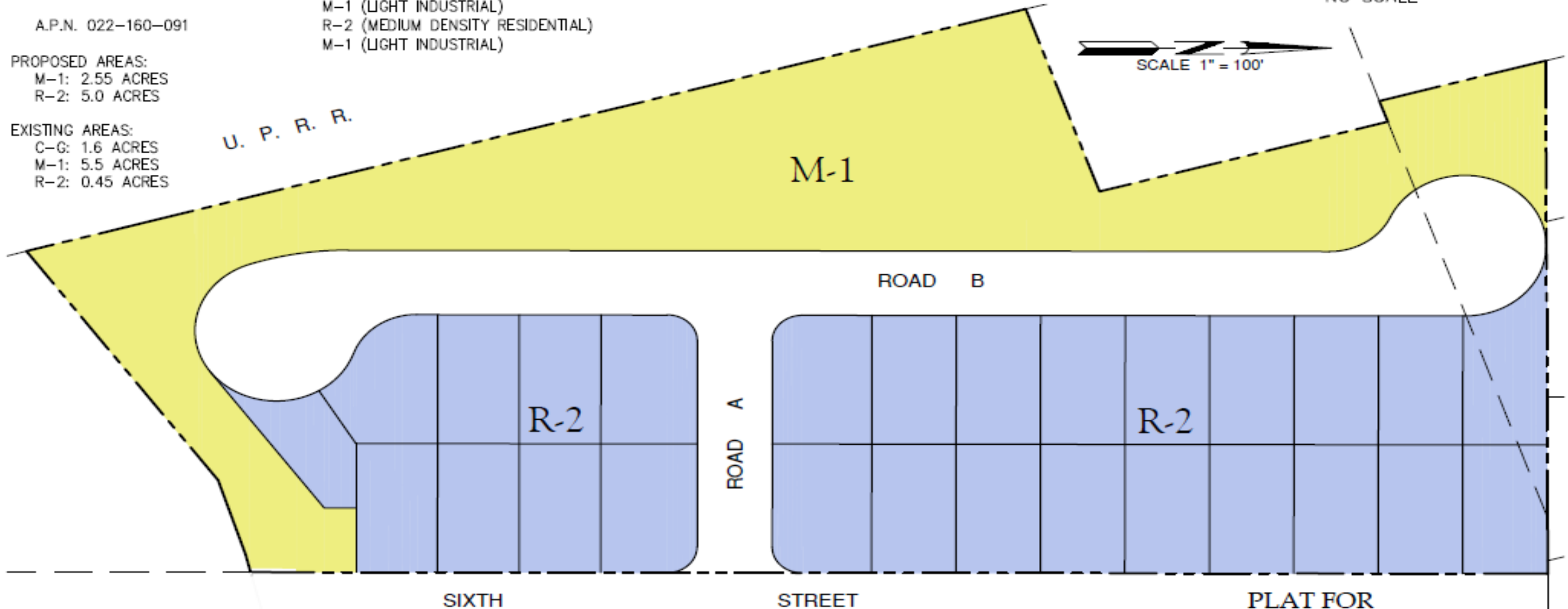
## APPLICANT

KORY HAMMAN  
1791 HIGHWAY 99  
GRIDLEY, CA 95948  
(530) 846-2567



LOCATION MAP  
NO SCALE

SCALE 1" = 100'



## LEGEND

R-2	MEDIUM DENSITY RESIDENTIAL
M-1	LIGHT INDUSTRIAL

PLAT FOR  
REZONE

FOR  
KORY HAMMAN

**ROLLS ANDERSON & ROLLS**  
CIVIL ENGINEERS  
115 YELLOWSTONE DRIVE • CHICO, CALIFORNIA 95973-5811  
TELEPHONE 530-895-1422

AUGUST, 2022 20162 SHEET 1 OF 1

Map Date: 9/21/2022  
Photo (or Base) Source: Rolls Anderson & Rolls 2022

Figure 5. Project Zone Change

2022-110 Hamman Subdivision Map

### **2.2.1 Lead Agency Approval**

As the lead agency, the City of Biggs has the ultimate authority for Project approval or denial. The Proposed Project may require the following discretionary approvals and permits by the City for actions proposed as part of the Project:

- General Plan Amendment
- Conforming Rezone
- Building Clearances: Building Permit
- Public Works Clearances: Grading Permit, Public Street Improvement Permit
- Approval of Site Plan and Design Review
- Adoption of the IS/MND and Mitigation Monitoring and Reporting Plan

### **2.2.2 Relationship of Project to Other Plans and Projects**

#### **2.2.2.1 City of Biggs General Plan**

California state law requires cities and counties to prepare a general plan describing the location and types of desired land uses and other physical attributes in the city or county. General plans are required to address land use, circulation, housing, conservation, open space, noise, and safety. The Proposed Project would be located in Biggs. The *City of Biggs General Plan* is the City's basic planning document and provides a comprehensive, long-term plan for physical development in the city (City of Biggs 2014). The *City of Biggs General Plan* was adopted by the City Council on April 8, 2014. The General Plan provides the basis for Biggs' regulation of the overall amount, character, and location of urban development, as well as preservation and natural resource conservation, economic development, transportation, safety, public facilities and services, and housing. As the City's *constitution*, the General Plan fulfills state legal requirements for long-range comprehensive planning and provides a framework for the City to exercise its land use entitlement authority, as provided under state law. The General Plan is both comprehensive and internally consistent; it addresses a broad range of topics with policies that are mutually supportive. The General Plan is intended to be implemented over the long term. It identifies key locations within the City where there is capacity for future growth and identifies how the City will protect, enhance, and maintain a high quality of life along with growth and development. Because the General Plan includes projections of future development capacity, it serves as a tool for the City and other service providers to plan for services, facilities, infrastructure, and environmental mitigation.

#### **2.2.2.2 City of Biggs Municipal Code Title 14 Zoning**

The Proposed Project is required to comply with the City's Municipal Code, including Title 14 Zoning (City of Biggs 2021). The zoning plan was adopted to promote and protect the public health, safety, and general welfare of the people of the city by adopting a zoning plan and regulations providing generally for:

## **2.3 Consultation with California Native American Tribe(s)**

Assembly Bill (AB) 52 requires that prior to the release of a CEQA document for a project, an agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the Proposed Project 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.

### 3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

#### 3.1 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" as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Hazards/Hazardous Materials	<input type="checkbox"/> Transportation
<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Hydrology/Water Quality	<input checked="" type="checkbox"/> Tribal Cultural Resources
<input checked="" type="checkbox"/> Air Quality	<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Utilities and Service Systems
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Wildfire
<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Noise	<input checked="" type="checkbox"/> Mandatory Findings of Significance
<input type="checkbox"/> Energy	<input type="checkbox"/> Population and Housing	
<input checked="" type="checkbox"/> Geology and Soils	<input type="checkbox"/> Public Services	
<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Recreation	

#### Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	<input type="checkbox"/>
I find that although the 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.	<input checked="" type="checkbox"/>
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	<input type="checkbox"/>
I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) 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.	<input type="checkbox"/>
I find that although the 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 Project, nothing further is required.	<input type="checkbox"/>

*Dennis Schmidt*

Dennis Schmidt  
Interim City Administrator

9/29/22

Date

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## 4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

### 4.1 Aesthetics

#### 4.1.1.1 Regional Setting

According to the City of Biggs General Plan Draft Environmental Impact Report (DEIR), "the City of Biggs is characterized by scenic views that include orchards of almonds, walnuts, prunes, and citrus, and fields of corn, wheat, rice, and beans." Biggs is located in Butte County in the Sacramento Valley of Northern California, approximately 60 miles north of Sacramento. Biggs is approximately 25 miles south of Chico and 25 miles north of Yuba City, just off State Route (SR) 99, at an elevation of 93 feet. Biggs is approximately 4 miles north of Gridley.

#### State Scenic Highways

The intent of the California Scenic Highway Program is to protect and enhance the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view. No officially designated scenic highways are located within the vicinity of the Project Site.

#### 4.1.1.2 Visual Character of the Project Site

The surrounding land uses consists of residential neighborhoods to the north and the east, Hamilton Slough to the south, and the UPRR to the west. The Project Site is flat and has been heavily disturbed by regular farming activities including tilling, disking, and mowing of grass and weeds. Soils within the Project Site are clay loams with a deep restrictive layer within 20 to 40 inches in depth. The Hamilton Slough adjacent to the Project's southern boundary is void of vegetation aside from sparse grasses and ruderal weeds, indicating regular vegetation management.

#### 4.1.2 Aesthetics (I) Environmental Checklist and Discussion

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### **No Impact.**

A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Scenic resources in the City of Biggs predominantly include views of the agricultural landscape and perennial and ephemeral drainages. The surrounding land uses of the Project Site consist of residential neighborhoods to the north and the east, Hamilton Slough to the south, and the UPRR to

the west. As previously described, the Project Site is flat and has been heavily disturbed by regular farming activities including tilling, disking, and mowing of grass and weeds.

The Biggs General Plan does not identify any areas considered to be scenic vistas that need to be protected and preserved in the city. Additionally, the Project Site is not considered to be in an area of significant visual qualities and does not contain areas of any significant visual features. Existing views of that include orchards of almonds, walnuts, prunes, and citrus; fields of corn, wheat, rice, and beans within Biggs are fragmented by existing development and trees. The Project would not affect the viewshed or scenic vista of the site. Therefore, the Proposed Project would have **no impact** on scenic vistas.

<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### **No Impact.**

The Proposed Project is not located within the vicinity of an officially designated scenic highway. **No impact** would occur.

<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

Hamman Real Estate proposes a tentative subdivision map allowing for the development of a mini-storage facility on approximately 2.52 acres, in addition to 26 single family homes and creating 26 single-family lots, a stormwater retention basin (Lot 27) and public streets on 5.03 acres of land. The southern portion of the Project Site is currently designated LDR by the City of Biggs General Plan, while the northern portion is designated MDR. The LDR designation allows for single-family homes, second dwelling units, and other compatible uses. This land use designation would be expected to result in the form of detached dwellings on individual lots. The MDR designation allows for a variety of residential living environments, including single-family detached dwellings on small lots, townhomes, duplex residences, multi-story dwellings, and other compatible uses. The site similarly contains multiple zoning

districts with the majority classified as Light Industrial (M-1) with the rest classified as General Commercial (C-G).

Implementation of existing City development and design standards contained in the Municipal Code and City General Plan would ensure visual compatibility with existing development and the preservation of unique natural features and scenic resources. For instance, the proposed development would be subject to Chapter 14.55 of the Municipal Code, which provides a design review process for development in the City intended to promote a visual environment of high aesthetic quality. The City's Planning Department and City Council promote responsible architectural design consistent with the City's character by enforcing the design guidelines as promulgated in Chapter 14.55 of the Biggs Municipal Code (City of Biggs 2013). Per Municipal Code Chapter 14.55, the City Planning Department is required to review architectural drawings or renderings of proposed land use development projects, including those of the Proposed Project, which are required to be submitted with an application for a building permit. The city design process focuses on three major areas: site design, building design, and landscape design. Policy CE-5.1 of the City General Plan Community Enhancement Element requires City planning staff to mandate City design standards to both public and private development projects. Policy CE-1.4 requires City planning staff to ensure that new development is compatible with existing development through the integration of site design elements, building attributes, and/or community design features and patterns. General Plan policy provisions and Chapter 14.55 would be effective in reducing the visual prominence and aesthetic impact of new development. It is also noted that the Project is proposed within the urbanized boundaries of the city and would not substantially degrade the existing visual character of the site and surrounding area. Therefore, this impact is considered **less than significant**.

<b>Except as provided in Public Resources Code Section 21099, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

The Project Site is on vacant land. Surrounding land uses and infrastructure provide sources of light and glare experienced within the Project Site. Implementation of the Project would introduce future new sources of daytime glare and may change nighttime lighting and illumination levels. Lighting nuisances typically are categorized by the following:

- Glare – Intense light that shines directly or is reflected from a surface into a person's eyes
- Skyglow/Nighttime Illumination – Artificial lighting from urbanized sources that alters the rural landscape in sufficient quantity to cause lighting of the nighttime sky and reduction of visibility of stars and other astronomical features
- Spillover Lighting – Artificial lighting that spills over onto adjacent properties, which could interrupt sleeping patterns or cause other nuisances to neighboring residents

Activities associated with Project construction have the potential to increase lighting and glare within and around the Project Site. Sources of additional light and glare would emanate from area lighting during any nighttime work, headlights from construction equipment, and the glare from construction equipment reflective surfaces. Although there is a potential to increase lighting and glare within and around the Project Site during construction, these sources would be temporary and would cease upon Project completion.

Development under the Proposed Project would include a mini-storage facility as well as 26 single-family homes. Building materials (e.g., reflective glass and polished surfaces) are the most substantial sources of glare. The amount of glare depends on the intensity and direction of sunlight, which is more acute at sunrise and sunset because the angle of the sun is lower during these times. Additionally, the Proposed Project may result in a moderate increase of artificial light into the existing environment. For instance, the Proposed Project could have potential nighttime lighting associated with lighting from the mini-storage facility and single-family residences. The introduction of new sources of light may contribute to nighttime light pollution and result in impacts to nighttime views in the area.

As required by Section 14.55.080 and 14.60.130 of the City's Municipal Code, all exterior lighting be functional, subtle, and architecturally integrated with the site and building design. All exterior lighting has to be directed onto the site and away from adjacent properties. Lighting within or adjacent to residential district must be located and/or shielded so as to be directed onto the site on which the lights are installed.

Adherence to the City standards and to the Municipal Code would reduce the impacts to daytime glare and nighttime lighting by requiring design guidelines and standards to limit lighting leakage and glare. The impact would be **less than significant**, and no mitigation is required.

#### **4.1.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

### **4.2 Agriculture and Forestry Resources**

#### **4.2.1 Environmental Setting**

The California Department of Conservation (DOC) manages the Farmland Mapping and Monitoring Program, which identifies and maps significant farmland. Farmland is classified using a system of five categories including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. The classification of farmland as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is based on the suitability of soils for agricultural production, as determined by a soil survey conducted by the Natural Resources Conservation Service (NRCS). The DOC manages an interactive website, the California Important Farmland Finder, an interactive website program, which can be used to identify the farmland classification of a specific area. The DOC California Important Farmland Finder identifies the Project Site as being within an area of *Urban and Built-Up Land* and *Other Land* (DOC 2021). Additionally, none of the land within the Project Site or vicinity is under a Williamson Act contract. The Project Site contains no forest or timber resources and is not zoned for forestland

protection or timber production. As previously stated, the Project Site is currently zoned for R-2, Medium Density; M-1, Light Industrial; and C-G, General Commercial. These zoning districts are not intended for agricultural uses or timber uses. The Project Site is not located adjacent to any farmland.

#### 4.2.2 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### No Impact.

The DOC identifies the Project Site as *Urban and Built-Up Land* as well as *Other Land*. There is currently no designated Important Farmland within the Project Site, nor within the Project vicinity. As previously discussed, the DOC Important Farmland Finder Map classifies the Project Site as being within an area of *Urban and Built-Up Land* and *Other Land*, and adjacent to *Urban and Built-Up Land* to the west, north, and east and *Prime Farmland* to the south (DOC 2021). Therefore, the Proposed Project would not result in the conversion of any Important Farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) to any uses other than agriculture, and **no impact** would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### No Impact.

The Project Site is located within an area of *Urban and Built-Up Land* and none of the land within the Project Site or vicinity is under a Williamson Act contract. As previously stated, the Project Site is currently zoned for R-2, Medium Density; M-1, Light Industrial; and C-G, General Commercial. There are no existing agricultural operations taking place on the Project Site. **No impact** would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project Site is not located in a protected forestland or timber production area. The Project would have **no impact** in this area.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

No identified forest lands exist on the Project Site or within the vicinity of the Project. The Project would have **no impact** in this area.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project Site and surrounding properties are not currently used for agriculture or forest land resources. As previously discussed, the DOC Important Farmland Finder Map classifies the Project Site as being within an area of *Urban and Built-Up Land* and *Other Land*, and adjacent to *Urban and Built-Up Land* to the west, north, and east and *Prime Farmland* to the south (DOC 2021). There are no forest lands on the Project Site. The Project would have **no impact** in this area.

### **4.2.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

## **4.3 Air Quality**

### **4.3.1 Environmental Setting**

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Northern Sacramento Valley Air Basin (NSVAB), which encompasses the Project Site, pursuant to the regulatory authority of the air pollution control officer for the region, the Butte County Air Quality Management District (BCAQMD).

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

The BCAQMD is the air pollution control agency for Butte County, including the Project Site. The agency's primary responsibility is ensuring that the federal and state ambient air quality standards are attained and maintained in the Butte County portion of the NSVAB. The BCAQMD, along with other air districts in the NSVAB, has committed to jointly prepare and implement the NSVAB Air Quality Attainment Plan for the purpose of achieving and maintaining healthful air quality throughout the air basin. The BCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All land use development projects in the City are required to implement all applicable BCAQMD rules as a standard condition of approval.

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called *criteria* pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O<sub>3</sub>), carbon monoxide (CO), particulate matter (PM), oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Butte County portion of the NSVAB region is designated as being in State nonattainment for O<sub>3</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> standards, and federal nonattainment for the O<sub>3</sub> standard (CARB 2019).

### 4.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the BCAQMD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Butte County. Operational air pollutant emissions were based on the Project Site plans and operational trip generation rates provided by CalEEMod, which derives its data from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. All CalEEMod output files can be found in Appendix A.

### 4.3.3 Air Quality (III) Environmental Checklist and Discussion

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Less Than Significant Impact

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the North American Air Quality Standards and California Ambient Air Quality Standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The 2018 Triennial Air Quality Attainment Plan (2018 Plan) is the most recent air quality planning document covering Butte County. Air quality attainment plans are a compilation of new and previously submitted plans, programs (e.g., such as monitoring, modeling, permitting), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. State law makes CARB the lead agency for all purposes related to the Air Quality Attainment Plan. Local air districts prepare air quality attainment plans and submit them to CARB for review and approval. The 2018 Plan provides population and vehicle miles traveled (VMT) projections for the entire NSVAB through the year 2025. The plan also includes control strategies necessary to attain the California O<sub>3</sub> standard at the earliest practicable date, as well as developed emissions inventories and associated emissions projections for the region showing a downtrend for both Reactive Organic Gases (ROG) and NO<sub>x</sub>.

The consistency of the Proposed Project with the 2018 Plan is determined by its consistency with air pollutant emission projections in the plan. The 2018 Plan addresses growth by projecting the growth in



emissions based on different indicators. For example, population forecasts provided by the California Department of Finance (DOF) are used to forecast population-related emissions. Through the planning process, emission growth is offset by basin-wide controls on stationary, area, and transportation sources of air pollution. In other words, the plans and control measures in the *2018 Plan* are based on information derived from projected growth in order to predict future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections for the City are based on the City's General Plan using the population projections established by the Butte County Association of Governments (BCAG) in their Long-Term Regional Growth Forecast 2010-2035 report. Because of the limited amount of vacant land in the City, it is assumed that the population growth established by BCAG must involve annexation of land.

Although the Proposed Project would be amending the General Plan's land use designation and reclassifying the zoning of the Project Site, the new uses for the site will actually reduce impacts to air quality compared with development allowed under the current General Plan land use designations (a combination of LDR and MDR designations). By supplementing the potential housing that would have been built on the site with a mini-storage facility, pollutants emitted from traveling to a nearby city, such as Gridley or Chico, for a storage unit are significantly reduced (there are currently no mini-storage facilities in Biggs). Additionally, operational emissions from a storage facility, as proposed by the Project, would be significantly less than those that would be emitted from housing, as currently allowed. Furthermore, as shown in Tables 4.3-2 and 4.3-3, Project emissions would be generated at rates below all BCAQMD significance thresholds, which were developed to achieve attainment goals in Butte County. As such, the Proposed Project's impact to conflict with the NSVAB Air Quality Attainment Plan is **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact with Mitigation.**

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Implementation of the Proposed Project could result in air quality impacts during construction and operations. As shown in Table 4.3-1, the BCAQMD has established thresholds of significance for air quality pertaining to construction and operational activities of land use development projects such as that

proposed. The Butte County portion of the NSVAB region is designated as being in State nonattainment for O<sub>3</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and federal non-attainment for O<sub>3</sub> (CARB 2019).

<b>Table 4.3-1. BCAQMD Significance Thresholds</b>			
<b>Air Pollutant</b>	<b>Construction Activities</b>		<b>Operations Pound per Day</b>
	<b>Pounds per Day</b>	<b>Tons per Year</b>	
Reactive Organic Gas	137 lbs	4.5	25
Carbon Monoxide	-	-	-
Nitrogen Oxide	137 lbs	4.5	25
Sulfur Oxide	-	-	-
Coarse Particulate Matter	80 lbs	-	80
Fine Particulate Matter	-	-	-

Source: BCAQMD 2014

As shown, the BCAQMD has established thresholds of significance for air quality for construction and operational activities of land use development projects.

### **Construction Impacts**

Construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., tractors, forklifts, pavers), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities.

Construction-generated emissions associated the Proposed Project were calculated using the CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Appendix A provides for more information regarding the construction assumptions used in this analysis, including construction equipment and duration.

Predicted maximum daily construction-generated emissions for the Proposed Project are summarized in Table 4.3-2. Construction-generated emissions are short-term and of temporary duration, lasting only if construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the thresholds of significance.

<b>Table 4.3-2. Construction-Related Emissions</b>			
<b>Construction Year</b>	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>
Pounds per Day			
Construction Year One	13.54	27.56	21.02
Construction Year Two	13.36	25.19	1.65
<i>BCAQMD Daily Significance Threshold</i>	137	137	80
<b>Exceed BCAQMD Daily Threshold?</b>	No	No	No
Tons per Year			
Construction Year One	1.14	2.54	0.33
Construction Year Two	0.43	0.82	0.00
<i>BCAQMD Annual Significance Threshold</i>	4.5	4.5	N/A
<b>Exceed BCAQMD Annual Threshold?</b>	No	No	N/A

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

As shown in Table 4.3-2, emissions generated during Project construction would not exceed the BCAQMD's daily or annual thresholds of significance.

Criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. Since the Project's emissions do not exceed BCAQMD thresholds, no exceedance of the ambient air quality standards would occur, and no regional health effects from Project criteria pollutants would occur. Construction impacts would be **less than significant**.

### **Long-Term Operational Impacts**

Operational-generated emissions associated with the Proposed Project were calculated using CalEEMod. Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM<sub>10</sub>, PM<sub>2.5</sub>, CO, and SO<sub>2</sub> as well as O<sub>3</sub> precursors such as ROG<sub>s</sub> and NO<sub>x</sub>. Project-generated increases in emissions would be predominantly associated with motor vehicle use. Long-term operational emissions attributable to the Proposed Project are identified in Table 4.3-3.

<b>Table 4.3-3. Unmitigated Operational-Related Emissions (Regional Significance Analysis)</b>						
<b>Emission Source</b>	<b>Pollutant (pounds per day)</b>					
	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Daily Emissions</b>						
Area	44.66	0.79	52.06	0.09	7.01	7.01
Energy	0.06	0.54	0.39	0.00	0.04	0.04
Mobile	1.20	1.29	0.01	1.24	1.25	0.35
Total:	45.92	2.62	60.41	0.11	8.29	7.39
<i>BCAQMD Significance Threshold</i>	25	25	-	-	80	-
<b>Exceed BCAQMD Threshold?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>N/A</b>	<b>No</b>	<b>N/A</b>

Source: CalEEMod version 2020.4.0. Refer to Appendix A for Model Data Output.

As shown in Table 4.3-3, daily emissions associated with Project operations would exceed the BCAQMD significance threshold for ROG emissions. In order to reduce the significance of this impact, mitigation measure **AQ-1** is required. Implementation of this measure would prohibit the installation of wood-burning hearths (natural gas hearths are acceptable).

Predicted maximum daily operational emissions with implementation of mitigation measure **AQ-1** are presented in Table 4-4.

<b>Table 4.3-4. Mitigated Operational-Related Emissions (Regional Significance Analysis)</b>						
<b>Emission Source</b>	<b>Pollutant (pounds per day)</b>					
	<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Daily Emissions</b>						
Area	4.07	0.02	2.14	0.00	0.01	0.01
Energy	0.06	0.54	0.39	0.00	0.04	0.04
Mobile	1.20	1.29	7.96	0.01	1.25	0.35
Total:	5.33	1.85	10.49	0.02	1.31	0.39
<i>BCAQMD Significance Threshold</i>	25	25	-	-	80	-
<b>Exceed BCAQMD Threshold?</b>	<b>No</b>	<b>No</b>	<b>N/A</b>	<b>N/A</b>	<b>No</b>	<b>N/A</b>

Source: CalEEMod version 2020.4.0. Refer to Appendix A for Model Data Output.

As shown in Table 4.3-4, mitigation measure **AQ-1** would reduce ROG emissions to a level below the threshold established by the BCAQMD, thereby achieving the required amount of pollutant reduction to

conform to BCAQMD and City of Biggs standards. With mitigation incorporated, the impact would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### **Less Than Significant Impact.**

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive land uses to the Project Site are residences located directly adjacent to the eastern Project Site boundary, approximately 65 feet distant.

### **Construction-Generated Air Contaminants**

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. The Butte County portion of the NSVAB region is designated as being in state nonattainment for O<sub>3</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> standards and federal nonattainment for O<sub>3</sub> (CARB 2019). Thus, pollutant levels in the Butte County portion of the NSVAB are at unhealthy levels during certain periods. However, as shown in Table 4.3-2, the Project would not exceed the significance thresholds for any criteria air pollutant emissions during construction.

The health effects associated with O<sub>3</sub> are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in significant O<sub>3</sub> precursor emissions (ROG or NO<sub>x</sub>) according to Project significance thresholds, the Project is not anticipated to substantially contribute to regional O<sub>3</sub> concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve construction activities that would result in CO emissions more than any common significance thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal

heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the toxic air contaminant (TAC) of concern. The potential cancer risk from the inhalation of DPM outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. PM<sub>10</sub> exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O<sub>3</sub> and NO<sub>x</sub>, the Project would not generate emissions of PM<sub>10</sub> or PM<sub>2.5</sub> that would exceed the BCAQMD's thresholds. Accordingly, the Project's PM<sub>10</sub> and PM<sub>2.5</sub> emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, the Project would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. A **less than significant impact** would occur.

### **Operational Air Contaminants**

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Proposed Project. The Proposed Project would not attract heavy-duty trucks, a substantial source of DPM emissions, that spend long periods queuing and idling at the site. Therefore, the Proposed Project would not be a significant source of TACs during operations. A less than significant impact would occur.

### **Carbon Monoxide Hot Spots**

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or *hot spots*, are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars; there are requirements for certain vehicles that are more stringent. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the NSVAB is designated as unclassified/attainment. Detailed modeling of Project-specific CO hot spots is not necessary and thus this potential impact is addressed qualitatively.

A CO hot spot would occur if an exceedance of the state 1-hour standard of 20 parts per million (ppm) or the 8-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the South Coast Air Quality Management District's (SCAQMD) *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the

2003 Air Quality Management Plan can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD is the air pollution control officer for much of southern California. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992). In order to establish a more accurate record of baseline CO concentrations affecting the Los Angeles, a CO hot spot analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This hot spot analysis did not predict any violation of CO standards. The highest 1-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest 8-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are also employed by other air districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District, the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

Based on estimations from CalEEMod, which is driven by data from ITE Trip Generation Manual, the Project is anticipated to generate approximately 265 trips per day. Thus, the Proposed Project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day) and there is no likelihood of the Project traffic exceeding CO values. Impacts would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### **Less Than Significant Impact.**

During construction the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the Project Site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

CARB's *Air Quality and Land Use Handbook* (2005) identifies the sources of the most common operational odor complaints received by local air districts. Typical sources include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. The Project does not contain any of the land uses identified as typically associated with emissions of objectionable odors.

#### **4.3.4 Mitigation Measures**

**AQ-1:** Prior to the issuance of individual building permits, the City of Biggs Building & Planning Department shall confirm that all construction documents and specifications stipulate that the installation of wood-burning hearths is prohibited. Natural gas-fueled hearths are acceptable.

*Timing/Implementation:* Prior to the Issuance of Building Permits

*Monitoring/Enforcement:* The City of Biggs Planning Department

#### **4.4 Biological Resources**

The following analysis is derived from the Biological Resource Assessment (BRA) prepared for the Project by Gallaway Enterprises, coupled with the Peer Review of BRA for the Proposed Kory Hamman Tentative Subdivision Map Project prepared by ECORP Consulting (Appendix B). The purpose of the BRA is to document the endangered, threatened, sensitive, and rare species and their habitats that occur or may occur on the Project Site. The BRA is limited to the Project boundary where development activities are proposed to take place. The BRA results are the findings of habitat assessments and surveys, and recommendations for avoidance and minimization measures.

##### **4.4.1 Environmental Setting**

The Project Site is located within the northern Sacramento Valley, 4.5 miles west of the Feather River and northeast of the Sutter Buttes in the City of Biggs. The Biological Survey Area (BSA) includes two parcels (Assessor's Parcel Numbers (APN) 022-160-091 and 001-103-007) at latitude 39.410387, longitude -121.711113, within the "Biggs, California " 7.5-minute United States Geological Survey (USGS) quadrangle. The surrounding area consists of residential neighborhood, industrial railway, and agricultural land. The property has been heavily disturbed by regular farming activities including tilling, discing, and mowing of grass and weeds. Residential homes occur to the north, east, and south of the Project Site. A UPRR and industrial property occurs west of the site. Hamilton Slough occurs outside of the Project boundaries, adjacent to the southern boundary. The Slough and its banks are devoid of vegetation aside from sparse grasses and ruderal weeds, indicating regular vegetation management. The overall topography is relatively flat. Soils within the BSA are clay loams with a deep restrictive layer within 20 to 40 inches in depth. The average annual precipitation for the area is 28.61 inches and the average temperature is 62.0°F.



#### **4.4.1.1 Vegetation Communities**

##### **Dryland Grain Crops**

Dryland grain crops do not conform to normal habitat stages or conditions, depending instead upon agricultural crop cycle and type, and habitat conditions are dictated by associated methods of cultivation. Dryland grain crops are located on flat land and often consist of annual row-crops rotating between multiple dry-farmed crops (planted during winter and spring) and sometimes with irrigated crops as well (Gallaway Enterprises 2022). The majority of the Project Site consists of cropland that has been farmed extensively; most of the site was heavily disturbed and had been disked and tilled, with minimal vegetative growth of ruderal weeds. The disturbed agricultural fields provide foraging opportunities for birds and raptors such as red-tailed hawk (*Buteo jamaicensis*), American robin (*Turdus migratorius*), house finch (*Haemorhous mexicanus*), and many others, and provides potentially suitable nesting habitat for ground-nesting species such as killdeer (*Charadrius vociferous*).

##### **Annual Grassland**

Disturbed annual grassland habitat occurs along the edges of the Project Site in areas that are not regularly disturbed by agricultural discing and tilling. The small areas of annual grassland that occur within the site had been mowed prior to the field visit. Vegetation within this disturbed grassland community is primarily composed of annual ruderals and weeds such as medusahead (*Elymus caput-medusae*), wild oats (*Avena barbata*), soft chess (*Bromus hordeaceus*), wild radish (*Raphanus raphanistrum*), perennial ryegrass (*Festuca perennis*), hawkbit (*Leontodon saxatilis*), rip-gut brome (*Bromus diandrus*), prickly lettuce (*Lactuca serriola*), and yellow star-thistle (*Centaurea solstitialis*). Wildlife species use grassland habitat for foraging, but usually require some other habitat characteristic such as rocky outcroppings, cliffs, caves, or ponds to find shelter and cover for escapement. Common species that are found breeding in this habitat type include a variety of ground-nesting avian species and small mammals and reptiles (Gallaway Enterprises 2022).

#### **4.4.1.2 Critical Habitat or Sensitive Natural Communities**

No critical habitats were located within or adjacent to the site during the site visit. Additionally, no sensitive natural communities were located within or adjacent to the site. The Project Site and surrounding uses are disced during continuous agricultural activities making the Project Site unsuitable for critical or sensitive natural communities.

#### **4.4.1.3 Aquatic Resources**

A preliminary aquatic resources assessment was performed to identify potential Waters of the U.S./State concurrent with the site visit. There are no aquatic resources present within the Project Site. The entire Site had been previously disced for continuous agricultural activities. There are no topographic depressions or other topographic relief onsite that could support pooling water or drainageways to extent that wetland indicators would persist.

#### **4.4.1.4    *Special-Status Species***

A summary of special-status species assessed for potential occurrence within the BSA based on the US Fish and Wildlife Service (USFWS), Information Planning and Conservation System (IPaC) species list, California Natural Diversity Data Base (CNDDDB), and the California Native Plant Society list of rare and endangered plants within the "West of Biggs (3912147)", "Biggs (3912146)", "Palermo (3912145)", "Pennington (3912137)" and "Gridley (3912136)" USGS 7.5-minute quadrangles, and their potential to occur within the BSA are described in Table 1 of the BRA. Potential for occurrence was determined by reviewing database queries from federal and state agencies, performing field visits, and evaluating habitat characteristics.

#### **4.4.1.5    *Special-Status Plants***

The land within the BSA is regularly disturbed by agricultural practices including tilling, discing, and mowing. Due to the regular disturbance, maintenance, and farming of the land within the BSA and the lack of suitable habitat components, there is no potential for special-status botanical species to occur within the BSA.

No suitable habitat was observed for any species-status plant species included in Table 1 of the BRA during the habitat assessment conducted on October 27, 2021.

#### **4.4.1.6    *Special-Status Wildlife***

A wildlife habitat assessment was conducted within the Project Site on October 27, 2021. Potentially suitable habitat was identified for ground-nesting avian species protected under the federal Migratory Bird Treaty Act (MBTA) only. There is no suitable habitat present within the BSA for invertebrates, fish, reptiles, or amphibians because of the lack of aquatic features and absence of suitable upland habitat due to continuous agricultural disturbance.

### **Birds**

Nesting birds are protected under the MBTA (16 U.S. Code [USC] 703) and the California Fish and Game Code (Section 3503). The MBTA (16 USC Section 703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations Section 10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

The California Fish and Game Code (Section 3503.5) states that it is:

"unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The California Fish and Game Code (Section 3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

#### 4.4.2 Biological Resources (IV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

##### Less Than Significant with Mitigation Incorporated.

According to the BRA, there are no special-status species previously documented within the Project Site boundaries. However, special-status species occurrences have been documented within an approximate 5-mile radius of the Project Site. Based on species occurrence information from the CNDDDB-tracked plant and animal species, there has been several Swainson’s hawk CNDDDB occurrences in the 5-mile search buffer, including a nesting territory at the Oroville Wildlife Area, approximately 4 to 5 miles east of the Project. Although suitable habitat for avian species protected under the MBTA and the California Fish and Game Code, including Swainson’s hawk, were not identified onsite, there is still a potential to impact such species during the construction of the Proposed Project since the agricultural lands onsite is potential Swainson’s hawk foraging habitat. As such, to ensure that there are no impacts to protected active nests, mitigation measure **BIO-1** is required. Implementation of **BIO-1** would avoid or minimize potential effects to special-status birds and birds protected under the California Fish and Game Code and federal MBTA. With implementation of mitigation measure **BIO-1**, this impact would be **less than significant**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### No Impact.

The Project Site supports annual grassland and dryland grain crops habitat. There are no sensitive natural communities as defined by the California Department of Fish and Wildlife, and there is no riparian habitat

onsite (Gallaway Enterprises 2022). Therefore, the Project will not impact riparian habitat or sensitive natural communities. **No impact.**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### **No Impact.**

Based on the preliminary aquatic resources assessment, there are no aquatic resources or potential Waters of the U.S. or State present within the Project Site (Gallaway Enterprises 2022). Therefore, the Project would not impact aquatic resources and there is **no impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### **Less Than Significant Impact.**

The Project Site provides limited migratory opportunities for terrestrial wildlife because of the developed nature of the surrounding lands and the absence of significant wildlife habitat elements onsite. Project construction is likely to temporarily disturb and displace some wildlife from the vicinity of the site. Some wildlife such as birds or nocturnal species are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume but will likely be more limited as the Project Site would be developed (Gallaway Enterprises 2022). The Project is not expected to substantially interfere with wildlife movement (Gallaway Enterprises 2022).

There are no documented nursery sites, and no nursery sites were observed within the BSA during the Site reconnaissance (Gallaway Enterprises 2022). Therefore, the Project is not expected to impact wildlife nursery sites.

This impact is **less than significant**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

Ornamental trees do not occur along or within the boundaries of the Project Site. The Project will not conflict with any local policies or ordinances. **No impact** would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project Site is not covered by any local, regional, or state conservation plan. Therefore, the Project would not conflict with a local, regional, or state conservation plan. There would be **no impact**.

**4.4.3 Mitigation Measures**

**BIO-1: Special-Status Birds and Migratory Bird Treaty Act-Protected Birds.** The following measure is recommended to minimize impacts to all special-status birds and active nests:

- Project activities, including site grubbing and vegetation removal, shall be initiated outside of the bird-nesting season (February 1 – August 31).
- If Project activities cannot be initiated outside of the bird-nesting season, the following will occur:
  - A qualified biologist will conduct a pre-construction survey within 250 feet of the BSA, where accessible, within 7 days prior to the start of Project activities.
  - If an active nest (i.e., containing egg[s] or young) is observed within the BSA or in an area adjacent to the BSA where impacts could occur, then a species protection buffer will be established. The species protection buffer will be defined by a qualified biologist based on the species, nest type, and tolerance to disturbance. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails as determined by a qualified biologist. Nests shall be monitored by a qualified biologist once per week and a report submitted to the CEQA lead agency weekly.

*Timing/Implementation:* Prior to the Issuance of Demolition Permits

*Monitoring/Enforcement:* The City of Biggs Planning Department

## 4.5 Cultural Resources

### 4.5.1 Environmental Setting

The Biggs General Plan DEIR provides information on the cultural resources found in the city, including the Project Site. This information is used in this Initial Study to provide a cultural resources background setting. Specifically, the General Plan DEIR identified a number of historically significant buildings within the city limits although none of these were listed in the National Register of Historic Places (NRHP) or the California Register of Historic Places (CRHR). Additionally, none of these buildings are located within the Project Area. Further, the records search and field survey conducted as part of the General Plan DEIR did not identify any archaeological or other historic resources in Biggs, including on the Project Site (City of Biggs 2013).

### 4.5.2 Cultural Resources (V) Environmental Checklist and Discussion

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant With Mitigation Incorporated.**

The CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A significant impact would occur if a proposed project would cause a substantial adverse change through physical demolition, destruction, relocation, or alteration of the resource. A historical resource is defined as any building, structure, site, or object listed in or determined to be eligible for listing in the CRHR or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California. As discussed above, there are no historical resources within the Project Area. The City of Biggs General Plan contains policy provisions intended to protect historical resources. Specifically, Policy CE-8.5 of the Community Enhancement Element requires the City Planning Department to protect and preserve cultural resources to serve as significant reminders of the City's heritage and values. Additionally, Action CE-8.5.1 requires consultation and record searches for all proposed discretionary projects, such as the Proposed Project, with the Northeast Information Center (NEIC) of California Historical Resources Information System location at California State University, Chico. A record search was conducted by the NEIC on April 12, 2022. No historic properties were found in association with the Project Site. The Project Site is currently vacant and has been consistently disturbed by past agricultural activities. The Project would not impact any known building, structure, site, or object listed in, or determined to be eligible for, listing in the CRHR. Nonetheless, there exists the potential for previously unknown buried historical sites on the Project Site.

Since there is a potential that subsurface construction activity could reveal subsurface deposits believed to be cultural or human in origin, mitigation measure **CUL-1** is required to reduce potential historic resource impacts to a level of **less than significant with mitigation incorporated**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant with Mitigation.**

Archaeological resources are defined as the physical remains of past human activities and can be either prehistorical or historical in origin. Archaeological sites are locations that contain evidence of human activity. In general, an archaeological site is defined by a significant accumulation, or presence, of one or more of the following: food remains, waste from the manufacturing of tools, concentrations or alignments of stones, modification of rock surfaces, unusual discoloration or accumulation of soil, or human skeletal remains. As discussed above, there are no known archaeological resources within the Project Area. However, the development of the Project has potential to destroy and/or degrade known and unknown archaeological resources. Therefore, mitigation measure **CUL-1** is provided below to address the potential for the discovery of any unrecorded or previously unknown archaeological resources. With implementation of this mitigation, impacts would be **less than significant with mitigation incorporated**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant with Mitigation Incorporated.**

There are no known formal or informal cemeteries within the Project Site. Regardless, there is a possibility of the unanticipated and accidental discovery of human remains during ground-disturbing Project-related activities. The discovery of human remains would require handling in accordance with PRC 5097.98, which states that in the event that human remains are discovered during construction, construction activity shall be halted and the area shall be protected until consultation and treatment can occur as prescribed by law. Mitigation measure **CUL-1** is provided below to reduce potential impacts to a level that is considered **less than significant with mitigation incorporated**.

### **4.5.3 Mitigation Measures**

**CUL-1: Cultural or Archaeological Resource Discovery.** All construction plans and grading plans shall include the following:

If subsurface deposits believed to be cultural, archaeological or human in origin are discovered during any roadway or future construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the City and landowner. If the find is determined to be eligible for inclusion in the NRHP or CRHR, the City shall consult on a finding of eligibility and implement appropriate treatment measures. Work may not resume within the no-work radius until the City, through consultation as appropriate, determines that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to its satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Butte County Coroner (in accordance with Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate information center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

*Timing/Implementation:*                      *During construction*

*Monitoring/Enforcement:*                      *The City of Biggs Planning Department and construction lead.*



## 4.6 Energy

### 4.6.1 Energy Consumption

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The electricity consumption associated with all uses in Butte County from 2016 to 2020 is shown in Table 4.6-1. As indicated, the demand has decreased since 2016.

<b>Table 4.6-1. Electricity Consumption in Butte County 2016-2020</b>	
<b>Year</b>	<b>Electricity Consumption (kWh)</b>
2020	1,385,255,941
2019	1,404,179,837
2018	1,485,125,418
2017	1,540,610,935
2016	1,493,109,761

Source: California Energy Commission (CEC) 2021

The natural gas consumption associated with all uses in Butte County from 2016 to 2020 is shown in Table 4.6-2. As indicated, the demand has decreased since 2016.

<b>Table 4.6-2. Natural Gas Consumption in Butte County 2016-2020</b>	
<b>Year</b>	<b>Natural Gas Consumption (Therms)</b>
2020	36,700,603
2019	39,225,361
2018	41,980,106
2017	44,838,804
2016	42,367,872

Source: CEC 2021

Automotive fuel consumption in Butte County from 2017 to 2021 is shown in Table 4.6-3. Fuel consumption has decreased between 2017 and 2021.

**Table 4.6-3. Automotive Fuel Consumption in Butte County 2017-2021**

<b>Year</b>	<b>Total Fuel Consumption (Gallons)</b>
2021	108,950,254
2020	98,167,707
2019	112,461,817
2018	116,604,499
2017	117,449,008

Source: CARB 2021a

**4.6.2 Energy (VI) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.**

The impact analysis focuses on the four sources of energy relevant to the Proposed Project: electricity, natural gas, the equipment-fuel necessary for Project construction, and the automotive fuel necessary for Project operations. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. For the purpose of this analysis, the amount of electricity and natural gas estimated to be consumed by the Project is quantified and compared to that consumed by all uses in Butte County. Similarly, the amount of fuel necessary for Project construction is calculated and compared to that consumed by off-road equipment in Butte County, and the amount of fuel necessary for Project operations is calculated and compared to that consumed by on-road vehicles in Butte County.

The analysis of electricity and natural gas usage is based on CalEEMod modeling conducted by ECORP (Appendix A), which quantifies energy use for Project operations. The amount of operational automotive fuel use was estimated using the CARB's EMFAC2021 computer program, which provides projections for typical daily fuel usage in Butte County (Appendix D). The amount of total construction-related fuel use was estimated using ratios provided in the *Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1*. Energy consumption associated with the Proposed Project is summarized in Table 4.6-4 (Appendix D).

<b>Table 4.6-4. Proposed Project Energy and Fuel Consumption</b>		
<b>Energy Type</b>	<b>Annual Energy Consumption</b>	<b>Percentage Increase Countywide</b>
Building Energy Consumption		
Electricity Consumption	1,176,134 kWh	0.08
Natural Gas Consumption	20,409 therms	0.05
Automotive Fuel Consumption		
Project Construction Year One	13,103 gallons	0.01
Project Construction Year Two	29,852 gallons	0.02
Project Operations	34,423 gallons	0.03

Source: Refer to Appendix A for building energy consumption calculations and Appendix D for construction and automotive fuel consumption calculations.

Notes: The Project increases in electricity and natural gas consumption are compared with all buildings in Butte County in 2020, the latest data available. The Project increases in construction and operations automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data

Operations of the Proposed Project would include electricity and natural gas usage from lighting, space and water heating. As shown in Table 4.6-4, the annual electricity consumption due to operations of the Proposed Project would be 1,176,134 kWh resulting in an imperceptible increase (0.08 percent) in the typical annual electricity consumption attributable to all land uses in Butte County. However, this is potentially a conservative estimate. In September 2018 Governor Edmund (Jerry) Brown Signed Executive Order (EO) B-55-18, which established a new statewide goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” Carbon neutrality refers to achieving a net zero carbon dioxide (CO<sub>2</sub>) emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for GHG emission reduction. Governor’s EO B-55-18 requires CARB to “work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.” Furthermore, the Project’s increase in natural gas usage of 0.05 percent for all land uses in the County would also be negligible. For these reasons, the Project would not result in the inefficient, wasteful, or unnecessary consumption of building energy.

Fuel necessary for Project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the Project Site. The fuel expenditure necessary to construct the physical building and infrastructure would be temporary, lasting only as long as Project construction. As further indicated in Table 4.6-4, the Project’s gasoline fuel consumption during the one-time construction period is estimated to be 13,103 gallons during the first year of construction and 29,852 gallons during the second year of construction. This would increase the annual construction related fuel use in the county by 0.01 percent and 0.02 percent, respectively. As such, Project construction would have a nominal effect on local and regional energy supplies. No unusual Project characteristics

would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

The Project is estimated to generate approximately 265 daily trips. As indicated in Table 4.6-4, this would result in the consumption of approximately 34,423 gallons of automotive fuel per year, which would increase the annual countywide automotive fuel consumption by 0.03 percent. This analysis conservatively assumes that all of the automobile trips projected to arrive at the Project during operations would be new to Butte County. Further, a liberal approach was taken for vehicle trip estimation to ensure potential impacts due to operational gasoline usage were adequately accounted. Fuel consumption associated with vehicle trips generated by the Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

For these reasons, this impact would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

The Project would be designed in a manner consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. The Project would be built to the California State *Energy Efficiency Standards for Residential and Nonresidential Buildings*, as specified in Title 24, Part 6, of the CCR (Title 24). Title 24 was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every 3 years; the 2016 standards became effective January 1, 2017. The 2019 Title 24 updates went into effect on January 1, 2020. The 2019 Energy Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Energy Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 Energy Standards are a major step toward meeting Zero Net Energy. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments. Additionally, in January 2010, the State of California adopted the California Green Building Standards Code (CalGreen) that establishes mandatory green building standards for all buildings in California. The code was subsequently updated in 2013. The code covers five

categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. For these reasons, this impact would be **less than significant**.

#### **4.6.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

### **4.7 Geology and Soils**

#### **4.7.1 Environmental Setting**

Biggs and the surrounding area are predominantly flat with slopes generally not exceeding 2 percent. The Project Area is generally flat with little to no slope. Elevation is approximately 96 feet above mean sea level (AMSL).

Biggs and the Project Area are located on two primary geologic formations: Riverbank and Modesto, both of the Pleistocene era. These terrace deposits typically consist of 1 to 3 meters of dark gray to red fine sand and silt overlying 1.5 to 2 meters of poorly sorted gravel. The Riverbank Formation is light red in color and consists of gravel, sand, silt, and clay. The Modesto formation is younger than the Riverbank formation, which is usually less than 2.5 meters thick, and is composed of gravel, sand, silt, and clay. In much of the Sacramento Valley, especially east of the Sacramento River, the Modesto Formation overlies the Riverbank Formation. The Modesto Formation consists of sand, silt, and clay seams deposited by rivers and ranges in depth from 10 to 200 feet, depending on location. It was deposited during the Pleistocene Age, from 42,000 to 14,000 years ago. The formation consists of tan and light grey gravelly sand, silt, and clay. The Riverbank and Modesto formations are generally erosion resistant (City of Biggs 2013).

##### **4.7.1.1 Geomorphic Setting**

The Project Site is located within the Great Valley Geomorphic Province (Great Valley), which includes the area known as the Great Central Valley of California. The Great Valley extends 400 miles north to south and 60 miles east to west and is encompassed by the Coast Ranges (metamorphic), the Klamath Ranges (metamorphic), the Cascade Range (volcanic), and the Sierra Nevada Range (granitic and metamorphic). The Great Valley consists of an elongated structural trough that has been filled with a sequence of sedimentary deposits ranging in age from Jurassic to recent. Geophysical evidence suggests that the Great Valley is underlain at depth with granitic rocks of the Sierra Nevada Province. The majority of rocks and deposits found within the Great Valley Geomorphic Province are sedimentary. The age of these rocks and deposits ranges from Upper Jurassic (between 154 and 135 million years ago) to recent (City of Biggs 2013).

##### **4.7.1.2 Site Geology**

The geology of the Sacramento Valley as a large, asymmetric, structural trough (syncline) formed by westward-tilting blocks of plutonic and metamorphic rocks on the eastern side, and highly folded and faulted blocks of metamorphic rocks (Franciscan) on the western side. This basin has been partially filled

by a thick sequence (up to 12.4 miles [20 km] thick) of sedimentary rocks and alluvial deposits that range from late Jurassic to Historical in age. During the Pleistocene, erosion of the Sierra Nevada led to the deposition of large alluvial fans at the base of the foothills along the eastern side of the Sacramento Valley. Glacial conditions are generally credited for the deposition of these fans, while subsequent interglacial periods are marked by landscape stability, soil formation, and channel incision. Subsequent depositional cycles during the Holocene progressively buried downstream sections of many older alluvial fans and also led to the formation of inset stream terraces and nested alluvial fans along the foothills (Rosenthal and Willis 2017).

About 4,000 years ago, most of Sacramento Valley had large amounts of alluvium deposited across it, forming a continuous plain extending from southern Glenn County through Yolo County in the west, and from northern Butte County to Sutter County in the east. Along modern streams and rivers in the lower Sacramento Valley, these late Holocene deposits were in part eventually eroded and/or buried by the Latest Holocene and historic period soil deposits. These latest Holocene deposits often bury older archaeological deposits (Rosenthal and Willis 2017).

#### **4.7.1.3 Regional Seismicity and Fault Zones**

In California, special definitions for active faults were devised to implement the Alquist-Priolo Earthquake Fault Zoning Act of 1972, which regulates development and construction in order to avoid the hazard of surface fault rupture. The State Mining and Geology Board established policies and criteria in accordance with the act. The Board defined an active fault as one which has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault was considered to be any fault that showed evidence of surface displacement during Quaternary time (the last 1.6 million years). Because of the large number of potentially active faults in California, the State Geologist adopted additional definitions and criteria in an effort to limit zoning to only those faults with a relatively high potential for surface rupture. Thus, the term sufficiently active was defined as a fault for which there was evidence of Holocene surface displacement. This term was used in conjunction with the term well-defined, which relates to the ability to locate a Holocene fault as a surface or near-surface feature (California Geological Survey [CGS] 2011).

According to the Biggs General Plan DEIR (2013), several faults are located close enough to the Biggs area to potentially have an effect on the City. The identified faults area as follows:

##### **Cleveland Hills Fault**

This fault is the only identified active fault located in Butte County. This fault is responsible for the 1975 Oroville earthquake of Richter magnitude 5.7, an event that produced surface displacement along about 2.2 miles of the fault. The fault is located approximately 13 miles southeast of the Project Area.

##### **Foothills Shear Zone**

The Foothills shear zone extends into southern Butte County and reaches a point approximately 15 miles northeast of Biggs. A possible magnitude 7.0 earthquake in this zone would result in intensities as high as Modified Mercalli Intensity (MMI) IX in the Project Area.

### **Chico Monocline Fault**

The Chico Monocline fault, which extends northwesterly from Chico Based on its length of approximately 42 miles, could produce at least a magnitude 7.0 earthquake, which would cause damage in the Project Area. The fault is located approximately 17 miles north of the Project Area.

### **Willows Fault**

The 40-mile-long Willows fault is approximately 40 miles northwest of Biggs and could produce a magnitude 7.0 earthquake.

### **Coast Ranges Thrust Zone**

The Coast Ranges thrust zone is approximately 55 miles northwest of Biggs. This fault zone could potentially produce a magnitude 8.0 earthquake, which could be felt in the Project Area.

### **Midland-Sweitzer Fault**

The 80-mile-long Midland-Sweitzer fault lies approximately 55 miles southwest of Biggs. Historically, earthquakes of Richter magnitudes between 6.0 and 6.9 have occurred on or near this fault, including two strong earthquakes in 1892. Based on the fault length and the historic activity, this fault is capable of producing a magnitude 7.0 earthquake, which would be experienced in Butte County with MMI as high as VIII or IX.

### **Eastern Sierra Faults/Russell Valley Fault**

The Eastern Sierra contain a number of active faults, including the Russell Valley fault, which produced the 1966 Truckee earthquake with a magnitude of approximately 6.0, and several faults in the Last Chance and Honey Lake fault zones, which have produced several magnitude 5.0 to 5.9 earthquakes. These fault zones are approximately 75 miles east of Biggs. Earthquakes on these faults could be experienced in Butte County with MMI as high as VII or VIII.

### **Last Chance-Honey Lake Fault Zones**

The Last Chance-Honey Lake fault zones are approximately 100 miles long and trend north-northwest along the California-Nevada border. These faults are active and have resulted in earthquakes ranging between magnitude 5.0 and 5.9. These fault zones are approximately 85 miles east of Biggs, and earthquakes along these fault zones are not anticipated to result in major damage in the Project Area.

### **Other Potentially Active Faults**

Other potentially active faults in the vicinity of the Biggs Planning Area include the Sutter Buttes fault, Dunnigan fault, Camel's Peak fault, Melones-Dogwood Peak faults, and Hawkins Valley fault. All of these faults should be considered potentially active due to geologic, historic, or seismic data.

#### 4.7.1.4 Soils

According to the NRCS via the Web Soil Survey database, the Project Site is composed of one soil unit: Gridley taxadjunct loam (0-2 percent slope), as shown in Table 4.7-1. The Web Soil Survey also identifies drainage, flooding, erosion, runoff, frost action, and the linear extensibility potential for the Project soils. According to this survey, the Project soils are somewhat poorly drained, have a very low runoff potential, and have no or rare potential for flooding or frost action. The Project Site soils also have a slight erosion potential and medium (2.6 percent) linear extensibility (shrink-swell) (NRCS 2022).

<b>Table 4.7-1. Project Site Soil Characteristics</b>				
<b>Soil (Map Unit Symbol, Map Unit Name)</b>	<b>Percentage of Site</b>	<b>Drainage</b>	<b>Flooding Frequency Class</b>	<b>Frost Action<sup>1</sup></b>
Gridley taxadjunct loam, 0 to 2 percent slopes	100%	Somewhat poorly drained	Rare to None	None
	<b>Runoff Potential<sup>2</sup></b>	<b>Linear Extensibility<sup>3</sup></b>	<b>Erosion Hazard<sup>4</sup></b>	<b>Plasticity Rating<sup>5</sup></b>
Gridley taxadjunct loam, 0 to 2 percent slopes	High (D)	5.4%, moderate	Slight	22.1%

Source: NRCS 2022

Notes:

- Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.
- Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation.  
Group A: Soils having a high infiltration rate (low runoff potential) when thoroughly wet.  
Group B: Soils having a moderate infiltration rate when thoroughly wet.  
Group C: Soils having a slow infiltration rate when thoroughly wet.  
Group D: Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet.
- Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3%, moderate if 3 to 6%, high if 6 to 9%, and very high if more than 9%. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.
- The ratings are both verbal and numerical. The hazard is described as *slight*, *moderate*, *severe*, or *very severe*. A rating of "*slight*" indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and offsite damage are likely, and erosion-control measures are costly and generally impractical.



5. Plasticity index (PI) is one of the standard Atterberg limits used to indicate the plasticity characteristics of a soil. It is defined as the numerical difference between the liquid limit and plastic limit of the soil. It is the range of water content in which a soil exhibits the characteristics of a plastic solid. The plastic limit is the water content that corresponds to an arbitrary limit between the plastic and semisolid states of a soil. The liquid limit is the water content, on a percent by weight basis, of the soil (passing #40 sieve) at which the soil changes from a plastic to a liquid state. Soils that have a high plasticity index have a wide range of moisture content in which the soil performs as a plastic material. Highly and moderately plastic clays have large PI values. Plasticity index is used in classifying soils in the Unified and American Association of State Highway and Transporting Officials classification systems. For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A *representative* value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

#### **4.7.1.5 Paleontological Resources**

A paleontological records search was completed for a similar project in the vicinity of the Project Site, using the University of California Museum of Paleontology (UCMP) Locality Search website on June 9, 2021. The search included a review of the institution's paleontology specimen collection records for Butte County, including the Project Area and vicinity. In addition, ECORP conducted a query of the UCMP catalog records, a review of regional geologic maps from the CGS, a review of local soils data, and a review of existing literature on paleontological resources of Butte County for a similar project in the vicinity of the Proposed Project. The purpose of that previously conducted assessment was to determine the sensitivity of a project area (which is approximately 0.5 mile northeast of the Proposed Project Site), and if occurrences of paleontological resources were present within or immediately adjacent to area of that project site. Paleontological resources include mineralized (fossilized) or unmineralized bones, teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains.

The results of that previously conducted search of the UCMP indicated that 144 paleontological specimens were recorded from 69 identified localities and 75 unidentified localities in Butte County indicating there is a potential for paleontological discoveries in Butte County. The vast majority of the fossilized remains are invertebrates; however, some plant fossilized remains are recorded for Butte County (UCMP 2022). The General Plan DEIR did not identify any paleontological resources within the city; however, it did indicate that there was a possibility that paleontological resources may be discovered during construction and buildout of land uses allowed under the General Plan.

**4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Less Than Significant Impact.**

i) The Proposed Project Site is not located within an Alquist-Priolo Earthquake Zone (CGS 2011). The site is not within a currently established State of California Earthquake Fault Zone for surface fault rupture hazards. No active or potentially active faults are known to pass directly beneath the site. By CGS definition, an active fault is one with surface displacement within the last 11,000 years. A potentially active fault has demonstrated evidence of surface displacement with the past 1.6 million years. Faults that have not moved in the last 1.6 million years are typically considered inactive. There would be **no impact** related to fault rupture.

ii) According to CGS' Earthquake Shaking Potential for California mapping, the Proposed Project Site is located in an area with a low likelihood of experience ground shaking (CGS 2016). Only weaker masonry buildings would be damaged during most earthquakes,. However, very infrequent earthquakes could still cause strong shaking in the area (CGS 2016).

The Proposed Project does not include the construction of structures; however, future structures could be constructed (i.e., mini-storage and single-family residences) as a result of the Proposed Project, which could be affected by ground shaking. Any new structures would be required to comply with the California Building Code (CBC) in effect at that time, including all required seismic mitigation standards. Compliance with the structural standards contained in the CBC would minimize risks to the public from strong seismic ground shaking and would ensure that impacts are **less than significant**. No mitigation is required.

iii) Liquefaction is a phenomenon in which water-saturated granular soil loses shear strength during strong ground shaking produced by earthquakes. The loss of soil strength occurs as a consequence of cyclic pore water pressure increases below the groundwater surface. Potential hazards due to liquefaction include loss of bearing strength beneath structures, possibly causing foundation failure and/or significant settlements and differential settlements. Liquefaction can result in the following types of seismic-related ground failure:

- Loss of bearing strength – soils liquefy and lose the ability to support structures
- Lateral spreading – soils slide down gentle slopes or toward stream banks
- Flow failures – soils move down steep slopes with large displacement
- Ground oscillation – surface soils, riding on a buried liquefied layer, are thrown back and forth by shaking
- Flotation – floating of light buried structures to the surface
- Settlement – settling of ground surface as soils reconsolidate
- Subsidence – compaction of soil and sediment

Liquefaction potential has been found to be greatest where the groundwater level and loose sands occur within a depth of about 50 feet or less. The City of Biggs is located in an area identified as possessing a moderate risk for liquefaction (City of Biggs 2013). However, the Project would be required to adhere to the City General Plan, which contains Action S-3.1.1 mandating the preparation of a soils report, by a licensed soils engineer, for all new residential subdivisions and nonresidential development projects. The required soils reports must evaluate shrink/swell and liquefaction potentials of sites and recommend measures to minimize unstable soil hazards. In addition to the preparation of a soil report evaluating the potential for liquefaction on site and providing any necessary remedial measures, all future structures constructed as a result of the Proposed Project would be required to comply with the CBC, including all required soil stability mitigation standards. As such, the Proposed Project would result in **less than significant** impacts with regard to seismic-related ground failure, including liquefaction.

iv) The Project Area possesses minimal elevation gain and does not have steep hillsides or other formations susceptible to landslides during a seismic event. As such, there is **no impact** associated with landslides.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.**

As shown in Table 4.7-1, the Project soil has a slight erosion potential (NRCS 2022). A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions. In addition, the Project Site is flat, which would reduce the potential for substantial erosion. City of Biggs General Plan Policy CR-5.3 requires the use of design techniques and best management practices during all construction within the City limits to reduce storm water runoff levels, improve infiltration to replenish groundwater sources, and reduce pollutants close to their source. Additionally, any development involving clearing, grading, or excavation that causes soil disturbance of one or more acres, or any project involving less than 1 acre that is part of a larger development plan and includes clearing, grading, or excavation, is subject to National Pollutant Discharge Elimination System (NPDES) State General Permit (Order No. 2009-0009-DWQ) provisions. Although the Proposed Project does not include the construction of any structures, future construction on the Project Site would require ground-disturbing activities, such as grading, that could potentially result in soil erosion or loss of topsoil. Construction of these future structures would be required to comply with the Construction General Permit, either through a waiver or through preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Best Management Practices (BMPs) included in the SWPPP would minimize soil erosion during construction. SWPPP generally include the following BMPs:

- Diversion of offsite runoff away from the construction area
- Prompt revegetation of proposed landscaped areas
- Perimeter straw wattles or silt fences and/or temporary basins to trap sediment before it leaves the site
- Regular sprinkling of exposed soils to control dust during construction during the dry season
- Installation of a minor retention basin(s) to alleviate discharge of increased flows
- Specifications for construction waste handling and disposal
- Erosion control measures maintained throughout the construction period
- Preparation of stabilized construction entrances to avoid trucks from imprinting debris on city roadways
- Contained wash out and vehicle maintenance areas
- Training of subcontractors on general construction area housekeeping
- Construction scheduling to minimize soil disturbance during the wet weather season
- Regular maintenance and storm event monitoring

The SWPPP is a *living* document and must be kept current by the person responsible for its implementation. Preparation of, and compliance with, a required SWPPP would effectively prevent Proposed Project onsite erosion and the loss of topsoil from Project implementation. The Proposed Project's grading plan would also ensure that the proposed earthwork and storm water structures are designed to avoid soil erosion. As such, soil erosion impacts would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### **Less Than Significant Impact.**

As discussed previously, the Project Site has no potential for landslides due to the flat topography of the Site. The potential for landslides on the Project Site was addressed under Issue a)(iv) and was determined to have a **less than significant** impact.

Lateral spreading is a form of horizontal displacement of soil toward an open channel or other *free* face, such as an excavation boundary. Lateral spreading can result from either the slump of low cohesion and unconsolidated material or, more commonly, by liquefaction of either the soil layer or a subsurface layer underlying soil material on a slope, resulting in gravitationally driven movement. Frost Action is one indicator of potential lateral expansion. Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. As indicated in Table 4.7-1, the NRCS identifies the Project Site as having soils with no frost action potential (NRCS 2022). Additionally, the potential for lateral spreading was addressed under Issue a)(iii) above and was also determined to be a less than significant impact. As such, the potential for impacts due to lateral spreading would be less than significant.

With the withdrawal of fluids, the pore spaces within the soils decrease, leading to a volumetric reduction. If that reduction is significant enough over an appropriately thick sequence of sediments, regional ground subsidence can occur. This typically only occurs within poorly lithified sediments and not within competent rock.<sup>1</sup> No oil, gas, or high-volume water extraction wells are known to be present in the Project Area. According to the USGS, the Project Site is not located in an area of land subsidence (USGS 2022a). Additionally, the potential for subsidence was addressed under Issue a)(iii) above and was also determined to be a less than significant impact. As such, the potential for impacts due to subsidence would be less than significant.

Collapse occurs when water is introduced to poorly cemented soils, resulting in the dissolution of the soil cementation and the volumetric collapse of the soil. In most cases, the soils are cemented with weak clay (argillic) sediments or soluble precipitates. This phenomenon generally occurs in granular sediments situated within arid environments. Collapsible soils will settle without any additional applied pressure when sufficient water becomes available to the soil. Water weakens or destroys bonding material between particles that can severely reduce the bearing capacity of the original soil resulting in damage to buildings

<sup>1</sup> The processes by which loose sediment is hardened to rock are collectively called lithification.

and foundations. General Plan Action S-3.1.1 requires a soils report for all new subdivisions and nonresidential development projects. The required Project soils report would identify the potential for that settlement/collapse at a new construction site, and identify the appropriate remediation measures if necessary. When a potential development site is to be identified as having a potential for settlement or collapse, mitigations are required by the City to reduce this potential. As such, there is a **less than significant impact** in this area.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

Expansive soils are types of soil that shrink or swell as the moisture content decreases or increases. Structures built on these soils may experience shifting, cracking, and breaking damage as soils shrink and subside or expand. Expansive soils can be determined by a soil's linear extensibility. There is a direct relationship between linear extensibility of a soil and the potential for expansive behavior, with expansive soil generally having a high linear extensibility. Thus, granular soils typically have a low potential to be expansive, whereas clay-rich soils can have a low to high potential to be expansive. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent, moderate if 3 to 6 percent, high if 6 to 9 percent, and very high if more than 9 percent. If the linear extensibility is more than three, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. As shown in Table 4.7-1, the Project Site soils exhibit a linear extensibility value of 5.4 percent. Soils with linear extensibility at this range correlate to having a moderate expansion potential. As such, the Project would have a less than significant impact in this area.

As previously described, General Plan Action S-3.1.1 mandates that a soils report, prepared by a licensed soils engineer, be required for all new residential subdivisions and nonresidential development projects in Biggs. Soils reports must evaluate the shrink-swell potential of sites and recommend measures to minimize such hazards through recommended geotechnical special provisions. Such geotechnical special provisions would address any site-specific expansive soil hazards for future development under the Proposed Project. As such, the potential for the Proposed Project to be affected by expansive soils is **less than significant**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project does not propose the use of septic tanks. City of Biggs General Plan Policy PFS-3.2 requires all new development to connect to the City wastewater system. Therefore, the Proposed Project would not use a septic system or other wastewater disposal system and all Project structures would be connected to the existing sewer system for disposal and treatment of wastewater. **No impact** would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact with Mitigation Incorporated.**

Although no paleontological resources are known to exist in Biggs, there is a possibility that paleontological resources exist at sub-surface levels on the Project Site and may be uncovered during grading and excavation activities. Deeper excavations that extend down into older Quaternary deposits, as well as any excavations in the older Quaternary deposits, may uncover significant vertebrate fossil remains. Implementation of mitigation measure **GEO-1** will ensure that if any such resources are found during construction of the Project, they would be handled according to the proper regulations and any potential impacts would be reduced to **less than significant levels with mitigation incorporated**.

**4.7.3 Mitigation Measures**

**GEO-1: Unanticipated Discovery – Paleontological Resource.** If paleontological resources (i.e., fossil remains) are discovered during excavation activities, the contractor will notify the City and cease excavation within 100 feet of the find until a qualified paleontological professional can provide an evaluation of the site. The qualified paleontological professional will evaluate the significance of the find and recommend appropriate measures for the disposition of the site (e.g. fossil recovery, curation, data recovery, and/or monitoring). Construction activities may continue on other parts of the construction site while evaluation and treatment of the paleontological resource takes place.

*Timing/Implementation:* During construction

*Monitoring/Enforcement: The City of Biggs Planning Department.*

## **4.8 Greenhouse Gas Emissions**

### **4.8.1 Environmental Setting**

Greenhouse gas (GHG) emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH<sub>4</sub> traps more than 25 times more heat per molecule than CO<sub>2</sub>, and N<sub>2</sub>O absorbs 298 times more heat per molecule than CO<sub>2</sub>. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO<sub>2</sub>e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have long atmospheric lifetimes (1 to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO<sub>2</sub> emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO<sub>2</sub> emissions remains stored in the atmosphere.

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

In 2021, the CARB released the 2021 edition of the California GHG inventory covering calendar year 2019 emissions. In 2019, California emitted 418.2 million gross metric tons of CO<sub>2</sub>e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 40 percent of total GHG emissions in the state. When emissions from extracting, refining and moving transportation fuels in California are included, transportation is responsible for more than 50 percent of statewide emissions in 2019. Continuing the downward trend from 2018, transportation emissions decreased 3.5 million metric tons of CO<sub>2</sub>e in 2019, only being outpaced by electricity, which reduced emissions by 4.3 million metric tons of



CO<sub>2</sub>e in 2019. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial decrease in 2019 due to increases in renewables. California's industrial sector accounts for the second largest source of the state's GHG emissions in 2019, accounting for 21 percent (CARB 2021b).

#### 4.8.2 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

##### Less Than Significant Impact.

The CEQA Guidelines for analyzing GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 CCR 15064.4(b)). A lead agency may use a *model or methodology* to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a 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.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7I of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the

context of CEQA's requirements for cumulative impact analysis (CEQA Guidelines Section 15130(f)). As a note, the CEQA Guidelines were amended in response to Senate Bill (SB) 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The BCAQMD is the local air quality agency regulating Butte County. State law does not specify an explicit role for local air districts with respect to implementing statewide GHG reduction strategies, but it does state that CARB will work actively with air districts in coordinating emissions reporting, encouraging and coordinating GHG reductions, and providing technical assistance in quantifying reductions. The ability of air districts to control emissions (both criteria pollutants and GHGs) is provided primarily through permitting, but also via their role as a CEQA lead or commenting agency, the establishment of CEQA thresholds, and the development of analytical requirements for CEQA documents.

To date neither the BCAQMD nor the City of Biggs have established threshold criteria for GHG emissions. Thus, in its discretion, the City of Biggs has elected to employ the GHG significance thresholds established by the Sacramento Metropolitan Air Quality Management District (SMAQMD). The use of the SMAQMD GHG significance thresholds in this analysis is appropriate since the Project Site is located within the same geographic air basin as the SMAQMD, the Sacramento Valley Air Basin. The significance threshold for the construction phase is 1,100 metric tons of CO<sub>2</sub>e per year. Similarly, the significance threshold for Project operations is 1,100 metric tons of CO<sub>2</sub>e per year.

### **Construction GHG Emissions**

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project Site, and off-road construction equipment (e.g., backhoes, pavers, forklifts). Table 4.8-1 illustrates the specific construction generated GHG emissions that would result from construction of the Project.

<b>Table 4.8-1. Construction Related Greenhouse Gas Emissions</b>	
<b>Emission Source</b>	<b>CO<sub>2</sub>e Emissions (Metric Tons/Year)</b>
Construction Year 1	480
Construction Year 2	171
<i>SMAQMD Annual Significance Threshold</i>	<i>1,100</i>
<b>Exceeds Thresholds?</b>	<b>No</b>

Sources: CalEEMod 2020.0.4.0. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.8-1, construction-generated emissions would not exceed the significance threshold. Once construction is complete, the generation of these GHG emissions from would cease. Construction generated GHG emissions would have a less than significant impact.

### **Operational GHG Emissions**

Project Operations would result in an increase in GHG emissions primarily associated with motor vehicle trips and onsite energy sources. Long-term operational GHG emissions attributed to the Project are identified in Table 4.8-2. The emissions presented in Table 4.8-2 account for adherence to mitigation measure AQ-1, which prohibits the installation of wood-burning hearths.

<b>Table 4.8-2. Operational-Related Greenhouse Gas Emissions</b>	
<b>Description</b>	<b>CO<sub>2</sub>e Emissions (Metric Tons/Year)</b>
Area Source Emissions	0
Energy Emissions	220
Mobile Source Emissions	217
Waste Emissions	15
Water Emissions	4
<b>Project Operations Total</b>	<b>456</b>
<i>SMAQMD Annual Significance Threshold</i>	<i>1,100</i>
<b>Exceed SMAQMD Threshold?</b>	<b>No</b>

Sources: CalEEMod 2020.0.4.0. Refer to Appendix A for Model Data Outputs

Notes: Emission projections are predominantly based on CalEEMod model defaults for Butte County

As shown in Table 4.8-2 Project operations would result in the generation of 456 metric tons of CO<sub>2</sub>e annually, which would not exceed the SMAQMD annual significance threshold of 1,100 metric tons of CO<sub>2</sub>e per year. As such, the Project would have a **less than significant** impact.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The City of Biggs does not currently have an adopted plan for the purpose of reducing GHG emissions. However, Policy CR-7.6 states that as funding permits, the City will prepare a GHG inventory and climate action plan designed to reduce GHGs. Until then, the City must rely on GHG inventories and climate action plans prepared by the state or other local jurisdictions for the evaluation of development projects. The Proposed Project would not conflict with any adopted plans, policies, or regulations adopted for reducing GHG emissions. As identified under Issue a), Project-generated GHG emissions would not surpass GHG significance thresholds, prepared to comply with California GHG reduction goals. Therefore, the Proposed Project would not conflict with California GHG reduction goals. Additionally, the uses proposed for the site could actually reduce GHG emissions by supplementing the potential housing allowed on the site with a mini-storage facility. Pollutants otherwise emitted from City of Biggs residents traveling to a nearby community, such as Gridley or Chico, for a storage unit could be substantially reduced due to storage service being available in Biggs, as a result of the Project. As such, there is **no impact**.

**4.8.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

**4.9 Hazards and Hazardous Materials****4.9.1 Environmental Setting**

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 by the California Health and Safety Code, § 25501 as follows:

"Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment". "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

A hazardous material is defined in Title 22, Section 662601.10 of the CCR as follows:

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.

The release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies.

Under Government Code Section 65962.5, both the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. According to a search of the DTSC (2022) and SWRCB (2022) lists identified no open cases of hazardous waste violations on, or within the Project Site.

The USEPA maintains the Enforcement and Compliance History Online (ECHO) program. The ECHO website provides environmental regulatory compliance and enforcement information for approximately 800,000 regulated facilities nationwide. The ECHO website includes environmental permit, inspection, violation, enforcement action, and penalty information about USEPA-regulated facilities. Facilities included on the site are Clean Air Act stationary sources; Clean Water Act facilities with direct discharge permits under the NPDES; generators and handlers of hazardous waste, regulated under the Resource Conservation and Recovery Act; and public drinking water systems, regulated under the Safe Drinking Water Act. ECHO also includes information about USEPA cases under other environmental statutes. When available, information is provided on surrounding demographics, and ECHO includes other USEPA environmental data sets to provide additional context for analyses, such as Toxics Release Inventory data. According to the ECHO program, the Project Site is not listed as having a hazardous materials violation (USEPA 2022).

#### 4.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

##### Less Than Significant Impact.

#### 4.9.2.1 Project Construction

Construction allowed under the Project would involve the use of various products that contain materials classified as hazardous (e.g., solvents, adhesives and cements, certain paints, cleaning agents, and degreasers). Project construction would be required to comply with applicable building, health, fire, and safety codes. Hazardous materials would be used in varying amounts during construction of the Project. Construction and maintenance activities would use hazardous materials such as fuels (e.g., gasoline and diesel), oils and lubricants, paints and paint thinners, glues, cleaners (which could include solvents and corrosives in addition to soaps and detergents), and possibly pesticides and herbicides.

The Title 8 of the CCR addresses workplace regulations involving the use, storage, and disposal of hazardous materials, and specific applications for construction workers. CCR Titles 22 and 26 set forth environmental health standards for hazardous materials management. California Health and Safety Code Chapter 6.95 sets forth enabling legislation for the application of CCR Titles 8, 22, and 26. Safety precautions for the prevention of fire hazards associated with the use and storage of hazardous materials are addressed in the Uniform Fire Code. Compliance with applicable federal, state, and local regulations including, but not limited to, CCR Titles 8 and 22, the Uniform Fire Code, and California Health and Safety Code Chapter 6.95 would ensure that the Project would not create a significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous materials.

#### 4.9.2.2 Project Operation

Development allowed under the Proposed Project would result in uses associated with a residential neighborhood and a serving storage facility. It is likely that the Project would use and store small amounts of commercial cleaning materials, paints and solvents for building maintenance, and pesticides/herbicides for Project landscaping, all of which could be considered hazardous materials. However, a residential neighborhood and adjoining storage facility would not use a hazardous material in a quantity great enough to cause significant hazard to the public or the environment. Nor would a project of this type, once operational, transport, or dispose of hazardous materials in an amount to cause significant hazard to the public or the environment.

Therefore, potential residential impacts for creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials from residential uses would be **less than significant**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Less Than Significant Impact.

As discussed in Issue a), future development allowed under the Project itself would not result in the routine transport, use, disposal, handling, or emission of any hazardous materials that would create a significant hazard to the public or the environment. However, future uses that may be developed as a result of Project approval may involve the use of hazardous materials. Any use of hazardous materials would require the hazardous materials to be utilized, stored, and transported pursuant to state and federal safety regulations and adhere to General Plan policies and actions. Therefore, the Project would have a **less than significant** impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The nearest public schools to the Project Site are Biggs Elementary School and Biggs High School, approximately 0.37 mile from the Project Site. The Project would have **no impact** in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

Under Government Code Section 65962.5, both the DTSC and the SWRCB are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of the DTSC and SWRCB lists identified no open cases of hazardous waste violations on the Project Site. Therefore, the Project Site is not on a parcel included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (DTSC 2022; SWRCB 2022). As a result, this would not create a significant hazard to the public or to the environment and would have **no impact**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The City of Biggs is neither located within 2 miles of a public airport nor in the vicinity of a private airstrip. The closest public airport is the Oroville Municipal Airport, located approximately 6.4 miles to the northeast, and the nearest private airport is the Richvale Airport, located approximately 7 miles to the northwest of the Project Site. Therefore, the Project Area is more than 2 miles from a public or private airport. **No impact** would occur.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

In the event of a hazardous material emergency, several agencies are responsible for timely response. The Butte County Hazardous Materials Response Team responds to large-scale, emergency hazardous material incidents in the county. This team is made up of specially trained representatives of the Butte County Fire Department, CAL FIRE, and members of the Chico, Paradise, Oroville, Gridley, and Biggs fire departments.

The City of Biggs is responsible for emergency operations within City boundaries. The City of Biggs Emergency Plan specifies actions for the coordination of operations, management, and resources during emergencies. The Proposed Project would not alter the City's overall land use patterns or land use designations to such an extent that they would conflict with either the City of Biggs Emergency Plan or the operations of the Butte County Hazardous Materials Response Team.

Additionally, an efficient circulation system is vital for the evacuation of residents and the mobility of fire suppression, emergency response, and law enforcement vehicles during an emergency. While the Proposed Project itself, would not result in the creation of new residential and light industrial projects, implementation of the Project may eventually result in an increased number of people who would require evacuation in case of an emergency. However, all future projects and residential subdivisions would be required to provide a circulation plan that would include additional roadway connections which offer escape routes and emergency access options. These connections would be required to conform with the City circulation plan for the Area. As such, implementation of the Proposed Project would not result in the interference of an adopted emergency response plan or emergency evacuation plan. Therefore, impacts are considered **less than significant**.



<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The risk of wildfire is related to a variety of parameters, including fuel loading (i.e., vegetation), fire weather (i.e., winds, temperatures, humidity levels and fuel moisture contents), and topography (e.g., degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

According to the General Plan DEIR, the Biggs Planning Area, entirely within the Sacramento Valley, is not subject to the threat of significant wildland fires. Fire Hazard Severity Zone mapping is performed by CAL FIRE and is based on factors such as fuels, terrain, and weather. Fire Hazard Severity Zones around Biggs were mapped as part of Butte County in 2007. According to Butte County Fire Hazard Severity Zone mapping, no unique or significant fire hazards exist in the rural/urban interface between the city and surrounding open spaces, or within the Biggs Planning Area (City of Biggs 2010). The Project would have **no impact** in this area.

**4.9.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

**4.10 Hydrology and Water Quality****4.10.1 Environmental Setting****4.10.1.1 Regional Hydrology****Surface Water**

The City of Biggs and the Project Area are located in the area between the Feather River to the east and the Sacramento River to the west.

According to the California Department of Water Resources (DWR), the state has been subdivided into 10 hydrologic regions (DWR 2022a). Biggs is located in the northcentral portion of the Sacramento River Hydrologic Region, which covers approximately 17.4 million acres (27,200 square miles) (City of Biggs 2013) and includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa counties. Geographically, the Sacramento River Hydrologic Region extends south from the Modoc Plateau near the

Oregon border to the Sacramento-San Joaquin River Delta. The Sacramento River Hydrologic Region is the main water supply for much of California's urban and agricultural areas. Annual runoff in the Sacramento River Hydrologic Region averages about 22.4 million acre-feet (AF), which is nearly one-third of the state's total natural runoff. Major water supplies in the region are provided through surface storage reservoirs. Shasta Lake is one of the two largest surface water projects in the region. In total, the region has 43 reservoirs with a combined capacity of almost 16 million AF (DWR 2004a). However, according to DWR, as of June 2, 2022, the Sacramento Hydrologic Region has received only about 39.9 percent of the average rainy season precipitation in 2022. All of the major reservoirs that serve the Sacramento Hydraulic Region, the Shasta, Oroville, New Bullard's, and Folsom reservoirs, are between 40 and 90 percent capacity as of June 2, 2022 (DWR 2022b).

### **Groundwater**

Biggs and the Project Area lie above the Sacramento Valley Groundwater Basin and the Butte Subbasin. The Butte Subbasin is a subbasin within the greater Sacramento Valley Groundwater Basin (DWR 2022c). The current boundaries of the Butte Subbasin were a result of combining and modifying the boundaries of the now defunct West Butte and East Butte subbasins (DWR 2022d).

Groundwater is found in perched, unconfined, and confined zones in the valley portion of Butte County. Perched groundwater zones are most common in shallow, consolidated soils with low permeability. Major portions of groundwater are unconfined or semi-confined, occurring in the floodplain and alluvial fan deposits. High permeability in these soils yields large amounts of water to shallow domestic and irrigation wells. Well-sorted coarse sand and gravel of the Older Alluvium and Recent Stream Alluvium are highly permeable and yield large amounts of water to domestic and irrigation wells (City of Biggs 2013).

The general groundwater geology of the Biggs area comprises the primary water-bearing Tuscan Formation of the Plio-Pleistocene Age. The Tuscan Formation contains an important deep aquifer that is theorized to underlie most of the valley area. Confined water occurs in the Tuscan and Laguna formations, and in the younger alluvium, where it is overlain by flood basin deposits. Although moderate amounts of water are yielded from the fine-grained strata of the Laguna Formation, permeable sand and gravel zones are infrequent and minor in extent and thickness. The highest producing wells in alluvial uplands occur when older alluvium or the deeper Tuscan volcanic rocks are tapped (City of Biggs 2013).

#### ***4.10.1.2 Project Area Hydrology and Onsite Drainage***

The Project Site is located on level terrain situated at an average elevational range of 93 feet AMSL. The Project Area contains no wetlands or features classified as other waters.

The average winter low temperature in the vicinity of the Project Area is 41.0°F in December and the average summer high temperature is 96.4°F in July. Average annual precipitation is approximately 21.34 inches (National Oceanic and Atmospheric Administration 2022). In the Project Area, the rainy period of the year lasts for approximately 5 months, from November through March. On average, throughout the year there are 81.5 rainfall days in Biggs. The least rain falls in July, with an average total accumulation of 0.04 inch of precipitation (Weather Atlas 2022).

As mapped by the Federal Emergency Management Agency (FEMA, 2011) National Flood Hazard Layer, the Project Site is in Flood Zone X, indicating that the Site is an area of minimal flood hazard. Flood Zone X includes areas outside the Special Flood Hazard Area and higher than the elevation of the 0.2-percent-annual-chance flood (Flood Insurance Rate Map [FIRM] 06007C0975E).

#### 4.10.2 Hydrology and Water Quality (X) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

##### Less Than Significant Impact.

There is potential for the Proposed Project to result in degradation of water quality during both the construction and operational phases. Polluted runoff from the Project Site during construction and operation could include sediment from soil disturbances, oil and grease from construction equipment, and pesticides and fertilizers from landscaped areas. This degradation could result in violation of water quality standards.

##### 4.10.2.1 Project Construction

Construction related to grading and vegetation removal activities could increase soil erosion rates on the areas where future development would be allowed under the Project. Construction activities would result in the exposure of raw soil materials to the natural elements (i.e., wind, rain). In rainy periods during the summer season, grading operations may impact the surface runoff by increasing the amount of silt and debris carried by runoff. Areas with uncontrolled concentrated flow would experience loss of material within the graded areas and could potentially impact downstream water quality. Refueling and parking of construction equipment and other vehicles onsite during construction may result in spills of oil, grease, or related pollutants that may discharge into Project Area drainages. Improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery close to area waterways could cause water quality degradation. However, all future construction associated with the Project would be required to comply with Biggs General Plan policies and actions, specifically Policy CR-5.3, which requires the use of design techniques and BMPs to reduce pollutants close to their source. Additionally, General Plan Action CR-5.3.1 requires the dispersal of stormwater by using swales, the use of landscaped infiltration basins along roadways and parking areas, and other BMPs, as appropriate, and General Plan Action PFS-4.4.1 requires development to prepare a Storm Water Management Plan (SWMP) to address stormwater discharge quality issues. Additionally, any future developments 1 acre in size or greater would be required to comply with NPDES requirements including those BMPs required by the SWPPP to protect water quality (4.7 - *Geology and Soils, Issue b*). As such, construction related water quality impacts would be **less than significant**.

## **Project Operations**

Runoff from urban land use typically contains oils, grease, fuel, antifreeze, and byproducts of combustion (e.g., lead, cadmium, nickel, and other metals), as well as nutrients from fertilizers and animal waste, sediment, pesticides, herbicides, and other pollutants. Also, sizable quantities of animal waste from pets contribute bacterial pollutants into surface and source waters.

Precipitation during the early portion of the wet season displaces these pollutants into the stormwater runoff, resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff, containing peak pollutant levels, is referred to as the *first flush* of storm events. It is estimated that during the rainy season, the first flush of heavy metals and hydrocarbons would occur during the first inches of seasonal rainfall.

The amount and type of runoff generated by land uses with implementation of the Proposed Project may be greater than that under existing conditions due to increases in impervious surfaces. There would likely be a corresponding increase in urban runoff pollutants and first flush roadway contaminants such as heavy metals, oil, grease, nutrients (i.e., nitrates and phosphates), pesticides, and herbicides from landscaped areas. These constituents may result in water quality impacts to on- and offsite drainage flows and to downstream area waterways.

The Project Proposes 4,116 SF of stormwater facilities onsite, located on Lot 27 at the western end of the Project Site (Figure 3), in order to supply the Project Site with adequate stormwater drainage. As stated previously, the Biggs General Plan contains policies and actions with requirements that address surface water quality impacts. For instance, Policy CR-5.3 requires the use of design techniques and BMPs to reduce pollutants close to their source and Action CR-5.3.1 emphasizes the dispersal of stormwater by using swales, the use of landscaped infiltration basins along roadways and parking areas, and other BMPs. Furthermore, Action PFS-4.4.1 requires future development under the Project to prepare a SWMP to address stormwater discharge quality issues. Compliance with the NPDES requirements (where applicable) and the General Plan policies and actions described above would reduce operational water quality impacts associated with implementation of the Proposed Project to a **less than significant level**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### **Less Than Significant Impact.**

Future development within the Project Site would receive water from the City's municipal water supply. The sole source of water supply for Biggs is groundwater extracted from the Sacramento Valley Groundwater Basin, more specifically the Butte Subbasin.

The Proposed Project consists of a tentative subdivision map allowing for the development of 26 single-family homes and a storage facility on approximately 7.55 acres. Based on the potential number of dwelling units (26) and the current (2022) average household size (3.02 persons per household [DOF 2022]) for the City of Biggs, buildout of the Project Area is anticipated to result in a population growth of 79 persons. According to the DWR (2021), the average water-use per person in California is 48 gallons per day (gpd). Based on this number and the projected population for the Project Area, the water demand at full buildout of the Project would be 3,792 gpd or 1,384,080 gallons per year or 4.24 acre-feet per year. Groundwater storage capacity for the Butte Subbasin has not yet been established by the DWR; however, storage for the East Butte and West Butte subbasins was determined in 2004. The estimated storage capacity to a depth of 200 feet for the East Butte Subbasin is approximately 3,128,959 AF (DWR 2004a). The estimated storage capacity to a depth of 200 feet for the West Butte Subbasin is approximately 2,794,330 AF (DWR 2004b). Combining these two storage capacities provides 5,923,283 AF. The Butte Subbasin has not been identified by DWR as a critically overdrafted basin<sup>2</sup>.

Table 4.10-1 illustrates the change in depth to groundwater from the surface between fall 2009 to fall 2019 for six wells in the Project Area vicinity. As shown, a change in the depth to groundwater (shown as surface to water elevation [SWE]) has varied depending on location from a drop of 0.2 feet to a drop of 11.1 feet from 2011 to 2021 (DWR 2022b). While the SWE has varied slightly in the Project vicinity over the 10-year period, according to the DWR's Sustainable Groundwater Management Act (SGMA) Data Viewer on-line tool, the overall SWE contour in the greater Butte Subbasin indicates that SWE remains steady with a drop of roughly 10 feet in the 2011 to 2021 time period (DWR 2022b).

<b>Table 4.10-1. Depth to Groundwater Change 2011-2021</b>					
<b>State Well Number</b>	<b>Well Use</b>	<b>Distance and Direction from Project Area</b>	<b>Surface to Water Elevation</b>		<b>Surface to Water Elevation Change</b>
			<b>Fall 2011</b>	<b>Fall 2021</b>	
18N02E16F001M	Irrigation	1.2 miles West	75.92	75.92	-1.7
18N01E13A002M	Irrigation	5.3 miles West	75.24	74.64	-0.2
18N02E25M001M	Irrigation	2.5 miles South	81.7	80.6	-5.1
18N03E18F001M	Irrigation	1.2 miles East	92.8	90.4	-9.1
18N03E08B003M	Irrigation	2.6 miles Northeast	83.3	98.2	-11.1
18N03E21G001M	Irrigation	3.5 miles Southeast	83.88	86.88	-4.5

Source: DWR 2022b

<sup>2</sup> A basin is subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts. Overdraft occurs where the average annual amount of groundwater extraction exceeds the long-term average annual supply of water to the basin.

As discussed above, estimated water demand for future development in the Project Area is approximately 4.24 AF and the groundwater storage capacity is 5.9 million AF. The Project demand would represent 0.00007 percent increase in groundwater demand on the Butte Subbasin. Additionally, as shown above, the groundwater levels have minimally changed since 2011. Therefore, the Project would have a less than significant impact on groundwater supply.

While the Project would not construct any residential or light industrial developments, future resultant construction projects, such as homes, driveways, industrial buildings like a mini storage facility, parking lots and roadways, would result in an increase in impervious surfaces. As shown in Table 4.10-2, based on the Biggs Municipal Code Title 14 Zoning and maximum lot coverages therein, future development on the Project Site could result in approximately 4.14 acres of impervious surface over the 7.55-acre Project Site.

<b>Table 4.10-2. Analysis of Impervious Area Potential</b>			
<b>Zoning District</b>	<b>Total Area (Acres)</b>	<b>Maximum Lot Coverage (Percent)</b>	<b>Impervious Area Potential (Acres)</b>
R-2	5.03	50	2.51
M-1	2.52	65	1.63
<b>Total Combined:</b>	7.55	-	4.14

The Biggs General Plan includes policies and actions that would assist in groundwater recharge. Specifically, Policy CR-5.3 requires the use of design techniques and BMPs to improve infiltration to replenish groundwater sources. Action CR-5.3.1 emphasizes the dispersal of storm water by using swales, the use of landscaped infiltration basins along roadways and parking areas, and other BMPS that would allow for additional groundwater recharge on the Site. Finally, Action CR-5.3.2 promotes the use of methods to manage and filter storm water, such as reduced pavement, permeable pavement, and retention and filtration through vegetation. In addition, Biggs Municipal Code Chapter 9.05 mandates that development provide storm drainage facilities that will convey stormwater runoff to an existing drainage channel as these features are the primary areas of groundwater recharge.

Because future land subdivision projects would be subject to those General Plan policies and actions as well as Chapter 9.05 of the City Municipal Code, the Project would have a **less than significant impact** in this area.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 that would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Less than significant impact.**

i-iii) There are no creeks, streams or rivers on or nearby the Project Site. The Hamilton Slough, however, traverses east to west along the southern border of the Project Site. As such, siltation of this waterway may occur.

Future construction activities within the Project Area would result in soil disturbances. For those activities that disturb 1 or more acre of land, a NPDES Construction General Permit would be required prior to the start of construction. To comply with the requirements of the NPDES Construction General Permit, future construction activity would be required to submit a SWPPP defining BMPs for construction and post-construction-related control of the Proposed Project Site runoff and sediment transport. Requirements for the SWPPP include incorporation of both erosion and sediment control BMPs. SWPPPs generally include the following applicable elements:

- Diversion of offsite runoff away from the construction area
- Prompt revegetation of proposed landscaped areas
- Perimeter straw wattles or silt fences and/or temporary basins to trap sediment before it leaves the site
- Regular sprinkling of exposed soils to control dust during construction during the dry season
- Installation of a minor retention basin(s) to alleviate discharge of increased flows

- Specifications for construction waste handling and disposal
- Erosion control measures maintained throughout the construction period
- Preparation of stabilized construction entrances to avoid trucks from imprinting debris on city roadways
- Contained wash out and vehicle maintenance areas
- Training of subcontractors on general construction area housekeeping
- Construction scheduling to minimize soil disturbance during the wet weather season
- Regular maintenance and storm event monitoring

Preparation of, and compliance with a required SWPPP would effectively prevent onsite erosion and sediment transport offsite. Adherence to the SWPPP will reduce potential runoff, erosion, and siltation associated with construction and operation. As such, the effects of the Proposed Project on- and offsite erosion and siltation would be **less than significant**.

Implementation of the Proposed Project may result in the substantial increase of the rate or amount of surface runoff as the Project Site is developed in the future. General Plan policies and actions designed to address stormwater runoff include Policy PFS-1.2, which ensures the development of quality infrastructure to meet community needs at the time that they are needed, and Policy PFS-1.3, which states that construction of oversized or offsite facilities may be required of development projects to provide capacity for future development. In addition to these policies, Policy CR-5.3 would require BMPs to reduce stormwater runoff levels, Action CR-5.3.1 encourages the dispersal of storm water by using swales, the use of landscaped infiltration basins along roadways and parking areas, and other BMPs, as appropriate, and Action PFS-4.4.1 requires the development of a storm water management plan to address storm water discharge quality issues. Finally, Biggs Municipal Code Chapter 9.05 mandates that development provide storm drainage facilities that will convey stormwater runoff to an existing drainage channel or drainage system. Implementation of General Plan policies and actions as well as adherence to Chapter 9.05 of the Biggs Municipal Code would reduce this impact to **less than significant** by ensuring that adequate drainage facilities are provided for future development in the Project Site.

iv) FEMA flood hazard map 06007C0975E indicates that the entire Project Site is in unshaded Zone X. The Project Site is not located within a flood zone. Therefore, implementation of The Proposed Project will not have an impact related to impeding or redirecting flood flows.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.**



The Project Site is not located near an ocean or large body of water with potential for seiche or tsunami. According to the DWR Division of Safety of Dams (DSD), the City of Biggs and Project Site are subject to dam inundation from Oroville Dam and the Thermalito Afterbay Dam (DSD 2022). Oroville Dam and Thermalito Afterbay Dam are of sufficient height and capacity to be regulated by the DSD. The DSD performs annual maintenance inspections of this and other dams under state jurisdiction, including monitoring for compliance with seismic stability standards. Regular inspection by the DSD ensures that dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event. Therefore, the Project would not expose people or structures to a significant loss, injury, or death involving flooding as a result of the failure of a dam. Impacts would be considered **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### **No Impact.**

The Project Site is located within the boundaries of the Integrated Regional Water Management Plan (IRWMP) which includes the Northern Sacramento Valley IRWMP region. This area includes all or portions of the following counties: Butte, Colusa, Glenn, Shasta County, Sutter County and Tehama counties. The purpose of the IRWMP is to document the regional water resource management conditions, needs and strategies; to describe the process and projects that will improve regional water resources management in the region; and, to comply with the *Final DWR Integrated Regional Water Management (IRWM) Grant Program Guidelines* (DWR 2014).

The City of Biggs is identified in the IRWMP as one of the municipalities considered in the IRWMP. Future populations are projected through 2035 in the plan using population projections provided by the DOF. The Project Site's anticipated population is within the projected population for the City of Biggs. As such, the Proposed Project would not conflict with or obstruct implementation of the IRWMP and would have no impact in this area.

The SGMA is a state-wide planning and information law that requires local water agencies and district to form groundwater sustainability agencies (GSAs) for the high and medium priority basins. The Butte Subbasin is a medium priority basin. GSAs are required to develop and implement groundwater sustainability plans (GSPs) to avoid undesirable results and mitigate overdraft within 20 years. Eleven independent GSAs, including the City of Biggs, have signed a cooperation agreement to develop, adopt and implement a single Groundwater Sustainability Plan (GSP) for the Butte Subbasin. The GSP for the Butte Subbasin is currently in the review process as of June 2022 (DWR 2022e). As such, the Project would neither conflict with nor obstruct implementation of the GSP. As such, the Project would have **no impact** on the implementation of the groundwater management plan.

#### **4.10.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

### **4.11 Land Use and Planning**

#### **4.11.1 Environmental Setting**

The Project is proposed on two existing parcels of land of approximately 7.55 acres in combined size. The Project Site is located inside of the city limits of Biggs and is within an established urbanized portion of the City surrounded by developed parcels. Two existing single-family residential dwelling units are located along the northern property line, multiple single-family residential dwellings are located on the east-side of Sixth Street along the eastern side of the Project; Hamilton Slough and an existing single-family dwelling unit are located on the southern property line of the Project and the Union Pacific railroad tracks, a City of Biggs-owned parcel containing the City's electric utility substation, and a City of Biggs-owned parcel providing access to the City's electric substation parcel, are located on the western property line of the Project. The SunWest Milling Company rice mill is located across the railroad tracks to the west of the Project Site.

The southern portion of the Project Site is currently designated with a combination of land uses designations on the City's General Plan Land Use diagram. As previously described, the Proposed Project Site has two General Plan land use designations on the combined site and three zoning designations. The General Plan LDR designation has been placed on the southern third of the Project Site with the MDR land use designation applied to the northern two thirds of the Project Site. The LDR designation contemplates the use of the land for single-family homes, second dwelling units, and other compatible uses. This land use designation would be expected to result in the form of detached dwellings on individual lots. The MDR designation allows for a variety of residential living environments, including single-family detached dwellings on small lots, townhomes, duplex residences and other compatible uses. As proposed, both parcels would be used for single-family detached dwellings having lot sizes ranging from 5,450 to 6,256 SF.

Zoning on the site is a combination of three zoning districts with the northern-most parcel zoned with the R-2, Medium Density zoning district, an east-west-oriented narrow rectangular-shaped portion in the northern portion of APN 001-103-007 zoned with the C-G, General Commercial zoning district and the southern two thirds of the parcel zoned with the M-1, Light Industrial zoning district.

Development of site as proposed would not disrupt or physically divide the surrounding parcels nor introduce a land use type that would segment an existing community. As proposed, the Project would have a similar land use composition to that of the surrounding area.

**4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

As proposed, the Project would neither physically divide an established community nor result in the placement of physical barrier within the City. **No impact would occur.**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

As described in Section 2.1, the Project is proposing both a General Plan Amendment and Rezoning action. Specifically, the Project proposes that the residential component of the Project would be designated with the MDR land use designation and zoned with R-2 zoning, and the mini-storage area be redesignated in the General Plan as LI, Light Industrial and be rezoned with the M-1, Light Industrial zoning district. **No impact would occur.**

**4.11.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

**4.12 Mineral Resources****4.12.1 Environmental Setting**

The state-mandated Surface Mining and Reclamation Act of 1975 requires the identification and classification of mineral resources in areas within the state subject to urban development or other irreversible land uses that could otherwise prevent the extraction of mineral resources. These designations categorize land as Mineral Resource Zones (MRZ, MRZ-1 through MRZ-4).

Neither the City, Mineral Resources Data System, nor the California DOC Division of Mine Reclamation (DMR), identify the Project Site as a mineral resource zone (City of Biggs 2014, DMR 2022, USGS 2022b).

**4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

As discussed above, Project Site is not identified as having the mineral resources. Therefore, the Project would have **no impact** in this area.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No impact.**

The Project site is not identified as a mineral resource recovery site by either City or DMR. There would be **no impact** in this area.

**4.12.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

**4.13 Noise****4.13.1 Environmental Setting****4.13.1.1 Noise Fundamentals**

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in  $L_{eq}$ ) and the average daily noise levels/community noise equivalent level (in  $L_{dn}/CNEL$ ). The  $L_{eq}$  is a measure of ambient noise, while the  $L_{dn}$  and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level ( $L_{eq}$ )** is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they

deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

- **Day-Night Average ( $L_{dn}$ )** is a 24-hour average  $L_{eq}$  with a 10-dBA *weighting* added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour  $L_{eq}$  would result in a measurement of 66.4 dBA  $L_{dn}$ .
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average  $L_{eq}$  with a 5-dBA weighting during the hours of 7:00 p.m. to 10:00 p.m. and a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations.

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 decibels (dB) for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed (FHWA 2011).

The manner in which older structures in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (California Department of Transportation [Caltrans] 2002). The exterior-to-interior reduction of newer structures is generally 30 dBA or more (Harris Miller Miller & Hanson Inc. 2006).

#### **4.13.1.2 Human Response to Noise**

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high, above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-

commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1.0 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3.0-dBA change is considered a just-perceivable difference.
- A change in level of at least 5.0 dBA is required before any noticeable change in community response would be expected. An increase of 5.0 dBA is typically considered substantial.
- A 10.0-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response

#### **4.13.1.3 Noise Sensitive Land Uses**

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest existing noise-sensitive land uses to the Project Site are residential properties adjacent to the northern, eastern and southern Project Site boundary.

#### **4.13.1.4 Vibration Fundamentals**

Ground vibration can be measured several ways to quantify the amplitude of vibration produced, including through peak particle velocity (PPV) or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively.

Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

#### **4.13.1.5 Existing Ambient Noise Environment**

The most common and significant source of noise in the City of Biggs is mobile noise generated by transportation-related sources. Other sources of noise are the various land uses (i.e., residential, industrial, and agricultural) that generate stationary-source noise. The Project Site is bound mainly by residential

land uses to the north, east and south with the UPRR railway and SunWest Milling to the west. As shown in Table 4.16-1, the ambient recorded noise level on the Project Site is 67.0 dBA CNEL, which as described above is a sound level typically associated with residential-commercial areas.

The western boundary of the Project Site traverses the greatest noise generator in the city, the UPRR. The lines pass through the western edge of the downtown area, separating the western portion of the city. Originally serving primarily agricultural interests, the tracks are part of the major rail corridor that connects the Pacific Northwest with Southern California. Approximately 24 trains pass through Biggs daily, and rail activity is expected to increase in the future (City of Biggs 2014). Noise generated by freight rail is primarily generated by the train's steel wheels rolling on steel rails. This rolling noise increases in direct proportion to increases in train speed, and also increases substantially when impacts occur as train wheels traverse the rail gaps and joints of special trackwork for crossovers and turnouts. Located just beyond the UPRR is SunWest Milling, which is a highly automated rice milling facility. Common noise-producing sources at rice milling facilities that could impact nearby land uses include mechanical equipment (i.e., rice dryers, separators, baghouse filters and crushers) and heavy-duty trucks. The mill operations are dictated by demand, and it is not unusual for it to operate 24 hours a day. The mill typically generates approximately 45 truck trips per day and receives approximately three UPRR deliveries per week (City of Biggs 2014).

#### **4.13.1.6 Existing Ambient Noise Measurements**

In order to quantify existing ambient noise levels in the Project Area, ECORP Consulting, Inc. conducted a 24-hour noise measurement starting on January 14, 2022 and extending into January 15, 2022. This 24-hour noise measurement is representative of typical existing noise exposure on the Project Site during a typical 24-hour day. Additionally, ECORP conducted three short-term (15-minute) noise measurements on the afternoon of January 15, 2022. The noise measurements are representative of the typical existing noise experienced within and immediately adjacent to the Project Site and are depicted in Table 4.13-1 (Appendix E).

<b>Table 4.13-1. Existing (Baseline) Noise Measurements</b>						
<b>Location Number</b>	<b>Location</b>	<b>CNEL dBA</b>	<b>L<sub>eq</sub> dBA</b>	<b>L<sub>min</sub> dBA</b>	<b>L<sub>max</sub> dBA</b>	<b>Time</b>
<b>Short Term Noise Measurements (June 15, 2022)</b>						
1	Sixth Street and Dakota Avenue Intersection		55.2	38.9	77.1	12:12 p.m. – 12:27 p.m.
2	Bannock Street and Sixth Street Intersection		52.8	37.1	69.1	12:31 p.m. – 12:46 p.m.
3	Sunwest Mills Employee Parking Lot (on Eighth St)		48.2	44.3	64.0	12:54 p.m. – 1:09 p.m.
<b>Long Term Noise Measurements (June 14, 2022- June 15, 2022)</b>						
4	Fence at the North End of Site Around High Voltage Tower	67.0	61.0	44.2	94.9	2:30 p.m. (June 14) - 2:30 p.m.(June 15)

Source: Measurements were taken by ECORP with a Larson Davis SoundExpert LxT SE precision sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. Prior to the measurements, the SoundExpert LxT SE sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. See Appendix E for noise measurement outputs.

As shown in Table 4.13-1, the short-term ambient recorded noise levels range from 48.2 to 55.2 dBA L<sub>eq</sub> near the Project Site. The long-term (24-hour) ambient recorded noise level was measured at 67.0 dBA CNEL. The noise source most commonly affecting the Project Site and vicinity observed during the noise measurements were produced by automotive vehicles and activities at Sunwest Milling. A train passing was not observed during the short-term measurements, though the time history graph produced during the 24-hour measurement show 11 substantial spikes in peak noise that are most likely attributable to a passing train (Appendix D).

#### 4.13.2 Noise (XIII) Environmental Checklist and Discussion

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Less Than Significant Impact



#### **4.13.2.1 Project Onsite Construction Noise**

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, building construction, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than 1 minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site. The City of Biggs promulgates policy provisions intended for the protection of noise sensitive land uses within the City. For instance, General Plan Noise Element Action N-1.6.2 requires the consideration of the effects of temporary construction related noise activities during the project review process, and incorporation noise mitigation techniques including movement of equipment staging areas, screening of portable noise sources, limits on amplified sound devices, and use of noise baffling and reducing technologies. City of Biggs Municipal Code Chapter 7.40, *Noise Regulation*, states that it is unlawful for any person to operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of 7:00 p.m. and 6:00 a.m. on weekdays and/or Saturdays or at any time on Sundays or holidays in such a manner that creates noise clearly audible across a residential zoned or a commercial zoned real property boundary, with the exception of emergency work being performed by a public agency or a public utility.

The nearest existing noise-sensitive receptors to the Project Site are residential properties adjacent to the northern, eastern and southern Project Site boundary. The City does not promulgate numeric thresholds pertaining to the noise associated with construction, yet instead limits the time that construction can take place (Municipal Code Chapter 7.40). This is due to the fact that construction noise is temporary, short term, intermittent in nature, and would cease on completion. Furthermore, the City of Biggs is a vibrant rural community and construction noise is generally accepted as a reality within the developing environment. As such, noise generated during construction activities, as long as conducted within the permitted hours, would not exceed City noise standards.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptor in the Project vicinity in order to evaluate the potential health-related effects (i.e., physical damage to the ear) from construction noise, the construction equipment noise levels were calculated using the Roadway Noise Construction Model and compared against the construction-related noise level threshold established in the *Criteria for a Recommended Standard: Occupational Noise Exposure* prepared in 1998 by National Institute for Occupational Safety and Health (NIOSH). A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction

results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA  $L_{eq}$  is used as an acceptable threshold for construction noise at the nearby sensitive receptors.

The anticipated short-term construction noise levels generated for the necessary equipment were calculated using the Roadway Noise Construction Model for the demolition, site preparation, grading, building construction, paving and painting anticipated for the Proposed Project. It is acknowledged that the majority of construction equipment is not situated at any one location during construction activities, but rather spread throughout the Project Site and at various distances from sensitive receptors. Therefore, this analysis employs Federal Transit Administration (FTA) guidance for calculating construction noise, which recommends measuring construction noise produced by all construction equipment operating simultaneously from the center of the Project (FTA 2018), which in this case is approximately 245 feet distant from the nearest sensitive receptors to the east, across Sixth Street. The anticipated short-term construction noise levels generated for the necessary equipment is presented in Table 4.13-2.

<b>Table 4.13-2. Construction Average (dBA) Noise Levels at Nearest Receptor</b>			
<b>Equipment</b>	<b>Estimated Exterior Construction Noise Level at Nearest Residences</b>	<b>Construction Noise Standards (dBA <math>L_{eq}</math>)</b>	<b>Exceeds Standards?</b>
<b>Site Preparation</b>			
Rubber Tired Dozer (3)	63.9 (each)	85	No
Tractor/Loader/Backhoe (4)	66.2 (each)	85	No
<b>Combined Site Preparation Equipment:</b>	73.8	85	No
<b>Grading</b>			
Excavator	62.9	85	No
Rubber Tired Dozer	63.9	85	No
Tractor/Loader/Backhoe (3)	66.2 (each)	85	No
Grader	67.2	85	No
<b>Combined Grading Equipment:</b>	73.5	85	No
<b>Building Construction, Paving, and Architectural Coating</b>			
Crane	58.8	85	No
Forklift (2)	65.6 (each)	85	No
Grader	67.2	85	No
Generator	63.8	85	No

**Table 4.13-2. Construction Average (dBA) Noise Levels at Nearest Receptor**

Equipment	Estimated Exterior Construction Noise Level at Nearest Residences	Construction Noise Standards (dBA $L_{eq}$ )	Exceeds Standards?
Tractor/Loader/Backhoe (3)	66.2 (each)	85	No
Welder/Torch	56.2	85	No
Paver (2)	60.4	85	No
Pavement Scarifier (2)	68.7 (each)	85	No
Roller (2)	59.2 (each)	85	No
Air Compressor	59.9	85	No
<b>Combined Building Construction, Paving, and Architectural Coating Equipment:</b>	76.7	85	No

Source: Construction noise levels were calculated by ECORP Consulting, Inc. using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Appendix E for Model Data Outputs.

Notes: Construction equipment used during construction derived from CalEEMod 2020.4.0, which contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters. Consistent with FTA recommendations for calculating construction noise, construction noise was measured from the center of the Project Site (FTA 2018), which is 245 feet from the nearest residence.

$L_{eq}$  = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 4.13-2, during construction activities no individual or cumulative piece of construction equipment would exceed the NIOSH threshold of 85 dBA  $L_{eq}$  at the nearest noise sensitive receptor and therefore no health effects from construction noise would occur. It is noted that construction noise was modeled on a worst-case basis. It is very unlikely that all pieces of construction equipment would be operating at the same time for the various phases of Project construction. This impact is **less than significant**.

#### **4.13.2.2 Project Onsite Construction Noise**

Project construction would result in minimal additional traffic on adjacent roadways over the timeframe that construction occurs. According to the CalEEMod model, which is used to predict the number of worker commute trips, the maximum number of construction workers traveling to and from the Project Site during a single construction phase would not be expected to exceed 178 trips in total (136 construction worker trips and 42 vendor trips). According to the Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). The Project Site is accessible from Sixth Street. According to the City of Biggs General Plan DEIR (2013), the roadway segment on Sixth Street from Dakota Avenue to State Route 99, which traverses the Project

Site, experiences approximately 291 vehicle trips per day. Thus, the Project construction would not result in a doubling of traffic, and therefore its contribution to existing traffic noise would not be perceptible. Additionally, it is noted that construction is temporary, and these trips would cease upon completion of the Project. Thus, this impact would be **less than significant**.

### **Project Land Use Compatibility**

The City of Biggs General Plan Policy N-1.1 states that new development of noise-sensitive land uses should generally not be permitted in areas that exceed 65 dBA CNEL. However, where it is not possible to reduce noise to such levels, an exterior noise level of up to 70 dBA CNEL may be allowed provided that interior noise levels do not exceed 45 dBA CNEL. As previously described, a long-term (24-hour) noise measurement was taken on the Project Site and recorded an ambient noise level of 67.0 dBA CNEL. The main noise generating sources in the Project Area are the UPRR and activities at SunWest Milling located directly west of the Project Site.

In efforts to reduce noise at the noise-sensitive residential land uses proposed on the Project Site from the noise-producing sources to the west, Project Site design locates the mini-storage facility between the noise producing sources to the west and the noise-sensitive receptors. According to the FHWA, intervening structures; generally, a single row of detached buildings between the receptor and the noise source, reduces the noise level by about 5 dBA (FHWA 2006). Thus, the noise-sensitive residential receptors would be noticeably buffered from the noise-generating UPRR and SunWest Milling activities to the west by the proposed storage facility component of the Project. The intervening structures associated with the storage facility would break the line-of-sight between the UPRR and SunWest Milling noise sources, reducing the ambient noise levels that would be experienced at the future residences on the Project Site below the City's exterior noise standard of 65 dBA CNEL [ $67.0 - 5.0 = 62.0$  dBA CNEL]. Additionally, the manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). As such, interior noise levels would fall below the City's interior noise standard of 45 dBA CNEL for residential land uses [ $62.0 - 20.0 = 42.0$  dBA CNEL]. The Project would be compatible with the noise levels experienced in the Project Area with implementation of the proposed site design and a **less than significant impact** would occur.

### **Operational Onsite Stationary Noise**

Potential stationary noise sources related to long-term operation on the Project Site would be from the proposed residences and mini-storage facility. ECORP staff regularly conduct noise measurements within various land uses, at specific noise-generating events, and at individual pieces of noise-generating equipment in order to develop a wide sampling of associated potential noise levels. The main noise source generated from the mini-storage facility would be parking lot activity/internal circulation (i.e., car doors opening and closing, stereo music, people talking) and storage doors being opened and closed. Previous noise measurements conducted by ECORP staff identified a sound power level of 61.1 dBA  $L_{eq}$  at a similar facility. The main noise source generated from the residences on the Project Site would include mechanical equipment and other typical sources specific to residential neighborhoods such as barking dogs, internal traffic circulation, radios, and people talking. According to previous field noise

measurements conducted by ECORP, mechanical heating, ventilation, and air conditioning equipment generates noise levels less than 45 dBA at 20 feet. These noise levels fall below the daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) exterior noise standards for intermittent noise presented in Policy N-1.2 of the City's General Plan. Additionally, the Project Site is predominately surrounded by residential land uses and the most basic planning strategy to minimize adverse impacts on new land uses due to noise is to avoid designating certain land uses at locations within the community that would negatively affect noise sensitive land uses. The Project is consistent with the types, intensity, and patterns of land use envisioned for the Project Area, and as previously described, the Project is considered compatible with the existing noise environment. Operation of the Project would not result in a significant noise-related impact associated with onsite sources and a **less than significant impact** would occur.

### **Operational Traffic Noise**

Project operation would also result in additional traffic on adjacent roadways, thereby increasing vehicular noise in the Project vicinity. The Project Site is accessible from Sixth Street. According to the City General Plan DEIR (2013), the roadway segment on Sixth Street from Dakota Avenue to State Route 99, which traverses the Project Site, experiences approximately 291 vehicle trips per day. Based on estimations from CalEEMod, which is driven by data from ITE Trip Generation Manual, the Project is anticipated to generate approximately 265 trips per day.. According to Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway would result in an increase of 3 dB (a barely perceptible increase). The Project would not result in a doubling of traffic, thus its contribution to existing traffic noise would not be perceptible. This impact would be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.**

#### **4.13.2.3 Construction-Generated Vibration**

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with short-term construction-related activities. Construction on the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases

rapidly with distance and it is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment at 25 feet distant are summarized in Table 4.13-3.

<b>Table 4.13-3. Representative Vibration Source Levels for Construction Equipment</b>	
<b>Equipment Type</b>	<b>Peak Particle Velocity at 25 Feet (inches per second)</b>
Large Bulldozer	0.089
Pile Driver	0.170
Caisson Drilling	0.089
Loaded Trucks	0.076
Rock Breaker	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: FTA 2018; Caltrans 2020

The City does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020) recommended standard of 0.2 inch per second PPV with respect to the prevention of structural damage for normal buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings. Consistent with FTA recommendations for calculating vibration generated from construction equipment, construction vibration was measured from the center of the Project Site (FTA 2018). The nearest structure of concern to the construction site are residences located approximately 245 feet west of the Project Site center.

Based on the representative vibration levels presented for various construction equipment types in Table 4.13-3 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential Project construction vibration levels. For most structures, Caltrans considers a PPV threshold of 0.2 inch per second to be the level at which architectural damage (i.e., minor cracking of plaster walls and ceilings) to normal structures may occur. The FTA provides the following equation:

$$[PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}]$$

Table 4.13-4 presents the expected Project related vibration levels at a distance of 245 feet.

<b>Table 4.13-4 Construction Vibration Levels at 245 Feet</b>							
<b>Receiver PPV Levels (in/sec)<sup>1</sup></b>					<b>Peak Vibration</b>	<b>Threshold</b>	<b>Exceed Threshold</b>
<b>Large Bulldozer, Caisson Drilling, &amp; Hoe Ram</b>	<b>Loaded Trucks</b>	<b>Jackhammer</b>	<b>Small Bulldozer</b>	<b>Vibratory Roller</b>			
0.0029	0.0025	0.0011	0.0001	0.0069	0.0069	0.2	No

Notes: <sup>1</sup>Based on the Vibration Source Levels of Construction Equipment included on Table 4.13-3 (FTA 2018).  
Distance to the nearest structure of concern is approximately 245 feet measured from Project Site center.

As shown in Table 4.13-4, vibration as a result of construction activities would not exceed 0.2 PPV at the nearest structure. Thus, Project construction would not exceed the recommended threshold. A **less than significant impact** would occur.

#### **4.13.2.4 Operational Groundborne Vibration**

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. However, the Project proposes residential structures and a mini-storage facility within proximity to the existing UPRR corridor to the west, a source of groundborne vibration. Freight train operations create vibration events that last approximately 2 minutes though it is extremely rare for vibration from train operations to cause substantial or even minor cosmetic building damage (FTA 2018). Older, historic buildings often considered fragile are the predominate source of concern from rail-related vibration (FTA 2018).

The closest Project structure would be the storage facility building positioned approximately 55 feet from this rail corridor at the nearest. According to the FTA (2018), groundborne vibration from urban heavy rail is common when there are less than 50 feet between the track and building foundations. Furthermore, while each building has different characteristics relative to structure-borne vibration, in general, the heavier the building, the lower the levels of vibration. Additionally, community (human) response to vibration correlates with the frequency of events and, intuitively, more frequent events of low vibration levels may evoke the same response as fewer high vibration level events. As previously stated, approximately 24 trains pass through Biggs daily, and rail activity is expected to increase in the future (City of Biggs 2014).

Groundborne vibration levels associated with passenger and freight rail at 55 feet are summarized in Table 4.13-5. The City does not establish a numeric threshold for vibration associated with passing trains. For comparison purposes, Caltrans' (2020) recommended standard of 0.2 inch per second PPV with respect to the prevention of structural damage for normal buildings is used as a threshold, since the Project would allow for the construction new buildings consistent with the most recent building standards.

This level of vibration is when there is a risk of damage to normal buildings and when people generally begin to be annoyed.

<b>Table 4.13-5 Representative Vibration Source Levels for Construction Equipment</b>	
<b>Equipment Type</b>	<b>Peak Particle Velocity at 55 Feet (inches per second)</b>
Rapid Transit/Light Rail at 50 mph	0.15
Locomotive-Powered Freight Rail at 50 mph	0.17

Source: FTA 2018

As shown in Table 4.13-5, the closest Project structure to the UPRR rail corridor, positioned approximately 55 feet distant, would experience vibration levels of 0.17 inch per second PPV when a train passes. This level of vibration is below the Caltrans standard for normal buildings. As such, a **less than significant impact** would occur.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### **No Impact.**

The City of Biggs is neither located within 2 miles of a public airport nor in the vicinity of a private airstrip. The closest public airport to the Project Site is the Oroville Municipal Airport, located approximately 6.4 miles to the northeast, and the nearest private airport is the Richvale Airport, located approximately 7 miles to the northwest. Although occasional aircraft overflights of the City occur, the City of Biggs is located well beyond the noise impact zones of these airports. As a result, the existing ambient noise environment of the City of Biggs is not significantly influenced by aircraft noise. Implementation of the Proposed Project would not affect airport operations nor result in increased exposure of noise-sensitive receptors to aircraft noise. For this reason, **no impact** would occur.

#### **4.13.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.



## 4.14 Population and Housing

### 4.14.1 Environmental Setting

According to the California DOF, which provides estimated population and housing unit demographics by year throughout the state, the city had a population of 1,939 as of January 1, 2022 with an estimated 677 total housing units. Compared to the 2012 DOF City estimates of 1,707 residents and 615 total households, this is an increase of 12.0 and 9.2 percent, over a 10-year period, in population and total number of households, respectively. Vacancy rates for the city have continuously decreased from 7.8 percent in 2012 to 5.0 percent as of January 2022. The Proposed Project consists of a tentative subdivision map allowing for the future development of a light industrial facility and a single-family subdivision on approximately 7.55 acres, but does not include light industrial or residential construction components at this time. However, it is acknowledged that there is a potential for future residential development of approximately 26 single-family residences and a mini-storage facility within the Project Site. Potential population growth associated with the Project Site, if developed at the maximum allowable levels based on current City land use designations, is projected to equate to 74 additional residents to the city, living in an additional 26 dwelling units.

In January 2011, BCAG published a population forecast report that projected a range of potential growth scenarios for Biggs ranging from an average annual population and housing growth rate of 3.3 percent to 4.1 percent. This would result in the potential to double the current population size by the year 2035. Given the current estimated population of 1,939, the anticipated growth rate ranging between 3.3 to 4.1 percent has not yet been achieved as predicted (City of Biggs 2014). Implementation of the Proposed Project, and the future development within the Project Site, would have the potential to increase population.

### 4.14.2 Population and Housing (XIV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Less Than Significant Impact.

The Project does not include any construction or other development features at this time. However, it is assumed that future development in the Project Site would occur with a mini-storage and single-family residences and as such may affect the population density of the City.

As indicated in the Final Municipal Service Review (FMSR) conducted for the City of Biggs and adopted in 2015, the city will not have enough vacant residentially-zoned land to accommodate growth within the current City boundaries by 2025, based on the anticipated future growth rate of approximately 4.6 percent

needed to meet the desired population in that year. According to the Regional Housing Needs Plan (RHNP), which spanned from January 2014 to December 2020 and identifies and quantifies the existing housing needs for the City, the City's housing needs are for the extremely low income (13 percent or 24 units), very low income (13 percent or 24 units), low income (16 percent or 30 units), moderate income (13 percent or 24 units), and above moderate income (45 percent or 82 units) residents of the community. Including the units that had permits issued as part of the North Biggs Estates project, the total RHNA for the City was 165 residential dwelling units, with a site inventory realistic capacity of 250 units, and a total RHNA surplus of 85 units for all income groups. Additionally, the RHNP indicated that the City's capacities [at the time when the RHNP was adopted] for new housing units exceeded the 2014-2020 RHNP Allocation. However, to meet this need, the use of underutilized land was required as there was not an adequate supply of available vacant land (Butte Local Agency Formation Commission [LAFCO] 2015).

As discussed previously the Proposed Project consists of a tentative subdivision map allowing for the future development of a light industrial facility and a single-family subdivision on approximately 7.55 acres. However, with the assumption for future development in the Project Site, the City is anticipated to have an increase in population growth. This population increase would be consistent with the City's future population growth in the area as projected in the General Plan Population and Housing Element and would comply with Policies such as Policy Action LU-3.2.1, which states that the City shall zone an adequate supply and mix of developable residential land to accommodate future housing needs.

A key goal of the City's General Plan policies is to accommodate anticipated growth in a compact urban form, including mixed-use development. This strategy is intended to reduce the amount of undeveloped land needed to meet the City's future housing and jobs needs when compared to a more *business-as-usual* sprawling growth pattern. Maximum development of the future residential development within the Project Site would provide for this growth and minimize outward expansion of the City's boundaries. For example, proposed General Plan Action CR-2.2.5 prohibits new urban development west of the southerly extension of Riceton Highway, south of Afton Road, and west of the City's wastewater treatment plant to Farris Road. Growth accommodated under the future development of the Site seeks to avoid the growth effects of sprawl development patterns.

As stated above, a BCAG-projected average growth rate of 3.3 percent annually (more than triple the historic growth rate average yet consistent with BCAG's lowest growth scenario) would result in an estimated increase of 2,367 people and 825 dwelling units for a total of 4,059 people living within 1,440 units in Biggs by 2035. As of January 1, 2022, the BCAG-projected growth rate has not been actualized. Full theoretical buildout in the Proposed Project Site would result in an increase of 79 people and 26 units for a total of 2,018 residents living in 703 dwelling units in Biggs. Since full theoretical buildout in the Project Site would result in growth consistent with that anticipated by BCAG, this impact is considered to be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Less Than Significant Impact.**

The Project Site is vacant land and thus implementation of the Proposed Project would not displace any persons and **no impact** would occur.

**4.14.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

**4.15 Public Services****4.15.1 Environmental Setting**

Public services include fire protection, police protection, parks and recreation, and schools. Generally, impacts in these areas are related to an increase in population from a residential development. Levels of service are generally based on a service-to-population ratio, except for fire protection, which is usually based on response time.

**4.15.1.1 Fire Services**

Fire protection services in Biggs are provided by the Biggs Fire Department, which is staffed by two fire fighters 24 hours a day and supported by a volunteer company that supports both Biggs and Gridley. The fire station (Station 73) is located at 434 B Street, approximately 0.3 mile northeast of the Project Site. The Department also provides Basic Life Support services. Although the personnel are volunteers, the City of Biggs owns and pays for the operational costs of one fire engine through the City's service contract with the State of California and through the resources of the Mutual Aid Agreement with Butte County. The service boundaries of the Biggs Fire Department are the city limits, although the Department has a mutual aid agreement with Butte County Fire Department (BCFD) and CAL FIRE to provide fire protection services to outlying areas. The BCFD provides fire suppression, emergency medical, rescue, hazardous materials response, public assistance, and fire prevention/life safety services. The BCFD services Biggs with an average response time of less than 4 minutes. According to CAL FIRE, the City of Biggs and the Project Site are not considered to be a Very High Fire Hazard Severity Zone (VHFHSZ) in the Local Responsibility Area.

**4.15.1.2 Police Services**

As of July 1, 2020, the Butte County Sheriff's Office (BCSO) began providing law enforcement services in the City of Biggs. This includes 24-hour/7 days per week law enforcement and response, as well as

911/public safety dispatch services, records management, evidence/property management, and criminal investigation services. The BCSO utilizes a combination of BCSO personnel to provide law enforcement services to the City of Biggs, which include Designated Area Deputies (DADs), patrol deputies, and a newly created position of Sheriff Community Service Officer (SCSO). The SCSO works throughout the city in an effort to prevent criminal activity and identify public safety risks. The SCSO works in an office located inside Biggs City Hall at 465 C Street when not out in the community.

#### 4.15.1.3 Schools

The Biggs Unified School District (BUSD) operates three schools in Biggs and adjacent unincorporated areas of Butte County. There are two elementary schools, one with classes from TK (pre-kindergarten) through 8th grades (Biggs Elementary), and the other with classes from first through 5th grades (Richvale Elementary). Additionally, BUSD currently has one high school with classes from 9th through 12th grades (Biggs High). The BUSD currently employs a total of 38 teachers.

#### 4.15.1.4 Parks

The City of Biggs maintains five parks, available for public enjoyment, recreation and sporting events. City parks comprise of Biggs Family Park, completed in 2006 with features including a skate park, playground, basketball court, covered pavilion, BBQ's, and picnic tables; Downtown's *Pocket Park*, a centerpiece to the business district and site of the living City Christmas tree; Rio Bonito Park, although on school district property, this City park includes newly refurbished amenities through a public-private partnership between the City and SunWest Milling; Trent Street Park, located on Trent Street near Fifth Street; and North Biggs Estates Park, located at the corner of Fourth and L streets (City of Biggs 2019).

Section 4.17 *Recreation* provides further information regarding Parks and Recreation.

### 4.15.2 Public Services (XV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### **Less Than Significant Impact.**

The Project proposes to build 26 single-family homes and a mini storage facility. Based on the potential number of dwelling units (26) and the current (2022) average household size (3.02 persons per household [DOF 2022]) for the City of Biggs, buildout of the Project Area is anticipated to result in a population growth of 79 persons. . As such, some additional demand for fire, police, school, and park services could occur due to the Project.

The Proposed Project would result in an increased demand for police and fire protection service resulting from the new residential community and increase of vehicular traffic to the area. However, although the demands for public services could increase with the Proposed Project beyond existing conditions, the increase in population and housing would be consistent with assumptions in the General Plan which provides the basis for future planning purposes. As stated above, a BCAG-projected average growth rate of 3.3 percent annually (more than triple the historic growth rate average, yet consistent with BCAG's lowest growth scenario) would result in an estimated increase of 2,367 people and 825 dwelling units for a total of 4,059 people living within 1,440 units in Biggs by 2035. As of January 1, 2022, the BCAG-projected growth rate has not been actualized. Full theoretical buildout in the Proposed Project Site would result in an increase of 79 people and 26 units for a total of 2,018 residents living in 703 dwelling units in Biggs. Since full theoretical buildout in the Project Site would result in growth less than anticipated, any demand for public services from Project implementation would be consistent with the increased demand assumed in the General Plan. Development with modern materials and in accordance with current standards, inclusive of fire-resistant materials, fire alarms and detection systems, automatic fire sprinklers, would enhance fire safety and would support fire protection services. The Biggs Fire Department, with BCFD support, has sufficient resources to accommodate the Proposed Project and would not result in the need to construct new or physically alter existing fire protection facilities. Similarly, the BCSO has sufficient resources to accommodate the Proposed Project and would not result in the need to construct new or physically alter existing police protection facilities. Therefore, no significant impacts would occur related to fire or police services. Any related increase in student generation, demand for City parks, or demand for other facilities resulting from Project implementation would also be consistent with the increased demand assumed in the General Plan.

### **4.15.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

## 4.16 Recreation

### 4.16.1 Environmental Setting

The City of Biggs maintains five parks for public enjoyment, recreation and sporting events. City parks comprise of Biggs Family Park, completed in 2006 with features including a skate park, playground, basketball court, covered pavilion, BBQ's, and picnic tables; Downtown's *Pocket Park*, a centerpiece to the business district and site of the living City Christmas tree; Rio Bonito Park, although on school district property, this City park includes newly refurbished amenities through a public-private partnership between the City and SunWest Milling; Trent Street Park, located on Trent Street near Fifth Street; and North Biggs Estates Park, located at the corner of Fourth and L streets (City of Biggs 2019).

### 4.16.2 Recreation (XVI) Materials Checklist

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Less Than Significant Impact.

The City of Biggs currently maintains five City parks, as previously described. The Proposed Project has the potential to accommodate population growth, which could subsequently increase the use of existing parks and recreation facilities and/or require the construction or expansion of park and recreational facilities to meet increase demand. However, the Proposed Project is not expected to significantly impact the City's existing parks or recreational facilities. The current Park Dedication Standard for the City requires 5.0 acres of active or passive recreation land per each 1,000 residents. Taking into consideration the projected population increase of approximately 79 residents coinciding with the future residential development onsite, an additional 0.4 acre of recreation land would be required to meet the expectations promulgated in the General Plan). The Project proposes a tentative subdivision map for a future single-family residential subdivision and therefore subsequent development would be subject to General Plan policies and actions. City General Plan Action CR-1.3.4 addresses City parks and concurrent services by requiring that all new residential development dedicates park and recreational facilities or pays appropriate in-lieu fees. Thus, future development projects, including future development allowed under the Proposed Project, would be required to pay development impact fees for park facilities in order to fund the acquisition and development of neighborhood and community parks and community use facilities to the extent they are needed as a result of new development, in compliance with Action CR-1.3.4. Additionally, as discussed in Section 4.14 - *Population and Housing* the Project would not increase population beyond what was anticipated in the City General Plan; therefore, the Project would not cause substantial physical deterioration of recreational facilities. This impact is **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.**

As noted above, the Project does not create the need for expansion of existing recreational facilities. The Project would not increase local or regional population to the extent that would result in any construction or expansion of neighborhood or regional parks. Impacts would be less than significant.

**4.16.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

**4.17 Transportation****4.17.1 Environmental Setting**

Regional access to the city is provided by SR 99, which links the city with other Northern California communities to the north and south. The City of Biggs is located approximately 1.2 miles west of SR 99 and local access to the Project Site is provided from the Biggs East Highway/B Street intersection with SR 99. Biggs' circulation system is typical of a small, rural city. Much of the existing street system follows a traditional grid pattern, which allows for efficient movement and good connection between all parts of the city. B and E streets are the primary east-west streets. Sixth Street, traversing in a north-south direction, can be accessed from either of these two east-west streets.

As proposed, the Project would provide one new primary access point to the residential portion of the Project at the existing intersection of Sixth Street and Trent Street. The new primary entrance is designated as *Road A* on the proposed map (Figure 3). Access to the proposed residential lots would be provided by Sixth Street and a newly proposed *Road B* internal to the Project. A new driveway entrance providing access to the mini-storage component of the Project is proposed to be located approximately 233 feet south of proposed *Road A* (Figure 3). The proposed mini-storage access drive is proposed as a 20-foot improved driveway lying south of proposed Lot 1 while the proposed storm water basin is proposed north of the bank slope of the Hamilton Slough drainage lying south of the property. An improved 20-foot all-weather secondary emergency access point is proposed to be located in the northwest corner of the proposed subdivision. The proposed emergency access road is proposed to exit the Project Site onto an existing parcel owned by the City of Biggs and used as the access point to the City's electric service infrastructure.

#### **4.17.1.1 Existing Roadways**

The Project Site is currently bordered by one road, Sixth Street, which traverses the Site's eastern boundary. The nearest intersections along the Project Site's boundaries are Trent Street and Dakota Avenue, with both roadways ending at a T-intersection at Sixth Street. The Trent Street/Sixth Street intersection is located slightly below the halfway point of the Project Site's eastern boundary, while the Dakota Avenue/Sixth Street intersection is located at the southeast corner of the Project Site.

Sixth Street, Dakota Avenue, and Trent Street consist of two lanes. None of these streets in the Project Vicinity are striped with centerlines or edge lines (aside from a brief section of Sixth Street at the southern tip of the Project Site). The speed limit on Sixth Street, Trent Street, and Dakota Avenue is 25 miles per hour, although no posted signs are available currently along the Project Site boundary. Sixth Street and Trent Street are both listed in the City of Biggs Circulation Element as Collector roadways, with Dakota Avenue classified as a Local roadway. Currently, the only existing sidewalks along the boundary of the Project Site are found along Sixth Street, on the western side (existing residential) of the roadway, and only for approximately 450 feet from the Project Site's southern tip northward.

#### **4.17.1.2 Transit Service**

Public transportation services in Biggs are provided by the regional B-Line system, managed and operated by the BCAG. The B-Line provides a range of services from commuter routes throughout the county to local service routes in and around larger communities, such as Chico. Park-and-ride locations promote and support the B-Line system. Biggs is also serviced by the Butte College student transport bus. Comprehensive transit services are critical to the success of Biggs' transportation system, as they serve the needs of various segments of the population, including students, workers, shoppers, the elderly, youth, and the disabled community (City of Biggs 2014).

#### **4.17.1.3 Pedestrian and Bicycle Facilities**

In June 2011, the City of Biggs adopted the revised *Biggs Area Bicycle Transportation Plan* (BTP) that identifies existing and proposed bicycle facilities citywide. The purpose of the BTP is to improve and encourage bicycle and pedestrian transportation in the City and to allow the City Planning Department to pursue funding opportunities through Caltrans. The BTP identifies the current and future needs of bicyclists and establishes goals and policies for planning and implementing bicycle facilities within the City (City of Biggs 2014). The BTP anticipates the development of three types of bicycle facilities in the city, which are defined as follows:

- **Class I Bicycle Paths** provide a completely separated facility designed for the exclusive use of bicycles and pedestrians with minimal interruption by motorists. Class I bikeways typically have a minimum of 8 feet of pavement with 2-foot graded shoulders on either side. These bikeways must also be at least 5 feet from the edge of a paved roadway.
- **Class II Bicycle Lanes** provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with



vehicle parking and cross flows by pedestrians and motorists permitted. Class II bicycle lanes are typically a 5-foot striped and signed lane.

- **Class III Bicycle** Routes provide designated areas where bicycles share the road with other modes of travel such as motor vehicles. Class III routes are typically signed as such. A majority of streets within the City have sidewalks for pedestrians. Pedestrian facilities comprise paths, sidewalks, and pedestrian crossings.

#### **4.17.1.4 Regional Transportation Planning**

The BCAG is the agency that manages local and regional public transit as well as prepares and implements regional transportation plans in Butte County. The BCAG 2035 Regional Transportation Plan (RTP) is the long-range regional planning document that identifies and programs roadway improvements throughout Butte County. The RTP does not focus on local transportation needs. BCAG is also responsible for implementing SB 375, which requires development of a Sustainable Communities Strategy that links the RTP with state greenhouse gas reduction goals. The Butte County General Plan also includes transportation plans and policies for roadways, transit, bike, and pedestrian improvements in areas surrounding Biggs.

#### **4.17.1.5 City of Biggs 2014 General Plan**

The General Plan recognizes that an efficient multimodal circulation system, along with good land use planning, is essential to supporting the goals of economic vitality, a high quality of life, reduced greenhouse gas emissions, and a sustainable community. The City aims to incorporate design elements and standards into new development to promote the connectivity of the City's current and future residents, businesses, and visitors. In addition, the Circulation Element focuses on meeting the needs of all users of the streets for safe and convenient travel through four modes of transportation: vehicles, transit, bicycles, and pedestrians. The City of Biggs General Plan contains transportation goals and policies related to the construction and operations of development projects, which may result from the Proposed Project.

#### **4.17.2 Transportation (XVII) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

As indicated in the City of Biggs General Plan Circulation Element (Table CIRC-2), the City identifies the Level of Service (LOS) C as the minimum acceptable level of service. The General Plan DEIR defines LOS C as having stable operating conditions, but the operation of individual users is substantially affected by the

interaction with other in the traffic stream. The daily LOS volume threshold by roadway classification is defined in Table 4.16-1 (Table CIRC-2 of the General Plan).

<b>Table 4.16-1. Daily Level of Service Volume Threshold by Roadway Classification</b>						
<b>Roadway Classification</b>	<b>LOS</b>					
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
Local	-	-	1,500	>1,500	-	-
Collector	-	-	2,500	>2,500	-	-
Arterial	-	-	5,000	>5,000	-	-
Major Two-Lane Highway (SR 99)	<1,200	1,210	2,910	7,910	16,010	20,510

Source: City of Biggs 2014

Table CIRC-3 of the Circulation Element summarizes the existing traffic counts (collected in November 2008) and LOS on study roadways within the City of Biggs Planning Area. As exhibited in Table CIRC-3, the roadway sections bounding the Project Site's eastern boundary (Sixth Street – Collector, Dakota Avenue – Local, Chatfield Avenue – Local, and B Street – Arterial) are within the LOS thresholds accepted by the City (City of Biggs 2014). The acceptable LOS threshold for these roadways is surpassed when more than 1,500 average daily trips (ADT) is encountered on both Chatfield or Dakota avenues, more than 2,500 ADT on Sixth Street, and more than 5,000 ADT on B Street. According to the City of Biggs General Plan Circulation Element Table CIRC-3, Chatfield Avenue experiences 203 ADT, Dakota Avenue experiences 291 ADT, Sixth Street experiences approximately 1,113 ADT, and B Street experiences approximately 2,440. Based on the projected increase of 265 maximum daily trips generated from future potential residences and patrons visiting the Project Site in addition to the current daily trips on these Project vicinity roadways, the LOS of these roadways would not increase substantially enough to exceed the acceptable LOS standards for these roadways.

In addition, future development within the Project Site would be required to conform with any City, state, or federal regulations, including the aforementioned General Plan policies and actions. For example, pursuant to General Plan Policy CIRC-1.3, developers would be obligated to pay Development Impact Fees to offset impacts to the City's circulation system. Furthermore, developers would be required to adhere to the design standards and impact fees associated with improvements to the City's Bicycle System (Policy CIRC-4.1) by implementing measures outlined in the City's BTP.

Future development within the Project Site may increase use of public transit in the area. The city currently has three bus stops within its limits for the Biggs/Gridley B-line Transit system. The closest bus stop to the Project Site is located on Sixth Street, fronting City Hall, approximately 0.25 mile north of the Project Site. Development of the Project is not expected to require the addition of a bus stop to service any future Project residents. However, in the case that such an improvement becomes a necessity, pursuant to Action CIRC-5.1.1, the City would continue to maintain an active presence in regional transit planning activities

and maintain an open dialogue channel with BCAG and neighboring communities with regard to enhancing the level of convenience of public transportation services within the City limits.

Lastly, consideration and implementation of Policy CIRC-4.3 would ensure ample pedestrian access throughout the Project Site and the surrounding land uses, including safe access to schools and recreation facilities in the Project vicinity. Specifically, consistency with Action CIRC-4.3.1 would continue the City's efforts in requiring detached sidewalks for new developments.

As such, the Project would have a **less than significant** impact.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### **Less Than Significant.**

CEQA Guidelines Section 15064.3, subdivision (b) provides criteria for analyzing transportation impacts based on a VMT methodology instead of the now superseded (as of January 1, 2019) LOS methodology. Pertinent to the Proposed Project are those criteria identified in § 15064.3(b)(1) Land Use Projects. According to this section:

"Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor<sup>3</sup> should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact."

However, Section 15064.3(b)(3) allows an agency to determine a project's transportation impact on a qualitative basis if a VMT methodology is unavailable, as is the case with the Proposed Project.

Section 15064.3(b)(3) is as follows:

"Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate."

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<sup>3</sup> *High-quality transit corridor* means an existing corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. For the purposes of this Appendix, an "existing stop along a high-quality transit corridor" may include a planned and funded stop that is included in an adopted regional transportation improvement program.

Additionally, Section 15064.3I allows an agency to use the VMT methodology immediately or defer until July 1, 2020 when the VMT methodology is required of all agencies in the state. Section 15064.3I is as follows:

“The provisions of this section shall apply prospectively as described in section 15007. A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide.”

The existing LOS methodology will be expressed for the Proposed Project to determine the Project's impact to City roadways because the City does not have an adopted VMT methodology at this time.

The number of vehicle trips from the Proposed Project is based on the number of residential units, employees and vehicles that would potentially use any future residential or light industrial development onsite. Completion of the construction of the Proposed Project is estimated to result in a daily average of 265 trips (approximately 20 trips for the mini-storage facility and 245 for the single-family residences). This would result in an estimated maximum of 265 new vehicle trips on Sixth Street in the 7:00 a.m. to 5:00 p.m. time period or an average of 26 trips per hour.

The acceptable LOS threshold for these roadways is surpassed when more than 1,500 ADT is encountered on both Chatfield or Dakota avenues, more than 2,500 ADT on Sixth Street, and more than 5,000 ADT on B Street. According to the City of Biggs General Plan Circulation Element Table CIRC-3, Chatfield Avenue experiences 203 ADT, Dakota Avenue experiences 291 ADT, Sixth Street experiences approximately 1,113 ADT, and B Street experiences approximately 2,440. Based on the projected increase of 265 maximum daily trips generated from future potential residences and patrons visiting the Project Site in addition to the current daily trips on these Project vicinity roadways, the LOS of these roadways would not increase substantially enough to exceed the acceptable LOS standards for these roadways.

It is also recognized that by supplementing the potential housing that would have been built on the site with a mini-storage facility, regional VMT generated from traveling to a nearby city such as Gridley or Chico for a storage unit, are significantly reduced as there are currently no mini-storage facilities in Biggs.

Therefore, the Proposed Project would have a **less than significant** impact in this area.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

The Proposed Project would not substantially increase hazards to vehicle safety due to increased traffic at locations with geometric design features (e.g., sharp curves or dangerous intersections). Regular Project Site traffic and vehicles visiting the Project Site during construction would be comprised of automobiles

and trucks permitted under the California Vehicle Code and no farm equipment is expected. The Project does not introduce incompatible users (e.g., farm equipment) to a roadway or transportation facility not intended for those users. The Project's impact with regard to roadway design and users is found to be **less than significant**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

Access to the Project Site would be provided via Sixth Street and the end of 7th Street, which would provide adequate emergency access upon Project completion. A **less than significant impact** would occur.

#### **4.17.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

#### **4.18 Tribal Cultural Resources**

A record search was prepared by the NEIC at California State University, Chico on April 12, 2022 for the Proposed Project to determine if cultural resources, including TCRs, were present in or adjacent to the Project Area and assess the sensitivity of the Project Area for undiscovered or buried cultural resources. The information provided below is an abridged version of this report and is provided here to afford a brief context of the potential cultural resources in the Project Area.

##### **4.18.1 Tribal Consultation**

AB 52 requires that an agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the Proposed Project prior to the release of a CEQA document for a project 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. The City of Biggs has not received any formal notification requests by any California Native American tribes.

As of March 1, 2005, SB 18 (Government Code Sections 65352.3 and 65352.4) requires that, prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, a city or county must

consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within that jurisdiction.

#### 4.18.2 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 I of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision I of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Less Than Significant With Mitigation.

According to the record search of the Project Site, no known TCRs were identified at the Project Site. No known TCRs have been identified within the Project Site. The Project 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. However, unanticipated, and accidental discovery of California Native American TCRs are possible during Project implementation, especially during excavation, and have the potential to impact unique cultural resources. As such, mitigation measure **CUL-1** has been included to reduce the potential for impacts to TCRs to a less than significant level.

#### 4.18.3 Mitigation Measures

Implement mitigation measure **CUL-1**.

## **4.19 Utilities and Service Systems**

### **4.19.1 Environmental Setting**

#### **4.19.1.1 Water Service**

The City of Biggs provides potable water to City residents via the City's municipal water system. The system is operated by certified operators in the City's Public Works Department. Water is provided via two groundwater wells, an elevated water storage tank, a network of 6- and 8-inch water mains, and a third *stand-by* groundwater well used during the rare occasions when the water demand has taxed the other two potable wells to their capacity. The City's water service system consists of approximately 650 service connections as of 2016 (SWRCB 2016). The City's primary potable water wells have been refitted with variable speed motors to assist in the ramping of water supply based upon system demand.

Potable water well #1 is located northwest of the Project Site at the Ninth Street/B Street intersection (nicknamed Bertha); the second potable groundwater well is located on Second Street, east of the Project Site (nicknamed Henry); with the third well located on C Street (nicknamed Willard). Both functioning wells are capable of conveying an adequate supply of potable water to support the Project.

#### **4.19.1.2 Wastewater**

The City is served by a gravity sewer system, which flows via a system of collection and transmission pipes to the wastewater treatment plant (WWTP) at the southwest edge of the City limits, approximately 0.4 mile west of West Biggs Gridley Road. The WWTP has a design capacity of 0.38 million gallons per day (mgd) of average dry weather flow, with a peak flow of 1.0 mgd. Past monitoring has indicated an average daily flow of 0.19 mgd from 2014-2018. For effluent discharges, the limitations for biochemical oxygen demand and total suspended solids are 30 milligrams per liter (mg/L [30-Day average]) and 45 mg/L (45-day average); limitations for total nitrogen is 50 percent reduction calculated monthly from influent and effluent samples (CVRWQCB 2020). According to the FMSR, the treatment plant operates at around 65 percent capacity (0.27 mgd) and can handle up to approximately 85 percent capacity (0.32 mgd) before the City will need to begin the process of planning for an expansion. The difference (0.32 to 0.27 mgd) provides enough equivalent capacity to serve approximately 340 additional persons or roughly 113 additional single-family homes (based on the 2022 average household size of 3.02 persons per household). The ultimate service capacity up to the permitted limit of 0.38 mgd allows the servicing of approximately 2,583 additional persons or an additional 248 single-family homes over the existing conditions (Butte LAFCO 2015).

In its current form, both the City's wastewater collection system and treatment plant have the capacity to provide service to the Proposed Project Site (Bennett Engineering Services [BEN|EN] 2021).

#### **4.19.1.3 Storm Drainage**

The City of Biggs is the sole operator of developed stormwater drainage facilities in the city. Reclamation District 833 (RD 833) also operates and manages the agricultural tailwater and slough system running

through and around the city. Local RD 833 drainage ditches (Hamilton Slough and Lateral K) are the primary storm drainage conduits in and around the city.

The City's developed urban storm drainage system is comprised of 12-, 15-, 18- and 24-inch-diameter conduits on the east side of the city. The conduits are larger on the west side due to the natural slope of the City Streets and range from 24 to 36 inches in diameter. At the intersection of Bannock and Sixth Streets lies a 15-inch stub extending south along Sixth Street before connecting to a 24-inch conduit at the northeastern corner of the Project Site on the east side of Sixth Street. This 24-inch conduit continues for the majority of the length of the Project Site's eastern boundary and connects to a 30-inch storm drainage conduit roughly 150 feet prior to it eventually outflowing into the Hamilton Slough at the southeast corner of the Project Site.

One primary Reclamation Ditch exists (Hamilton Slough) located at the southern boundary of the Project Site. The Slough crosses Sixth Street near the Sixth Street/Dakota Avenue intersection..

#### 4.19.1.4 Solid Waste

The City of Biggs regulates waste collection and recycling services in Biggs via an exclusive franchise agreement with Waste Management, Inc. The City is a member of the Butte Regional Waste Management Authority (BRWMA). The function of the BRWMA is to provide planning and waste reporting services for its members. Solid waste generated in the City is primarily disposed of at the Neal Road Recycling and Waste Facility operated and owned by Butte County. The facility is located on 229 acres at 1023 Neal Road, 1 mile east of SR 99 in unincorporated Butte County and located 18 miles north of the City of Biggs. Table 4.19-1 shows yearly solid waste disposal totals for Butte County (including BRWMA, Chico, Oroville, and Paradise as these origin locations contribute to the total county-wide solid waste disposed at the Neal Road Recycling and Waste Facility), and the corresponding solid waste diversion rates county-wide.

<b>Table 4.19-1 Yearly Solid Waste Disposal Totals for Butte County</b>						
<b>Butte County Origin Location</b>	<b>Solid Waste Disposal (tons/year)</b>			<b>Solid Waste Diversion Rate for Residents (pounds/day)</b>		
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Butte County Regional Waste Management Authority (including City of Biggs)	97,635	89,061	701,594	5.8	5.4	5.0
Chico	81,483	77,919	88,195	4.9	4.8	4.4
Oroville	22,413	24,040	23,035	6.8	7.3	5.8
Paradise	21,693	15,826	1,005,239	4.5	3.3	3.5
<b>Butte County Total</b>	<b>223,224</b>	<b>206,846</b>	<b>1,818,063<sup>1</sup></b>	<b>*</b>	<b>*</b>	<b>*</b>
<b>Neal Road Landfill Design Capacity (1,500 tons/day)</b>	<b>547,500</b>	<b>547,500</b>	<b>547,500</b>	<b>*</b>	<b>*</b>	<b>*</b>

Source: CalRecycle 2022a, 2022b, and 2022c. Neal Road Landfill Solid Waste Facility Permit (Butte County 2016).

Note: <sup>1</sup>Solid waste disposal quantities for this period reflect waste generated during the Camp Fire event, and do not reflect typical waste generation amounts during a normal year.

\* = Insufficient data available.



**4.19.1.5 Electricity/Natural Gas Services**

Refer to Section 4.6. *Energy*.

**4.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion**

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.****4.19.2.1 Water**

Development of the Project would increase the demand for water in the city due to human consumption and irrigation required for landscaping of future residential and light industrial facilities assumed to occur onsite. Sufficient capacity exists within the City's existing potable water system to accommodate Project demand. All newly constructed water utility connections and onsite water infrastructure would be subject to the City of Biggs Municipal Code, Chapter 10.10, Water System, as well as compliance with the following City General Plan policies and actions:

- Policy PFS-1.1 (Development Impact Fees) – Maintain a development fee system that ensures infrastructure improvements necessary to serve new development are paid for by the new development.*
- Action PFS-1.1.1 (Impact Fee Program) – Periodically review the city's Development Impact Fee Program to ensure fees are equitable and appropriate to cover the costs of providing services.*
- Action PFS-1.1.5 (Oversizing of Infrastructure) – Development projects benefitting from oversized facilities shall be required to pay reimbursement fees consistent with their fair-share cost of improvements.*
- Action PFS-1.1.7 (Water System Capacity) – New developments shall provide or show that sufficient water supply capacity is available to serve the domestic and fire protection needs of the proposed use based on approved city standards.*

- Policy PFS-1.3 (Infrastructure Installation) – Construction of oversized or offsite facilities may be required of development projects to provide capacity for future development.*
- Policy PFS-1.4 (Infrastructure Demand) – Prior to approval of new development projects, applicants shall specify project-related demands for sewer, water, and electrical services. Project approval shall be granted only after capacity to provide required services is confirmed by the city.*
- Policy PFS-2.1 (Water System) – Provide a high-quality, cost-efficient municipal water supply and distribution system that meets California Department of Public Health guidelines and standards.*
- Policy PFS-2.2 (Fire Suppression) – Ensure water volumes and pressures are sufficient for emergency response and fire suppression demands.*
- Policy PFS-2.1 (Water System) – Provide a high-quality, cost-efficient municipal water supply and distribution system that meets California Department of Public Health guidelines and standards.*
- Policy PFS-2.2 (Fire Suppression) – Ensure water volumes and pressures are sufficient for emergency response and fire suppression demands.*

Potential population growth for the Project Site, if developed at the maximum allowable levels based on current City land use designations, is projected to be 79 additional residents, with an additional 26 dwelling units. Water use data for the Proposed Project was obtained from rates provided by the USGS Water Resources, which provides water consumption information based on type of use by state. The statewide average domestic water consumption rate is 48 gpd (DWR 2021). Based on this statewide average and the projected 79 additional residents accompanying the potential future development of the Proposed Project, the Project is estimated to generate demand for approximately 3,792 gpd, or 1,384,080 gallons per year.

Additionally, the Proposed Project contains approximately 2.52 acre of land designated as light industrial use. Using a 0.50 Floor Area Ratio, the total square footage of light industrial space (City of Biggs 2014) allotted would be 54,886 SF. According to the U.S. Energy Information Administration, data collected in 2012 for large commercial buildings in the country (most accurate information provided for comparison purposes) showed an average of approximately 20 gallons per SF. However, as stated, these data sets are for large commercial buildings, including inpatient healthcare which is the largest consumer of water for commercial/industrial uses. Warehouse and storage buildings, for example use roughly 4 gallons per SF. It is also important to note is that these *large* buildings are 200,000 SF or larger. As previously mentioned, the Proposed Project would supply approximately 54,886 SF of light industrial space. Given the approximately 4 gallons per SF, as this is the closest comparison to the Proposed mini storage facility proposed for future construction, the Proposed Project Site would require an additional 219,544 gallons per year. This equates to approximately 601 gpd, assuming 365 days per year.

As previously stated, it is anticipated that only a supply network would be needed to serve the Proposed Project Sites water infrastructure requirements. The Proposed Project would have a **less than significant impact** to the City's water supply facilities.

#### **4.19.2.2 Wastewater**

As previously discussed, the City WWTP has a design capacity of 0.38 mgd of average dry weather flow, with a peak flow of 1.0 mgd. Past monitoring has indicated an average daily flow of 0.19 mgd from 2014 to 2018. According to the FMSR, the treatment plant operates at around 65 percent capacity (0.27 mgd) and can handle up to approximately 85 percent capacity (0.32 mgd) before the City will need to begin the process of planning for an expansion. The difference (0.32 to 0.27 mgd) provides enough equivalent capacity to serve approximately 340 additional persons or 113 additional single-family homes (based on the 2022 average household size of 3.02 persons per household). The ultimate service capacity up to the permitted limit of 0.38 mgd allows the servicing of approximately 2,583 additional persons or an additional 248 single-family homes over the existing conditions (Butte LAFCO 2015).

As previously discussed, the City's existing wastewater system would have additional capacity capable of handling the demand of up to 2,583 additional persons at its ultimate service capacity (BEN|EN 2021). Additionally, the Project would be subject to any impact fees as discussed in the General Plan Policy PFS-1.1 which would offset any additional burden that the Proposed Project would impose on the City's current wastewater capacities. As such, the Proposed Project would have a **less than significant impact** to the City's wastewater treatment facilities.

#### **4.19.2.3 Storm Drainage**

The Proposed Project has the potential to increase the amount of impervious surfaces within the Project Site, resulting in greater stormwater runoff potential. Although the Project does not propose development within the Project Site, it is assumed that future development would occur, thus requiring development of a storm water drainage system. The following General Plan policies and actions address impacts related to storm water drainage within the Project Site:

*Policy CR-5.3 (Best Management Practices) – Require the use of design techniques and best management practices to reduce storm water runoff levels, improve infiltration to replenish groundwater sources, and reduce pollutants close to their source.*

*Action CR-5.3.1 (Improvement Standards) – Revise improvement standards as necessary to encourage use of natural drainage systems and low impact development principles in order to reduce storm water infrastructure costs and improve water quality. Emphasize the dispersal of storm water by using swales, the use of landscaped infiltration basins along roadways and parking areas, and other best management practices, as appropriate.*

- Action CR-5.3.2 (Improvement Standards) – Establish standards and fee programs to require and/or incentivize methods to manage and filter storm water, such as reduced pavement, permeable pavement, and retention and filtration through vegetation.*
- Policy PFS-1.2 (Infrastructure Timing) – Ensure the development of quality infrastructure to meet community needs at the time that they are needed.*
- Policy PFS-1.3 (Infrastructure installation) – Construction of oversized or off-site facilities may be required of development projects to provide capacity for future development.*
- Action PFS-4.1.1 (Storm Drainage Discharge) – Adopt best management practices for the discharge of storm water that address water quality and water standards.*
- Action PFS-4.1.2 (Storm Drainage Retention) – Coordinate city policies and standards for the retention or detention of storm water with regional flood control providers.*
- Policy PFS-4.3 (Storm Drainage Standards) – Adopt storm drainage standards compatible with the ability of receiving waters to accommodate storm water drainage and consistent with recognized standards.*
- Action PFS-4.3.1 (Storm Drainage Consultation) – Consult with Reclamation District 833 to resolve drainage and flooding issues which result from storm drainage flows originating in the City.*
- Action PFS-4.3.2 (Storm Drainage Coordination) – Coordinate efforts for developing short-term and long-term flood protection strategies in consultation with Reclamation District 833.*
- Policy PFS-4.4 (Aquifer Protection) – Protect the quality of water runoff that enters receiving surface waters and drainage facilities.*
- Action PFS-4.4.1 (Storm Drainage Management) – Continue to require the development of Storm Water Management Plans (SWMP) to address storm water discharge quality issues.*

Because the City of Biggs does not have a storm water drainage system for the entire City, storm water from the Project Site would need to drain to an existing ditch or irrigation canal. The Project Site would be required by the RD and City to have a no-net positive increase in post-development flows from the pre-development levels.

Additionally, any future development within the Project Site, and associated developer(s), would be responsible for constructing the necessary infrastructure to comply with this RD requirement. The Hamilton Slough abutting the southern border of the Project Site would convey stormwater produced onsite from any future impervious surfaces constructed onsite. Additionally, there is a stormwater facilities area included in the potential single-family residential neighborhood located on the southern portion of the Project Site near the Hamilton Slough. With the incorporation of City General Plan and development standards, this impact is considered **less than significant**.

#### 4.19.2.4 **Electric Power**

Refer to Section 4.6. *Energy*.

#### 4.19.2.5 **Natural Gas**

Refer to Section 4.6. *Energy*.

#### 4.19.2.6 **Telecommunications**

Telecommunication will be through existing company and personal cell phones. No new telecommunication facilities will be required to serve the Project.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less Than Significant Impact.**

Refer to Item a) above.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### **Less than significant.**

Refer to Item a) above.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.**

The Project proposes the tentative subdivision and rezoning of land to accommodate future development of a 26-unit single-family residential neighborhood and a light industrial mini storage facility. However, it is assumed that future development in the Project Site would occur and therefore a discussion of solid waste generation for future development was considered in this study.

As described in the Section 2.1 above, the maximum number of residential units possible for the Project Site would be 26 within the LDR land use designation. The Project Site would also accommodate 54,450 SF of light industrial space based on the General Plan land use designation of LI. According to CalEEMod, a CARB-approved computer program designed to model emissions associated with land use development projects, including the above parameters for future maximum buildout within the Project Site, the developed Site would potentially generate an estimated 26.64 tons of solid waste from the estimated residential units annually.

According to the Neal Road Recycling and Waste Facility *Solid Waste Permit* (Butte County 2016), the maximum tonnage allotted to the facility is 1,500 tons per day. The facility is open 7 days per week, thus allowing for a total of 547,500 tons of solid waste to be disposed annually. According to California Department of Resources Recycling and Recovery (CalRecycle), Butte County averaged 190,313 tons of solid waste disposed between the years 2009 and 2018, with the BRWMA averaging 18,883 tons annually (CalRecycle 2022a). It is important to note that year 2019 (most recent year with solid waste disposal data) was not included in this study due to its outlying nature: being the year in which the majority of waste generated during the Camp Fire event was disposed of at the Neal Road Facility. Given the aforementioned data, the potential future development of the Project Site would have a 0.0001 percent increase over the countywide average annual disposal of solid waste, and a 0.001 percent increase over the BRWMA. The estimated 26.64 annual tons of solid waste generated at the maximum buildout potential of the Project Site would represent 0.00005 percent of the permitted annual maximum tonnage allotted to the Neal Road Recycling and Waste Facility and would not result in a determination of insufficient capacity. As such, this is a **less than significant impact**.

<b>Would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.**

The Proposed Project is required to comply with all state and federal statutes regarding solid waste. This impact is considered **less than significant**.

**4.19.3 Mitigation Measures**

No significant impacts were identified; no mitigation measures are required.

**4.20 Wildfire****4.20.1 Environmental Setting**

The risk of wildfire is related to a variety of parameters, including fuel loading (e.g., vegetation), fire weather (e.g., winds, temperatures, humidity levels and fuel moisture contents), and topography (e.g., degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area-to-mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area-to-mass ratio and require more heat to reach the ignition point.

The Project Site is relatively flat and dominated by vacant undeveloped land. As discussed in Section 4.16, the area is not designated as a VHFHSZ (CAL FIRE 2008).

**4.20.2 Wildfire (XX) Environmental Checklist and Discussion**

<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project Site is not in an area designated by CAL FIRE as a VHFHSZ. Furthermore, no VHFHSZs are located nearby. Also, the Project Site is not located in a state responsibility area (SRA) (CAL FIRE 2008). The Project would have **no impact** in this area.

<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project Site is not in an area designated by CAL FIRE (2008) as a Fire Hazard Severity Zone (FHSZ). Furthermore, no VHFHSZs are located nearby. Also, the Project Site is not located in a SRA. The Project would have **no impact** in this area.

<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project Site is not in an area designated by CAL FIRE (2008) as a FHSZ, no VHFHSZs are located nearby, and the Project Site is not located in a SRA. The Project would have **no impact** in this area.

<b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**No Impact.**

The Project Site is not in an area designated by CAL FIRE (2008) as a FHSZ. Furthermore, no VHFHSs are located nearby. Also, the Project Site is not located in a SRA. The Project would have **no impact** in this area.



### 4.20.3 Mitigation Measures

No significant impacts were identified; no mitigation measures are required.

## 4.21 Mandatory Findings of Significance

### 4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Less Than Significant Impact with Mitigation Incorporated.

Sections 4.5, *Cultural Resources* and Section 4.18, *Tribal Cultural Resources* describe the potential that the Proposed Project has to impact subsurface deposits believed to be cultural or human in origin. With implementation of mitigation measure **CUL-1**, these potential impacts to Cultural Resources and TCRs will be reduced to **less than significant**.

Section 4.7 *Geology and Soils* describes how the Proposed Project has the potential to impact paleontological or sensitive geologic resources. However, with the imposition of mitigation measure **GEO-1**, potential impacts to geological and/or paleontological resources will be reduced to a **less than significant** level.

Section 4.4, *Biological Resources*, describes that although suitable habitat for avian species protected under the MBTA and the California Fish and Game Code, including Swainson's hawk, were not identified onsite, there is still a potential to impact such species during the construction of the Proposed Project since the agricultural lands onsite is potential Swainson's hawk foraging habitat. As such, to ensure that there are no impacts to protected active nests, mitigation measure **BIO-1** is required. Implementation of **BIO-1** would avoid or minimize potential effects to special-status birds and birds protected under the California Fish and Game Code and federal MBTA. With implementation of mitigation measure **BIO-1**, this impact would be **less than significant**.

<b>Does the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact.**

Implementation of the Proposed Project, in conjunction with other approved or pending projects in the region, has the potential to result in cumulatively considerable impacts to the physical environment. However, these potential impacts would be reduced to a level that is considered less than significant with implementation of City of Biggs General Plan policy provisions, the City Municipal Code, local, state, and federal rules and regulations, and BMPs where applicable and as proposed in the relevant subsections of this IS/MND.

<b>Does the Project:</b>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Less Than Significant Impact with Mitigation Incorporated.**

Direct and indirect impacts to human beings would be less than significant with the implementation of mitigation measures, regulations and policies listed in this document.

## **5.0 LIST OF PREPARERS**

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### **5.1 Lead Agency - City of Biggs**

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### **5.3 Gallaway Enterprises**

Biological Resource Assessment

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Elena Gregg, Senior Botanist

Laurens Kuypers, Biologist

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## **LIST OF APPENDICES**

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Attachment A – Air Quality & Greenhouse Gas Emissions Modeling Output Files

Attachment B – Biological Resources Assessment

Attachment C – Records Search

Attachment D – Energy Consumption Calculator

Attachment E – Noise Calculations

# **APPENDICES**

**Initial Study and Mitigated Negative Declaration**

## **Hamman Tentative Subdivision Project**

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**Biggs, California**

**Lead Agency:**



**City of Biggs**

**465 C Street**

**PO Box 307**

**Biggs, California 95917**

**Prepared by:**



**ECORP Consulting, Inc.**  
ENVIRONMENTAL CONSULTANTS

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**Chico, California 95973**

**September 2022**

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## **LIST OF APPENDICES**

Appendix A – Air Quality & Greenhouse Gas Emissions Modeling Output Files

Appendix B – Biological Resources Assessment

- B1 – Biological Resources Assessment – Gallaway Enterprises, December 2021
- B2 – Peer Review of Biological Resources Assessment – ECORP Consulting, Inc., June 24, 2022

Appendix C – Records Search

Appendix D – Energy Consumption Calculator

Appendix E – Noise Calculations

## **APPENDIX A**

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### Air Quality & Greenhouse Gas Emissions Modeling Output Files

Hammon Subdivision Project - Butte County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hammon Subdivision Project  
Butte County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.50	1000sqft	2.50	109,594.00	0
Single Family Housing	26.00	Dwelling Unit	5.75	46,800.00	74

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	71
Climate Zone	3			Operational Year	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - acreage adjusted to reflect information from the project description, commercial land use chosen for mini storage facility to better reflect trips generated

Construction Phase - building construction, paving, and architectural coating will happen at the same time

Vehicle Trips - ITE Trip Generation Manual 10th Edition

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	230.00
tblConstructionPhase	NumDays	20.00	230.00
tblConstructionPhase	PhaseEndDate	4/26/2024	3/29/2024
tblConstructionPhase	PhaseEndDate	5/24/2024	3/29/2024
tblConstructionPhase	PhaseStartDate	3/30/2024	5/13/2023

Hammon Subdivision Project - Butte County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	PhaseStartDate	4/27/2024	5/13/2023
tblLandUse	LandUseSquareFeet	2,500.00	109,594.00
tblLandUse	LotAcreage	0.06	2.50
tblLandUse	LotAcreage	8.44	5.75
tblVehicleTrips	ST_TR	2.21	8.00
tblVehicleTrips	SU_TR	0.70	8.00
tblVehicleTrips	WD_TR	9.74	8.00

2.0 Emissions Summary

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## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.1439	2.5429	3.0899	5.4200e-003	0.2096	0.1204	0.3300	0.0958	0.1125	0.2082	0.0000	475.7252	475.7252	0.1154	5.3000e-003	480.1880
2024	0.4327	0.8208	1.1157	1.9400e-003	0.0154	0.0374	0.0528	4.1900e-003	0.0350	0.0392	0.0000	169.7043	169.7043	0.0398	2.0100e-003	171.2990
<b>Maximum</b>	<b>1.1439</b>	<b>2.5429</b>	<b>3.0899</b>	<b>5.4200e-003</b>	<b>0.2096</b>	<b>0.1204</b>	<b>0.3300</b>	<b>0.0958</b>	<b>0.1125</b>	<b>0.2082</b>	<b>0.0000</b>	<b>475.7252</b>	<b>475.7252</b>	<b>0.1154</b>	<b>5.3000e-003</b>	<b>480.1880</b>

**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	1.1439	2.5429	3.0899	5.4200e-003	0.1166	0.1204	0.2370	0.0491	0.1125	0.1616	0.0000	475.7247	475.7247	0.1154	5.3000e-003	480.1875
2024	0.4327	0.8208	1.1157	1.9400e-003	0.0154	0.0374	0.0528	4.1900e-003	0.0350	0.0392	0.0000	169.7041	169.7041	0.0398	2.0100e-003	171.2989
<b>Maximum</b>	<b>1.1439</b>	<b>2.5429</b>	<b>3.0899</b>	<b>5.4200e-003</b>	<b>0.1166</b>	<b>0.1204</b>	<b>0.2370</b>	<b>0.0491</b>	<b>0.1125</b>	<b>0.1616</b>	<b>0.0000</b>	<b>475.7247</b>	<b>475.7247</b>	<b>0.1154</b>	<b>5.3000e-003</b>	<b>480.1875</b>



## Hammon Subdivision Project - Butte County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Percent Reduction	0.00	0.00	0.00	0.00	41.34	0.00	24.30	46.65	0.00	18.84	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-3-2023	7-2-2023	1.0640	1.0640
2	7-3-2023	10-2-2023	1.3293	1.3293
3	10-3-2023	1-2-2024	1.3295	1.3295
4	1-3-2024	4-2-2024	1.1996	1.1996
		Highest	1.3295	1.3295

## 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	3.7809	0.0603	3.9365	6.7600e-003		0.5255	0.5255		0.5255	0.5255	49.7936	20.0213	69.8150	0.0449	3.9200e-003	72.1058
Energy	0.0110	0.0982	0.0706	6.0000e-004		7.6000e-003	7.6000e-003		7.6000e-003	7.6000e-003	0.0000	217.7322	217.7322	0.0197	4.1300e-003	219.4554
Mobile	0.1677	0.2471	1.3132	2.2700e-003	0.2115	2.6100e-003	0.2141	0.0567	2.4500e-003	0.0591	0.0000	212.9914	212.9914	0.0163	0.0132	217.3177
Waste						0.0000	0.0000		0.0000	0.0000	5.8807	0.0000	5.8807	0.3475	0.0000	14.5691
Water						0.0000	0.0000		0.0000	0.0000	0.6784	1.5046	2.1830	0.0699	1.6700e-003	4.4301
Total	3.9597	0.4056	5.3202	9.6300e-003	0.2115	0.5358	0.7473	0.0567	0.5356	0.5923	56.3527	452.2495	508.6022	0.4984	0.0229	527.8780

## Hammon Subdivision Project - Butte County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.7367	2.2200e-003	0.1930	1.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	0.3154	0.3154	3.0000e-004	0.0000	0.3230
Energy	0.0110	0.0982	0.0706	6.0000e-004		7.6000e-003	7.6000e-003		7.6000e-003	7.6000e-003	0.0000	217.7322	217.7322	0.0197	4.1300e-003	219.4554
Mobile	0.1677	0.2471	1.3132	2.2700e-003	0.2115	2.6100e-003	0.2141	0.0567	2.4500e-003	0.0591	0.0000	212.9914	212.9914	0.0163	0.0132	217.3177
Waste						0.0000	0.0000		0.0000	0.0000	5.8807	0.0000	5.8807	0.3475	0.0000	14.5691
Water						0.0000	0.0000		0.0000	0.0000	0.6784	1.5046	2.1830	0.0699	1.6700e-003	4.4301
<b>Total</b>	<b>0.9155</b>	<b>0.3475</b>	<b>1.5768</b>	<b>2.8800e-003</b>	<b>0.2115</b>	<b>0.0113</b>	<b>0.2228</b>	<b>0.0567</b>	<b>0.0111</b>	<b>0.0678</b>	<b>6.5591</b>	<b>432.5436</b>	<b>439.1026</b>	<b>0.4538</b>	<b>0.0190</b>	<b>456.0952</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>76.88</b>	<b>14.32</b>	<b>70.36</b>	<b>70.09</b>	<b>0.00</b>	<b>97.89</b>	<b>70.19</b>	<b>0.00</b>	<b>97.92</b>	<b>88.55</b>	<b>88.36</b>	<b>4.36</b>	<b>13.66</b>	<b>8.95</b>	<b>17.14</b>	<b>13.60</b>

## 3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/3/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

4	Paving	Paving	5/13/2023	3/29/2024	5	230
5	Architectural Coating	Architectural Coating	5/13/2023	3/29/2024	5	230

**Acres of Grading (Site Preparation Phase): 15****Acres of Grading (Grading Phase): 20****Acres of Paving: 0**

**Residential Indoor: 94,770; Residential Outdoor: 31,590; Non-Residential Indoor: 164,391; Non-Residential Outdoor: 54,797; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

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
Site Preparation	7	18.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	44.00	21.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

**3.2 Site Preparation - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
<b>Total</b>	<b>0.0133</b>	<b>0.1376</b>	<b>0.0912</b>	<b>1.9000e-004</b>	<b>0.0983</b>	<b>6.3300e-003</b>	<b>0.1046</b>	<b>0.0505</b>	<b>5.8200e-003</b>	<b>0.0563</b>	<b>0.0000</b>	<b>16.7254</b>	<b>16.7254</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>16.8606</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 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	2.9000e-004	1.9000e-004	2.0400e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4088	0.4088	2.0000e-005	2.0000e-005	0.4138
<b>Total</b>	<b>2.9000e-004</b>	<b>1.9000e-004</b>	<b>2.0400e-003</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4088</b>	<b>0.4088</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.4138</b>

**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					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
<b>Total</b>	<b>0.0133</b>	<b>0.1376</b>	<b>0.0912</b>	<b>1.9000e-004</b>	<b>0.0442</b>	<b>6.3300e-003</b>	<b>0.0506</b>	<b>0.0227</b>	<b>5.8200e-003</b>	<b>0.0286</b>	<b>0.0000</b>	<b>16.7253</b>	<b>16.7253</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>16.8606</b>

## Hammon Subdivision Project - Butte County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.2 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	2.9000e-004	1.9000e-004	2.0400e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4088	0.4088	2.0000e-005	2.0000e-005	0.4138
<b>Total</b>	<b>2.9000e-004</b>	<b>1.9000e-004</b>	<b>2.0400e-003</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4088</b>	<b>0.4088</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.4138</b>

## 3.3 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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
<b>Total</b>	<b>0.0171</b>	<b>0.1794</b>	<b>0.1475</b>	<b>3.0000e-004</b>	<b>0.0708</b>	<b>7.7500e-003</b>	<b>0.0786</b>	<b>0.0343</b>	<b>7.1300e-003</b>	<b>0.0414</b>	<b>0.0000</b>	<b>26.0606</b>	<b>26.0606</b>	<b>8.4300e-003</b>	<b>0.0000</b>	<b>26.2713</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 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	4.8000e-004	3.1000e-004	3.4000e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6813	0.6813	3.0000e-005	3.0000e-005	0.6897
<b>Total</b>	<b>4.8000e-004</b>	<b>3.1000e-004</b>	<b>3.4000e-003</b>	<b>1.0000e-005</b>	<b>8.0000e-004</b>	<b>1.0000e-005</b>	<b>8.0000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.6813</b>	<b>0.6813</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>0.6897</b>

**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					0.0319	0.0000	0.0319	0.0154	0.0000	0.0154	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
<b>Total</b>	<b>0.0171</b>	<b>0.1794</b>	<b>0.1475</b>	<b>3.0000e-004</b>	<b>0.0319</b>	<b>7.7500e-003</b>	<b>0.0396</b>	<b>0.0154</b>	<b>7.1300e-003</b>	<b>0.0225</b>	<b>0.0000</b>	<b>26.0606</b>	<b>26.0606</b>	<b>8.4300e-003</b>	<b>0.0000</b>	<b>26.2713</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 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	4.8000e-004	3.1000e-004	3.4000e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6813	0.6813	3.0000e-005	3.0000e-005	0.6897
<b>Total</b>	<b>4.8000e-004</b>	<b>3.1000e-004</b>	<b>3.4000e-003</b>	<b>1.0000e-005</b>	<b>8.0000e-004</b>	<b>1.0000e-005</b>	<b>8.0000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.6813</b>	<b>0.6813</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>0.6897</b>

**3.4 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	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2389	191.2389	0.0455	0.0000	192.3762
<b>Total</b>	<b>0.1298</b>	<b>1.1868</b>	<b>1.3401</b>	<b>2.2200e-003</b>		<b>0.0577</b>	<b>0.0577</b>		<b>0.0543</b>	<b>0.0543</b>	<b>0.0000</b>	<b>191.2389</b>	<b>191.2389</b>	<b>0.0455</b>	<b>0.0000</b>	<b>192.3762</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 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	2.2700e-003	0.0786	0.0258	3.0000e-004	9.3300e-003	4.8000e-004	9.8100e-003	2.7000e-003	4.6000e-004	3.1600e-003	0.0000	28.8456	28.8456	1.1000e-004	4.3000e-003	30.1292
Worker	0.0116	7.6200e-003	0.0823	1.8000e-004	0.0193	1.2000e-004	0.0194	5.1400e-003	1.1000e-004	5.2600e-003	0.0000	16.4862	16.4862	7.7000e-004	6.2000e-004	16.6901
<b>Total</b>	<b>0.0139</b>	<b>0.0862</b>	<b>0.1081</b>	<b>4.8000e-004</b>	<b>0.0287</b>	<b>6.0000e-004</b>	<b>0.0293</b>	<b>7.8400e-003</b>	<b>5.7000e-004</b>	<b>8.4200e-003</b>	<b>0.0000</b>	<b>45.3318</b>	<b>45.3318</b>	<b>8.8000e-004</b>	<b>4.9200e-003</b>	<b>46.8193</b>

**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	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2387	191.2387	0.0455	0.0000	192.3760
<b>Total</b>	<b>0.1298</b>	<b>1.1868</b>	<b>1.3401</b>	<b>2.2200e-003</b>		<b>0.0577</b>	<b>0.0577</b>		<b>0.0543</b>	<b>0.0543</b>	<b>0.0000</b>	<b>191.2387</b>	<b>191.2387</b>	<b>0.0455</b>	<b>0.0000</b>	<b>192.3760</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 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	2.2700e-003	0.0786	0.0258	3.0000e-004	9.3300e-003	4.8000e-004	9.8100e-003	2.7000e-003	4.6000e-004	3.1600e-003	0.0000	28.8456	28.8456	1.1000e-004	4.3000e-003	30.1292
Worker	0.0116	7.6200e-003	0.0823	1.8000e-004	0.0193	1.2000e-004	0.0194	5.1400e-003	1.1000e-004	5.2600e-003	0.0000	16.4862	16.4862	7.7000e-004	6.2000e-004	16.6901
<b>Total</b>	<b>0.0139</b>	<b>0.0862</b>	<b>0.1081</b>	<b>4.8000e-004</b>	<b>0.0287</b>	<b>6.0000e-004</b>	<b>0.0293</b>	<b>7.8400e-003</b>	<b>5.7000e-004</b>	<b>8.4200e-003</b>	<b>0.0000</b>	<b>45.3318</b>	<b>45.3318</b>	<b>8.8000e-004</b>	<b>4.9200e-003</b>	<b>46.8193</b>

**3.4 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	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3510	75.3510	0.0178	0.0000	75.7964
<b>Total</b>	<b>0.0478</b>	<b>0.4369</b>	<b>0.5254</b>	<b>8.8000e-004</b>		<b>0.0199</b>	<b>0.0199</b>		<b>0.0188</b>	<b>0.0188</b>	<b>0.0000</b>	<b>75.3510</b>	<b>75.3510</b>	<b>0.0178</b>	<b>0.0000</b>	<b>75.7964</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 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	8.6000e-004	0.0306	9.9000e-003	1.2000e-004	3.6700e-003	1.9000e-004	3.8600e-003	1.0600e-003	1.8000e-004	1.2400e-003	0.0000	11.1800	11.1800	4.0000e-005	1.6600e-003	11.6767
Worker	4.2300e-003	2.6700e-003	0.0299	7.0000e-005	7.6100e-003	5.0000e-005	7.6600e-003	2.0300e-003	4.0000e-005	2.0700e-003	0.0000	6.3341	6.3341	2.8000e-004	2.3000e-004	6.4082
<b>Total</b>	<b>5.0900e-003</b>	<b>0.0332</b>	<b>0.0398</b>	<b>1.9000e-004</b>	<b>0.0113</b>	<b>2.4000e-004</b>	<b>0.0115</b>	<b>3.0900e-003</b>	<b>2.2000e-004</b>	<b>3.3100e-003</b>	<b>0.0000</b>	<b>17.5141</b>	<b>17.5141</b>	<b>3.2000e-004</b>	<b>1.8900e-003</b>	<b>18.0850</b>

**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	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3509	75.3509	0.0178	0.0000	75.7963
<b>Total</b>	<b>0.0478</b>	<b>0.4369</b>	<b>0.5254</b>	<b>8.8000e-004</b>		<b>0.0199</b>	<b>0.0199</b>		<b>0.0188</b>	<b>0.0188</b>	<b>0.0000</b>	<b>75.3509</b>	<b>75.3509</b>	<b>0.0178</b>	<b>0.0000</b>	<b>75.7963</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 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	8.6000e-004	0.0306	9.9000e-003	1.2000e-004	3.6700e-003	1.9000e-004	3.8600e-003	1.0600e-003	1.8000e-004	1.2400e-003	0.0000	11.1800	11.1800	4.0000e-005	1.6600e-003	11.6767
Worker	4.2300e-003	2.6700e-003	0.0299	7.0000e-005	7.6100e-003	5.0000e-005	7.6600e-003	2.0300e-003	4.0000e-005	2.0700e-003	0.0000	6.3341	6.3341	2.8000e-004	2.3000e-004	6.4082
<b>Total</b>	<b>5.0900e-003</b>	<b>0.0332</b>	<b>0.0398</b>	<b>1.9000e-004</b>	<b>0.0113</b>	<b>2.4000e-004</b>	<b>0.0115</b>	<b>3.0900e-003</b>	<b>2.2000e-004</b>	<b>3.3100e-003</b>	<b>0.0000</b>	<b>17.5141</b>	<b>17.5141</b>	<b>3.2000e-004</b>	<b>1.8900e-003</b>	<b>18.0850</b>

**3.5 Paving - 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	0.0852	0.8408	1.2032	1.8800e-003		0.0421	0.0421		0.0387	0.0387	0.0000	165.2217	165.2217	0.0534	0.0000	166.5576
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0852</b>	<b>0.8408</b>	<b>1.2032</b>	<b>1.8800e-003</b>		<b>0.0421</b>	<b>0.0421</b>		<b>0.0387</b>	<b>0.0387</b>	<b>0.0000</b>	<b>165.2217</b>	<b>165.2217</b>	<b>0.0534</b>	<b>0.0000</b>	<b>166.5576</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 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	3.9500e-003	2.6000e-003	0.0281	6.0000e-005	6.5800e-003	4.0000e-005	6.6300e-003	1.7500e-003	4.0000e-005	1.7900e-003	0.0000	5.6203	5.6203	2.6000e-004	2.1000e-004	5.6898
<b>Total</b>	<b>3.9500e-003</b>	<b>2.6000e-003</b>	<b>0.0281</b>	<b>6.0000e-005</b>	<b>6.5800e-003</b>	<b>4.0000e-005</b>	<b>6.6300e-003</b>	<b>1.7500e-003</b>	<b>4.0000e-005</b>	<b>1.7900e-003</b>	<b>0.0000</b>	<b>5.6203</b>	<b>5.6203</b>	<b>2.6000e-004</b>	<b>2.1000e-004</b>	<b>5.6898</b>

**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	0.0852	0.8408	1.2032	1.8800e-003		0.0421	0.0421		0.0387	0.0387	0.0000	165.2215	165.2215	0.0534	0.0000	166.5574
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0852</b>	<b>0.8408</b>	<b>1.2032</b>	<b>1.8800e-003</b>		<b>0.0421</b>	<b>0.0421</b>		<b>0.0387</b>	<b>0.0387</b>	<b>0.0000</b>	<b>165.2215</b>	<b>165.2215</b>	<b>0.0534</b>	<b>0.0000</b>	<b>166.5574</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 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	3.9500e-003	2.6000e-003	0.0281	6.0000e-005	6.5800e-003	4.0000e-005	6.6300e-003	1.7500e-003	4.0000e-005	1.7900e-003	0.0000	5.6203	5.6203	2.6000e-004	2.1000e-004	5.6898
<b>Total</b>	<b>3.9500e-003</b>	<b>2.6000e-003</b>	<b>0.0281</b>	<b>6.0000e-005</b>	<b>6.5800e-003</b>	<b>4.0000e-005</b>	<b>6.6300e-003</b>	<b>1.7500e-003</b>	<b>4.0000e-005</b>	<b>1.7900e-003</b>	<b>0.0000</b>	<b>5.6203</b>	<b>5.6203</b>	<b>2.6000e-004</b>	<b>2.1000e-004</b>	<b>5.6898</b>

**3.5 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	0.0321	0.3096	0.4753	7.4000e-004		0.0152	0.0152		0.0140	0.0140	0.0000	65.0862	65.0862	0.0211	0.0000	65.6125
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0321</b>	<b>0.3096</b>	<b>0.4753</b>	<b>7.4000e-004</b>		<b>0.0152</b>	<b>0.0152</b>		<b>0.0140</b>	<b>0.0140</b>	<b>0.0000</b>	<b>65.0862</b>	<b>65.0862</b>	<b>0.0211</b>	<b>0.0000</b>	<b>65.6125</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 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	1.4400e-003	9.1000e-004	0.0102	2.0000e-005	2.5900e-003	2.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	2.1593	2.1593	9.0000e-005	8.0000e-005	2.1846
<b>Total</b>	<b>1.4400e-003</b>	<b>9.1000e-004</b>	<b>0.0102</b>	<b>2.0000e-005</b>	<b>2.5900e-003</b>	<b>2.0000e-005</b>	<b>2.6100e-003</b>	<b>6.9000e-004</b>	<b>1.0000e-005</b>	<b>7.0000e-004</b>	<b>0.0000</b>	<b>2.1593</b>	<b>2.1593</b>	<b>9.0000e-005</b>	<b>8.0000e-005</b>	<b>2.1846</b>

**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	0.0321	0.3096	0.4753	7.4000e-004		0.0152	0.0152		0.0140	0.0140	0.0000	65.0862	65.0862	0.0211	0.0000	65.6124
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0321</b>	<b>0.3096</b>	<b>0.4753</b>	<b>7.4000e-004</b>		<b>0.0152</b>	<b>0.0152</b>		<b>0.0140</b>	<b>0.0140</b>	<b>0.0000</b>	<b>65.0862</b>	<b>65.0862</b>	<b>0.0211</b>	<b>0.0000</b>	<b>65.6124</b>

## Hammon Subdivision Project - Butte County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.5 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	1.4400e-003	9.1000e-004	0.0102	2.0000e-005	2.5900e-003	2.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	2.1593	2.1593	9.0000e-005	8.0000e-005	2.1846
<b>Total</b>	<b>1.4400e-003</b>	<b>9.1000e-004</b>	<b>0.0102</b>	<b>2.0000e-005</b>	<b>2.5900e-003</b>	<b>2.0000e-005</b>	<b>2.6100e-003</b>	<b>6.9000e-004</b>	<b>1.0000e-005</b>	<b>7.0000e-004</b>	<b>0.0000</b>	<b>2.1593</b>	<b>2.1593</b>	<b>9.0000e-005</b>	<b>8.0000e-005</b>	<b>2.1846</b>

## 3.6 Architectural Coating - 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					
Archit. Coating	0.8617					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0158	0.1075	0.1494	2.5000e-004		5.8400e-003	5.8400e-003		5.8400e-003	5.8400e-003	0.0000	21.0643	21.0643	1.2600e-003	0.0000	21.0959
<b>Total</b>	<b>0.8776</b>	<b>0.1075</b>	<b>0.1494</b>	<b>2.5000e-004</b>		<b>5.8400e-003</b>	<b>5.8400e-003</b>		<b>5.8400e-003</b>	<b>5.8400e-003</b>	<b>0.0000</b>	<b>21.0643</b>	<b>21.0643</b>	<b>1.2600e-003</b>	<b>0.0000</b>	<b>21.0959</b>



## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 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	2.3700e-003	1.5600e-003	0.0168	4.0000e-005	3.9500e-003	3.0000e-005	3.9800e-003	1.0500e-003	2.0000e-005	1.0800e-003	0.0000	3.3722	3.3722	1.6000e-004	1.3000e-004	3.4139
<b>Total</b>	<b>2.3700e-003</b>	<b>1.5600e-003</b>	<b>0.0168</b>	<b>4.0000e-005</b>	<b>3.9500e-003</b>	<b>3.0000e-005</b>	<b>3.9800e-003</b>	<b>1.0500e-003</b>	<b>2.0000e-005</b>	<b>1.0800e-003</b>	<b>0.0000</b>	<b>3.3722</b>	<b>3.3722</b>	<b>1.6000e-004</b>	<b>1.3000e-004</b>	<b>3.4139</b>

**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	0.8617					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0158	0.1075	0.1494	2.5000e-004		5.8400e-003	5.8400e-003		5.8400e-003	5.8400e-003	0.0000	21.0643	21.0643	1.2600e-003	0.0000	21.0958
<b>Total</b>	<b>0.8776</b>	<b>0.1075</b>	<b>0.1494</b>	<b>2.5000e-004</b>		<b>5.8400e-003</b>	<b>5.8400e-003</b>		<b>5.8400e-003</b>	<b>5.8400e-003</b>	<b>0.0000</b>	<b>21.0643</b>	<b>21.0643</b>	<b>1.2600e-003</b>	<b>0.0000</b>	<b>21.0958</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 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	2.3700e-003	1.5600e-003	0.0168	4.0000e-005	3.9500e-003	3.0000e-005	3.9800e-003	1.0500e-003	2.0000e-005	1.0800e-003	0.0000	3.3722	3.3722	1.6000e-004	1.3000e-004	3.4139
<b>Total</b>	<b>2.3700e-003</b>	<b>1.5600e-003</b>	<b>0.0168</b>	<b>4.0000e-005</b>	<b>3.9500e-003</b>	<b>3.0000e-005</b>	<b>3.9800e-003</b>	<b>1.0500e-003</b>	<b>2.0000e-005</b>	<b>1.0800e-003</b>	<b>0.0000</b>	<b>3.3722</b>	<b>3.3722</b>	<b>1.6000e-004</b>	<b>1.3000e-004</b>	<b>3.4139</b>

**3.6 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	0.3395					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8700e-003	0.0396	0.0588	1.0000e-004		1.9800e-003	1.9800e-003		1.9800e-003	1.9800e-003	0.0000	8.2981	8.2981	4.7000e-004	0.0000	8.3098
<b>Total</b>	<b>0.3453</b>	<b>0.0396</b>	<b>0.0588</b>	<b>1.0000e-004</b>		<b>1.9800e-003</b>	<b>1.9800e-003</b>		<b>1.9800e-003</b>	<b>1.9800e-003</b>	<b>0.0000</b>	<b>8.2981</b>	<b>8.2981</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>8.3098</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 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	8.6000e-004	5.5000e-004	6.1200e-003	1.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2956	1.2956	6.0000e-005	5.0000e-005	1.3108
<b>Total</b>	<b>8.6000e-004</b>	<b>5.5000e-004</b>	<b>6.1200e-003</b>	<b>1.0000e-005</b>	<b>1.5600e-003</b>	<b>1.0000e-005</b>	<b>1.5700e-003</b>	<b>4.1000e-004</b>	<b>1.0000e-005</b>	<b>4.2000e-004</b>	<b>0.0000</b>	<b>1.2956</b>	<b>1.2956</b>	<b>6.0000e-005</b>	<b>5.0000e-005</b>	<b>1.3108</b>

**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	0.3395					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8700e-003	0.0396	0.0588	1.0000e-004		1.9800e-003	1.9800e-003		1.9800e-003	1.9800e-003	0.0000	8.2981	8.2981	4.7000e-004	0.0000	8.3098
<b>Total</b>	<b>0.3453</b>	<b>0.0396</b>	<b>0.0588</b>	<b>1.0000e-004</b>		<b>1.9800e-003</b>	<b>1.9800e-003</b>		<b>1.9800e-003</b>	<b>1.9800e-003</b>	<b>0.0000</b>	<b>8.2981</b>	<b>8.2981</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>8.3098</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 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	8.6000e-004	5.5000e-004	6.1200e-003	1.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2956	1.2956	6.0000e-005	5.0000e-005	1.3108
<b>Total</b>	<b>8.6000e-004</b>	<b>5.5000e-004</b>	<b>6.1200e-003</b>	<b>1.0000e-005</b>	<b>1.5600e-003</b>	<b>1.0000e-005</b>	<b>1.5700e-003</b>	<b>4.1000e-004</b>	<b>1.0000e-005</b>	<b>4.2000e-004</b>	<b>0.0000</b>	<b>1.2956</b>	<b>1.2956</b>	<b>6.0000e-005</b>	<b>5.0000e-005</b>	<b>1.3108</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.1677	0.2471	1.3132	2.2700e-003	0.2115	2.6100e-003	0.2141	0.0567	2.4500e-003	0.0591	0.0000	212.9914	212.9914	0.0163	0.0132	217.3177
Unmitigated	0.1677	0.2471	1.3132	2.2700e-003	0.2115	2.6100e-003	0.2141	0.0567	2.4500e-003	0.0591	0.0000	212.9914	212.9914	0.0163	0.0132	217.3177

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	20.00	20.00	20.00	35,738	35,738
Single Family Housing	245.44	248.04	222.30	537,452	537,452
Total	265.44	268.04	242.30	573,190	573,190

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Office Building	6.00	6.00	6.00	33.00	48.00	19.00	77	19	4
Single Family Housing	7.30	3.00	7.90	35.00	17.00	48.00	86	11	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.483154	0.055228	0.190002	0.148740	0.046106	0.008769	0.010590	0.015505	0.000749	0.000411	0.034241	0.001163	0.005341
Single Family Housing	0.483154	0.055228	0.190002	0.148740	0.046106	0.008769	0.010590	0.015505	0.000749	0.000411	0.034241	0.001163	0.005341

**5.0 Energy Detail**

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

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	108.8204	108.8204	0.0176	2.1300e-003	109.8964
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.8204	108.8204	0.0176	2.1300e-003	109.8964
NaturalGas Mitigated	0.0110	0.0982	0.0706	6.0000e-004		7.6000e-003	7.6000e-003		7.6000e-003	7.6000e-003	0.0000	108.9118	108.9118	2.0900e-003	2.0000e-003	109.5591
NaturalGas Unmitigated	0.0110	0.0982	0.0706	6.0000e-004		7.6000e-003	7.6000e-003		7.6000e-003	7.6000e-003	0.0000	108.9118	108.9118	2.0900e-003	2.0000e-003	109.5591

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
General Office Building	1.41595e+006	7.6400e-003	0.0694	0.0583	4.2000e-004		5.2800e-003	5.2800e-003		5.2800e-003	5.2800e-003	0.0000	75.5607	75.5607	1.4500e-003	1.3900e-003	76.0097
Single Family Housing	624976	3.3700e-003	0.0288	0.0123	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003	0.0000	33.3511	33.3511	6.4000e-004	6.1000e-004	33.5493
<b>Total</b>		<b>0.0110</b>	<b>0.0982</b>	<b>0.0706</b>	<b>6.0000e-004</b>		<b>7.6100e-003</b>	<b>7.6100e-003</b>		<b>7.6100e-003</b>	<b>7.6100e-003</b>	<b>0.0000</b>	<b>108.9118</b>	<b>108.9118</b>	<b>2.0900e-003</b>	<b>2.0000e-003</b>	<b>109.5590</b>

**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					
General Office Building	1.41595e+006	7.6400e-003	0.0694	0.0583	4.2000e-004		5.2800e-003	5.2800e-003		5.2800e-003	5.2800e-003	0.0000	75.5607	75.5607	1.4500e-003	1.3900e-003	76.0097
Single Family Housing	624976	3.3700e-003	0.0288	0.0123	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003	0.0000	33.3511	33.3511	6.4000e-004	6.1000e-004	33.5493
<b>Total</b>		<b>0.0110</b>	<b>0.0982</b>	<b>0.0706</b>	<b>6.0000e-004</b>		<b>7.6100e-003</b>	<b>7.6100e-003</b>		<b>7.6100e-003</b>	<b>7.6100e-003</b>	<b>0.0000</b>	<b>108.9118</b>	<b>108.9118</b>	<b>2.0900e-003</b>	<b>2.0000e-003</b>	<b>109.5590</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	968811	89.6380	0.0145	1.7600e-003	90.5244
Single Family Housing	207323	19.1823	3.1000e-003	3.8000e-004	19.3720
<b>Total</b>		<b>108.8203</b>	<b>0.0176</b>	<b>2.1400e-003</b>	<b>109.8964</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	968811	89.6380	0.0145	1.7600e-003	90.5244
Single Family Housing	207323	19.1823	3.1000e-003	3.8000e-004	19.3720
<b>Total</b>		<b>108.8203</b>	<b>0.0176</b>	<b>2.1400e-003</b>	<b>109.8964</b>

**6.0 Area Detail**



## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****6.1 Mitigation Measures Area**

No Hearths Installed

	ROG	NOx	CO	SO2	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	0.7367	2.2200e-003	0.1930	1.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	0.3154	0.3154	3.0000e-004	0.0000	0.3230
Unmitigated	3.7809	0.0603	3.9365	6.7600e-003		0.5255	0.5255		0.5255	0.5255	49.7936	20.0213	69.8150	0.0449	3.9200e-003	72.1058

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	tons/yr										MT/yr					
Architectural Coating	0.1201					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6108					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.0442	0.0581	3.7435	6.7500e-003		0.5245	0.5245		0.5245	0.5245	49.7936	19.7059	69.4996	0.0446	3.9200e-003	71.7828
Landscaping	5.8000e-003	2.2200e-003	0.1930	1.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	0.3154	0.3154	3.0000e-004	0.0000	0.3230
<b>Total</b>	<b>3.7809</b>	<b>0.0603</b>	<b>3.9365</b>	<b>6.7600e-003</b>		<b>0.5255</b>	<b>0.5255</b>		<b>0.5255</b>	<b>0.5255</b>	<b>49.7936</b>	<b>20.0213</b>	<b>69.8150</b>	<b>0.0449</b>	<b>3.9200e-003</b>	<b>72.1058</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.1201					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6108					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.8000e-003	2.2200e-003	0.1930	1.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	0.3154	0.3154	3.0000e-004	0.0000	0.3230
<b>Total</b>	<b>0.7367</b>	<b>2.2200e-003</b>	<b>0.1930</b>	<b>1.0000e-005</b>		<b>1.0700e-003</b>	<b>1.0700e-003</b>		<b>1.0700e-003</b>	<b>1.0700e-003</b>	<b>0.0000</b>	<b>0.3154</b>	<b>0.3154</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>0.3230</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.1830	0.0699	1.6700e-003	4.4301
Unmitigated	2.1830	0.0699	1.6700e-003	4.4301

**7.2 Water by Land Use****Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.444334 / 0.272334	0.4516	0.0145	3.5000e-004	0.9185
Single Family Housing	1.694 / 1.06796	1.7314	0.0554	1.3300e-003	3.5116
<b>Total</b>		<b>2.1830</b>	<b>0.0699</b>	<b>1.6800e-003</b>	<b>4.4301</b>

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.444334 / 0.272334	0.4516	0.0145	3.5000e-004	0.9185
Single Family Housing	1.694 / 1.06796	1.7314	0.0554	1.3300e-003	3.5116
<b>Total</b>		<b>2.1830</b>	<b>0.0699</b>	<b>1.6800e-003</b>	<b>4.4301</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.8807	0.3475	0.0000	14.5691
Unmitigated	5.8807	0.3475	0.0000	14.5691

## Hammon Subdivision Project - Butte County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.33	0.4730	0.0280	0.0000	1.1718
Single Family Housing	26.64	5.4077	0.3196	0.0000	13.3973
<b>Total</b>		<b>5.8807</b>	<b>0.3475</b>	<b>0.0000</b>	<b>14.5691</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.33	0.4730	0.0280	0.0000	1.1718
Single Family Housing	26.64	5.4077	0.3196	0.0000	13.3973
<b>Total</b>		<b>5.8807</b>	<b>0.3475</b>	<b>0.0000</b>	<b>14.5691</b>

**9.0 Operational Offroad**

Hammon Subdivision Project - Butte County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

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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
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11.0 Vegetation

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Hammon Subdivision Project - Butte County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hammon Subdivision Project  
Butte County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.50	1000sqft	2.50	109,594.00	0
Single Family Housing	26.00	Dwelling Unit	5.75	46,800.00	74

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	71
Climate Zone	3			Operational Year	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - acreage adjusted to reflect information from the project description, commercial land use chosen for mini storage facility to better reflect trips generated

Construction Phase - building construction, paving, and architectural coating will happen at the same time

Vehicle Trips - ITE Trip Generation Manual 10th Edition

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	230.00
tblConstructionPhase	NumDays	20.00	230.00
tblConstructionPhase	PhaseEndDate	4/26/2024	3/29/2024
tblConstructionPhase	PhaseEndDate	5/24/2024	3/29/2024
tblConstructionPhase	PhaseStartDate	3/30/2024	5/13/2023



Hammon Subdivision Project - Butte County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	PhaseStartDate	4/27/2024	5/13/2023
tblLandUse	LandUseSquareFeet	2,500.00	109,594.00
tblLandUse	LotAcreage	0.06	2.50
tblLandUse	LotAcreage	8.44	5.75
tblVehicleTrips	ST_TR	2.21	8.00
tblVehicleTrips	SU_TR	0.70	8.00
tblVehicleTrips	WD_TR	9.74	8.00

2.0 Emissions Summary

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## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	13.5407	27.5589	34.7423	0.0600	19.7570	1.2889	21.0237	10.1290	1.2064	11.2943	0.0000	5,803.565 2	5,803.565 2	1.3552	0.0694	5,858.132 1
2024	13.3630	25.1965	34.5517	0.0599	0.4949	1.1507	1.6457	0.1340	1.0764	1.2104	0.0000	5,788.447 9	5,788.447 9	1.3492	0.0675	5,842.297 9
<b>Maximum</b>	<b>13.5407</b>	<b>27.5589</b>	<b>34.7423</b>	<b>0.0600</b>	<b>19.7570</b>	<b>1.2889</b>	<b>21.0237</b>	<b>10.1290</b>	<b>1.2064</b>	<b>11.2943</b>	<b>0.0000</b>	<b>5,803.565 2</b>	<b>5,803.565 2</b>	<b>1.3552</b>	<b>0.0694</b>	<b>5,858.132 1</b>

**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	13.5407	27.5589	34.7423	0.0600	8.9457	1.2889	10.2123	4.5726	1.2064	5.7379	0.0000	5,803.565 2	5,803.565 2	1.3552	0.0694	5,858.132 1
2024	13.3630	25.1965	34.5517	0.0599	0.4949	1.1507	1.6457	0.1340	1.0764	1.2104	0.0000	5,788.447 9	5,788.447 9	1.3492	0.0675	5,842.297 9
<b>Maximum</b>	<b>13.5407</b>	<b>27.5589</b>	<b>34.7423</b>	<b>0.0600</b>	<b>8.9457</b>	<b>1.2889</b>	<b>10.2123</b>	<b>4.5726</b>	<b>1.2064</b>	<b>5.7379</b>	<b>0.0000</b>	<b>5,803.565 2</b>	<b>5,803.565 2</b>	<b>1.3552</b>	<b>0.0694</b>	<b>5,858.132 1</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Percent Reduction	0.00	0.00	0.00	0.00	53.38	0.00	47.69	54.14	0.00	44.43	0.00	0.00	0.00	0.00	0.00	0.00

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	44.6590	0.7991	52.0571	0.0901		7.0049	7.0049		7.0049	7.0049	731.8411	293.4907	1,025.3318	0.6592	0.0576	1,058.9822
Energy	0.0603	0.5381	0.3866	3.2900e-003		0.0417	0.0417		0.0417	0.0417		657.8343	657.8343	0.0126	0.0121	661.7434
Mobile	1.2025	1.2856	7.9623	0.0137	1.2388	0.0146	1.2534	0.3308	0.0138	0.3446		1,411.2613	1,411.2613	0.0953	0.0783	1,436.9888
<b>Total</b>	<b>45.9218</b>	<b>2.6228</b>	<b>60.4060</b>	<b>0.1071</b>	<b>1.2388</b>	<b>7.0612</b>	<b>8.2999</b>	<b>0.3308</b>	<b>7.0603</b>	<b>7.3911</b>	<b>731.8411</b>	<b>2,362.5863</b>	<b>3,094.4274</b>	<b>0.7671</b>	<b>0.1480</b>	<b>3,157.7144</b>

**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	4.0695	0.0247	2.1444	1.1000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	3.8629	3.8629	3.7100e-003	0.0000	3.9556
Energy	0.0603	0.5381	0.3866	3.2900e-003		0.0417	0.0417		0.0417	0.0417		657.8343	657.8343	0.0126	0.0121	661.7434
Mobile	1.2025	1.2856	7.9623	0.0137	1.2388	0.0146	1.2534	0.3308	0.0138	0.3446		1,411.2613	1,411.2613	0.0953	0.0783	1,436.9888
<b>Total</b>	<b>5.3323</b>	<b>1.8484</b>	<b>10.4933</b>	<b>0.0171</b>	<b>1.2388</b>	<b>0.0682</b>	<b>1.3069</b>	<b>0.3308</b>	<b>0.0673</b>	<b>0.3981</b>	<b>0.0000</b>	<b>2,072.9585</b>	<b>2,072.9585</b>	<b>0.1116</b>	<b>0.0904</b>	<b>2,102.6878</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Percent Reduction	88.39	29.53	82.63	84.08	0.00	99.03	84.25	0.00	99.05	94.61	100.00	12.26	33.01	85.45	38.93	33.41

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/3/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	
4	Paving	Paving	5/13/2023	3/29/2024	5	230	
5	Architectural Coating	Architectural Coating	5/13/2023	3/29/2024	5	230	

**Acres of Grading (Site Preparation Phase): 15****Acres of Grading (Grading Phase): 20****Acres of Paving: 0****Residential Indoor: 94,770; Residential Outdoor: 31,590; Non-Residential Indoor: 164,391; Non-Residential Outdoor: 54,797; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	44.00	21.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Site Preparation - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>19.6570</b>	<b>1.2660</b>	<b>20.9230</b>	<b>10.1025</b>	<b>1.1647</b>	<b>11.2672</b>		<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**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	0.0714	0.0347	0.4751	9.7000e-004	0.1000	6.1000e-004	0.1006	0.0265	5.7000e-004	0.0271		99.0767	99.0767	3.9800e-003	3.2000e-003	100.1306
<b>Total</b>	<b>0.0714</b>	<b>0.0347</b>	<b>0.4751</b>	<b>9.7000e-004</b>	<b>0.1000</b>	<b>6.1000e-004</b>	<b>0.1006</b>	<b>0.0265</b>	<b>5.7000e-004</b>	<b>0.0271</b>		<b>99.0767</b>	<b>99.0767</b>	<b>3.9800e-003</b>	<b>3.2000e-003</b>	<b>100.1306</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 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					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>8.8457</b>	<b>1.2660</b>	<b>10.1117</b>	<b>4.5461</b>	<b>1.1647</b>	<b>5.7108</b>	<b>0.0000</b>	<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**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	0.0714	0.0347	0.4751	9.7000e-004	0.1000	6.1000e-004	0.1006	0.0265	5.7000e-004	0.0271		99.0767	99.0767	3.9800e-003	3.2000e-003	100.1306
<b>Total</b>	<b>0.0714</b>	<b>0.0347</b>	<b>0.4751</b>	<b>9.7000e-004</b>	<b>0.1000</b>	<b>6.1000e-004</b>	<b>0.1006</b>	<b>0.0265</b>	<b>5.7000e-004</b>	<b>0.0271</b>		<b>99.0767</b>	<b>99.0767</b>	<b>3.9800e-003</b>	<b>3.2000e-003</b>	<b>100.1306</b>



## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 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	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>7.0826</b>	<b>0.7749</b>	<b>7.8575</b>	<b>3.4247</b>	<b>0.7129</b>	<b>4.1377</b>		<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**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	0.0595	0.0289	0.3960	8.1000e-004	0.0833	5.1000e-004	0.0839	0.0221	4.7000e-004	0.0226		82.5639	82.5639	3.3200e-003	2.6700e-003	83.4422
<b>Total</b>	<b>0.0595</b>	<b>0.0289</b>	<b>0.3960</b>	<b>8.1000e-004</b>	<b>0.0833</b>	<b>5.1000e-004</b>	<b>0.0839</b>	<b>0.0221</b>	<b>4.7000e-004</b>	<b>0.0226</b>		<b>82.5639</b>	<b>82.5639</b>	<b>3.3200e-003</b>	<b>2.6700e-003</b>	<b>83.4422</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 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					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>3.1872</b>	<b>0.7749</b>	<b>3.9621</b>	<b>1.5411</b>	<b>0.7129</b>	<b>2.2541</b>	<b>0.0000</b>	<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**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	0.0595	0.0289	0.3960	8.1000e-004	0.0833	5.1000e-004	0.0839	0.0221	4.7000e-004	0.0226		82.5639	82.5639	3.3200e-003	2.6700e-003	83.4422
<b>Total</b>	<b>0.0595</b>	<b>0.0289</b>	<b>0.3960</b>	<b>8.1000e-004</b>	<b>0.0833</b>	<b>5.1000e-004</b>	<b>0.0839</b>	<b>0.0221</b>	<b>4.7000e-004</b>	<b>0.0226</b>		<b>82.5639</b>	<b>82.5639</b>	<b>3.3200e-003</b>	<b>2.6700e-003</b>	<b>83.4422</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**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	0.0285	0.9042	0.3080	3.6500e-003	0.1171	5.8600e-003	0.1230	0.0337	5.6000e-003	0.0393		385.0334	385.0334	1.5000e-003	0.0573	402.1522
Worker	0.1745	0.0848	1.1615	2.3700e-003	0.2445	1.5000e-003	0.2460	0.0649	1.3800e-003	0.0662		242.1874	242.1874	9.7300e-003	7.8300e-003	244.7638
<b>Total</b>	<b>0.2031</b>	<b>0.9890</b>	<b>1.4694</b>	<b>6.0200e-003</b>	<b>0.3616</b>	<b>7.3600e-003</b>	<b>0.3689</b>	<b>0.0986</b>	<b>6.9800e-003</b>	<b>0.1056</b>		<b>627.2208</b>	<b>627.2208</b>	<b>0.0112</b>	<b>0.0652</b>	<b>646.9160</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**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	0.0285	0.9042	0.3080	3.6500e-003	0.1171	5.8600e-003	0.1230	0.0337	5.6000e-003	0.0393		385.0334	385.0334	1.5000e-003	0.0573	402.1522
Worker	0.1745	0.0848	1.1615	2.3700e-003	0.2445	1.5000e-003	0.2460	0.0649	1.3800e-003	0.0662		242.1874	242.1874	9.7300e-003	7.8300e-003	244.7638
<b>Total</b>	<b>0.2031</b>	<b>0.9890</b>	<b>1.4694</b>	<b>6.0200e-003</b>	<b>0.3616</b>	<b>7.3600e-003</b>	<b>0.3689</b>	<b>0.0986</b>	<b>6.9800e-003</b>	<b>0.1056</b>		<b>627.2208</b>	<b>627.2208</b>	<b>0.0112</b>	<b>0.0652</b>	<b>646.9160</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**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	0.0275	0.8928	0.2998	3.5900e-003	0.1171	5.8000e-003	0.1229	0.0337	5.5500e-003	0.0393		378.8099	378.8099	1.4300e-003	0.0563	395.6289
Worker	0.1615	0.0754	1.0671	2.2900e-003	0.2445	1.4100e-003	0.2459	0.0649	1.3000e-003	0.0662		236.1402	236.1402	8.7700e-003	7.2500e-003	238.5193
<b>Total</b>	<b>0.1890</b>	<b>0.9682</b>	<b>1.3669</b>	<b>5.8800e-003</b>	<b>0.3616</b>	<b>7.2100e-003</b>	<b>0.3688</b>	<b>0.0986</b>	<b>6.8500e-003</b>	<b>0.1054</b>		<b>614.9500</b>	<b>614.9500</b>	<b>0.0102</b>	<b>0.0636</b>	<b>634.1482</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**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	0.0275	0.8928	0.2998	3.5900e-003	0.1171	5.8000e-003	0.1229	0.0337	5.5500e-003	0.0393		378.8099	378.8099	1.4300e-003	0.0563	395.6289
Worker	0.1615	0.0754	1.0671	2.2900e-003	0.2445	1.4100e-003	0.2459	0.0649	1.3000e-003	0.0662		236.1402	236.1402	8.7700e-003	7.2500e-003	238.5193
<b>Total</b>	<b>0.1890</b>	<b>0.9682</b>	<b>1.3669</b>	<b>5.8800e-003</b>	<b>0.3616</b>	<b>7.2100e-003</b>	<b>0.3688</b>	<b>0.0986</b>	<b>6.8500e-003</b>	<b>0.1054</b>		<b>614.9500</b>	<b>614.9500</b>	<b>0.0102</b>	<b>0.0636</b>	<b>634.1482</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</b>

**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	0.0595	0.0289	0.3960	8.1000e-004	0.0833	5.1000e-004	0.0839	0.0221	4.7000e-004	0.0226		82.5639	82.5639	3.3200e-003	2.6700e-003	83.4422
<b>Total</b>	<b>0.0595</b>	<b>0.0289</b>	<b>0.3960</b>	<b>8.1000e-004</b>	<b>0.0833</b>	<b>5.1000e-004</b>	<b>0.0839</b>	<b>0.0221</b>	<b>4.7000e-004</b>	<b>0.0226</b>		<b>82.5639</b>	<b>82.5639</b>	<b>3.3200e-003</b>	<b>2.6700e-003</b>	<b>83.4422</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>	<b>0.0000</b>	<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</b>

**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	0.0595	0.0289	0.3960	8.1000e-004	0.0833	5.1000e-004	0.0839	0.0221	4.7000e-004	0.0226		82.5639	82.5639	3.3200e-003	2.6700e-003	83.4422
<b>Total</b>	<b>0.0595</b>	<b>0.0289</b>	<b>0.3960</b>	<b>8.1000e-004</b>	<b>0.0833</b>	<b>5.1000e-004</b>	<b>0.0839</b>	<b>0.0221</b>	<b>4.7000e-004</b>	<b>0.0226</b>		<b>82.5639</b>	<b>82.5639</b>	<b>3.3200e-003</b>	<b>2.6700e-003</b>	<b>83.4422</b>



## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9882</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>		<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**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	0.0551	0.0257	0.3638	7.8000e-004	0.0833	4.8000e-004	0.0838	0.0221	4.4000e-004	0.0226		80.5023	80.5023	2.9900e-003	2.4700e-003	81.3134
<b>Total</b>	<b>0.0551</b>	<b>0.0257</b>	<b>0.3638</b>	<b>7.8000e-004</b>	<b>0.0833</b>	<b>4.8000e-004</b>	<b>0.0838</b>	<b>0.0221</b>	<b>4.4000e-004</b>	<b>0.0226</b>		<b>80.5023</b>	<b>80.5023</b>	<b>2.9900e-003</b>	<b>2.4700e-003</b>	<b>81.3134</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9882</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>	<b>0.0000</b>	<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**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	0.0551	0.0257	0.3638	7.8000e-004	0.0833	4.8000e-004	0.0838	0.0221	4.4000e-004	0.0226		80.5023	80.5023	2.9900e-003	2.4700e-003	81.3134
<b>Total</b>	<b>0.0551</b>	<b>0.0257</b>	<b>0.3638</b>	<b>7.8000e-004</b>	<b>0.0833</b>	<b>4.8000e-004</b>	<b>0.0838</b>	<b>0.0221</b>	<b>4.4000e-004</b>	<b>0.0226</b>		<b>80.5023</b>	<b>80.5023</b>	<b>2.9900e-003</b>	<b>2.4700e-003</b>	<b>81.3134</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 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					
Archit. Coating	10.4453					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>10.6370</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**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	0.0357	0.0173	0.2376	4.8000e-004	0.0500	3.1000e-004	0.0503	0.0133	2.8000e-004	0.0136		49.5383	49.5383	1.9900e-003	1.6000e-003	50.0653
<b>Total</b>	<b>0.0357</b>	<b>0.0173</b>	<b>0.2376</b>	<b>4.8000e-004</b>	<b>0.0500</b>	<b>3.1000e-004</b>	<b>0.0503</b>	<b>0.0133</b>	<b>2.8000e-004</b>	<b>0.0136</b>		<b>49.5383</b>	<b>49.5383</b>	<b>1.9900e-003</b>	<b>1.6000e-003</b>	<b>50.0653</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 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					
Archit. Coating	10.4453					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>10.6370</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**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	0.0357	0.0173	0.2376	4.8000e-004	0.0500	3.1000e-004	0.0503	0.0133	2.8000e-004	0.0136		49.5383	49.5383	1.9900e-003	1.6000e-003	50.0653
<b>Total</b>	<b>0.0357</b>	<b>0.0173</b>	<b>0.2376</b>	<b>4.8000e-004</b>	<b>0.0500</b>	<b>3.1000e-004</b>	<b>0.0503</b>	<b>0.0133</b>	<b>2.8000e-004</b>	<b>0.0136</b>		<b>49.5383</b>	<b>49.5383</b>	<b>1.9900e-003</b>	<b>1.6000e-003</b>	<b>50.0653</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 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	10.4453					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
<b>Total</b>	<b>10.6261</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**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	0.0330	0.0154	0.2183	4.7000e-004	0.0500	2.9000e-004	0.0503	0.0133	2.7000e-004	0.0135		48.3014	48.3014	1.7900e-003	1.4800e-003	48.7880
<b>Total</b>	<b>0.0330</b>	<b>0.0154</b>	<b>0.2183</b>	<b>4.7000e-004</b>	<b>0.0500</b>	<b>2.9000e-004</b>	<b>0.0503</b>	<b>0.0133</b>	<b>2.7000e-004</b>	<b>0.0135</b>		<b>48.3014</b>	<b>48.3014</b>	<b>1.7900e-003</b>	<b>1.4800e-003</b>	<b>48.7880</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 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	10.4453					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
<b>Total</b>	<b>10.6261</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**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	0.0330	0.0154	0.2183	4.7000e-004	0.0500	2.9000e-004	0.0503	0.0133	2.7000e-004	0.0135		48.3014	48.3014	1.7900e-003	1.4800e-003	48.7880
<b>Total</b>	<b>0.0330</b>	<b>0.0154</b>	<b>0.2183</b>	<b>4.7000e-004</b>	<b>0.0500</b>	<b>2.9000e-004</b>	<b>0.0503</b>	<b>0.0133</b>	<b>2.7000e-004</b>	<b>0.0135</b>		<b>48.3014</b>	<b>48.3014</b>	<b>1.7900e-003</b>	<b>1.4800e-003</b>	<b>48.7880</b>

## Hammon Subdivision Project - Butte County, Summer

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	1.2025	1.2856	7.9623	0.0137	1.2388	0.0146	1.2534	0.3308	0.0138	0.3446		1,411.2613	1,411.2613	0.0953	0.0783	1,436.9888
Unmitigated	1.2025	1.2856	7.9623	0.0137	1.2388	0.0146	1.2534	0.3308	0.0138	0.3446		1,411.2613	1,411.2613	0.0953	0.0783	1,436.9888

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	20.00	20.00	20.00	35,738	35,738
Single Family Housing	245.44	248.04	222.30	537,452	537,452
Total	265.44	268.04	242.30	573,190	573,190

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Office Building	6.00	6.00	6.00	33.00	48.00	19.00	77	19	4
Single Family Housing	7.30	3.00	7.90	35.00	17.00	48.00	86	11	3

## 4.4 Fleet Mix

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.483154	0.055228	0.190002	0.148740	0.046106	0.008769	0.010590	0.015505	0.000749	0.000411	0.034241	0.001163	0.005341
Single Family Housing	0.483154	0.055228	0.190002	0.148740	0.046106	0.008769	0.010590	0.015505	0.000749	0.000411	0.034241	0.001163	0.005341

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0603	0.5381	0.3866	3.2900e-003		0.0417	0.0417		0.0417	0.0417		657.8343	657.8343	0.0126	0.0121	661.7434
NaturalGas Unmitigated	0.0603	0.5381	0.3866	3.2900e-003		0.0417	0.0417		0.0417	0.0417		657.8343	657.8343	0.0126	0.0121	661.7434



## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	lb/day										lb/day					
General Office Building	3879.33	0.0418	0.3803	0.3195	2.2800e-003		0.0289	0.0289		0.0289	0.0289		456.3915	456.3915	8.7500e-003	8.3700e-003	459.1036
Single Family Housing	1712.26	0.0185	0.1578	0.0672	1.0100e-003		0.0128	0.0128		0.0128	0.0128		201.4428	201.4428	3.8600e-003	3.6900e-003	202.6399
<b>Total</b>		<b>0.0603</b>	<b>0.5381</b>	<b>0.3866</b>	<b>3.2900e-003</b>		<b>0.0417</b>	<b>0.0417</b>		<b>0.0417</b>	<b>0.0417</b>		<b>657.8343</b>	<b>657.8343</b>	<b>0.0126</b>	<b>0.0121</b>	<b>661.7434</b>

**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					
General Office Building	3.87933	0.0418	0.3803	0.3195	2.2800e-003		0.0289	0.0289		0.0289	0.0289		456.3915	456.3915	8.7500e-003	8.3700e-003	459.1036
Single Family Housing	1.71226	0.0185	0.1578	0.0672	1.0100e-003		0.0128	0.0128		0.0128	0.0128		201.4428	201.4428	3.8600e-003	3.6900e-003	202.6399
<b>Total</b>		<b>0.0603</b>	<b>0.5381</b>	<b>0.3866</b>	<b>3.2900e-003</b>		<b>0.0417</b>	<b>0.0417</b>		<b>0.0417</b>	<b>0.0417</b>		<b>657.8343</b>	<b>657.8343</b>	<b>0.0126</b>	<b>0.0121</b>	<b>661.7434</b>

**6.0 Area Detail**

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****6.1 Mitigation Measures Area**

No Hearths Installed

	ROG	NOx	CO	SO2	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	4.0695	0.0247	2.1444	1.1000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	3.8629	3.8629	3.7100e-003	0.0000	3.9556
Unmitigated	44.6590	0.7991	52.0571	0.0901		7.0049	7.0049		7.0049	7.0049	731.8411	293.4907	1,025.3318	0.6592	0.0576	1,058.9822

## Hammon Subdivision Project - Butte County, Summer

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.6582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	40.5894	0.7744	49.9127	0.0900		6.9930	6.9930		6.9930	6.9930	731.8411	289.6278	1,021.4689	0.6555	0.0576	1,055.0266
Landscaping	0.0645	0.0247	2.1444	1.1000e-004		0.0119	0.0119		0.0119	0.0119		3.8629	3.8629	3.7100e-003		3.9556
<b>Total</b>	<b>44.6590</b>	<b>0.7991</b>	<b>52.0571</b>	<b>0.0901</b>		<b>7.0049</b>	<b>7.0049</b>		<b>7.0049</b>	<b>7.0049</b>	<b>731.8411</b>	<b>293.4907</b>	<b>1,025.3318</b>	<b>0.6592</b>	<b>0.0576</b>	<b>1,058.9822</b>

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.6582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0645	0.0247	2.1444	1.1000e-004		0.0119	0.0119		0.0119	0.0119		3.8629	3.8629	3.7100e-003		3.9556
<b>Total</b>	<b>4.0695</b>	<b>0.0247</b>	<b>2.1444</b>	<b>1.1000e-004</b>		<b>0.0119</b>	<b>0.0119</b>		<b>0.0119</b>	<b>0.0119</b>	<b>0.0000</b>	<b>3.8629</b>	<b>3.8629</b>	<b>3.7100e-003</b>	<b>0.0000</b>	<b>3.9556</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Hammon Subdivision Project - Butte County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****8.0 Waste Detail**

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**8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

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**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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Hammon Subdivision Project - Butte County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hammon Subdivision Project  
Butte County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.50	1000sqft	2.50	109,594.00	0
Single Family Housing	26.00	Dwelling Unit	5.75	46,800.00	74

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	71
Climate Zone	3			Operational Year	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - acreage adjusted to reflect information from the project description, commercial land use chosen for mini storage facility to better reflect trips generated

Construction Phase - building construction, paving, and architectural coating will happen at the same time

Vehicle Trips - ITE Trip Generation Manual 10th Edition

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	230.00
tblConstructionPhase	NumDays	20.00	230.00
tblConstructionPhase	PhaseEndDate	4/26/2024	3/29/2024
tblConstructionPhase	PhaseEndDate	5/24/2024	3/29/2024
tblConstructionPhase	PhaseStartDate	3/30/2024	5/13/2023

Hammon Subdivision Project - Butte County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	PhaseStartDate	4/27/2024	5/13/2023
tblLandUse	LandUseSquareFeet	2,500.00	109,594.00
tblLandUse	LotAcreage	0.06	2.50
tblLandUse	LotAcreage	8.44	5.75
tblVehicleTrips	ST_TR	2.21	8.00
tblVehicleTrips	SU_TR	0.70	8.00
tblVehicleTrips	WD_TR	9.74	8.00

2.0 Emissions Summary

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## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	13.4866	27.5666	34.5286	0.0596	19.7570	1.2890	21.0237	10.1290	1.2064	11.2943	0.0000	5,760.933 6	5,760.933 6	1.3577	0.0714	5,816.150 3
2024	13.3129	25.2963	34.3652	0.0595	0.4949	1.1508	1.6457	0.1340	1.0764	1.2104	0.0000	5,747.013 8	5,747.013 8	1.3515	0.0694	5,801.465 9
<b>Maximum</b>	<b>13.4866</b>	<b>27.5666</b>	<b>34.5286</b>	<b>0.0596</b>	<b>19.7570</b>	<b>1.2890</b>	<b>21.0237</b>	<b>10.1290</b>	<b>1.2064</b>	<b>11.2943</b>	<b>0.0000</b>	<b>5,760.933 6</b>	<b>5,760.933 6</b>	<b>1.3577</b>	<b>0.0714</b>	<b>5,816.150 3</b>

**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	13.4866	27.5666	34.5286	0.0596	8.9457	1.2890	10.2123	4.5726	1.2064	5.7379	0.0000	5,760.933 6	5,760.933 6	1.3577	0.0714	5,816.150 3
2024	13.3129	25.2963	34.3652	0.0595	0.4949	1.1508	1.6457	0.1340	1.0764	1.2104	0.0000	5,747.013 8	5,747.013 8	1.3515	0.0694	5,801.465 9
<b>Maximum</b>	<b>13.4866</b>	<b>27.5666</b>	<b>34.5286</b>	<b>0.0596</b>	<b>8.9457</b>	<b>1.2890</b>	<b>10.2123</b>	<b>4.5726</b>	<b>1.2064</b>	<b>5.7379</b>	<b>0.0000</b>	<b>5,760.933 6</b>	<b>5,760.933 6</b>	<b>1.3577</b>	<b>0.0714</b>	<b>5,816.150 3</b>



## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Percent Reduction	0.00	0.00	0.00	0.00	53.38	0.00	47.69	54.14	0.00	44.43	0.00	0.00	0.00	0.00	0.00	0.00

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	44.6590	0.7991	52.0571	0.0901		7.0049	7.0049		7.0049	7.0049	731.8411	293.4907	1,025.3318	0.6592	0.0576	1,058.9822
Energy	0.0603	0.5381	0.3866	3.2900e-003		0.0417	0.0417		0.0417	0.0417		657.8343	657.8343	0.0126	0.0121	661.7434
Mobile	0.8880	1.4752	7.8433	0.0125	1.2388	0.0147	1.2534	0.3308	0.0138	0.3446		1,293.6606	1,293.6606	0.1098	0.0853	1,321.8122
<b>Total</b>	<b>45.6073</b>	<b>2.8124</b>	<b>60.2870</b>	<b>0.1059</b>	<b>1.2388</b>	<b>7.0612</b>	<b>8.2999</b>	<b>0.3308</b>	<b>7.0603</b>	<b>7.3911</b>	<b>731.8411</b>	<b>2,244.9855</b>	<b>2,976.8266</b>	<b>0.7816</b>	<b>0.1549</b>	<b>3,042.5378</b>

**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	4.0695	0.0247	2.1444	1.1000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	3.8629	3.8629	3.7100e-003	0.0000	3.9556
Energy	0.0603	0.5381	0.3866	3.2900e-003		0.0417	0.0417		0.0417	0.0417		657.8343	657.8343	0.0126	0.0121	661.7434
Mobile	0.8880	1.4752	7.8433	0.0125	1.2388	0.0147	1.2534	0.3308	0.0138	0.3446		1,293.6606	1,293.6606	0.1098	0.0853	1,321.8122
<b>Total</b>	<b>5.0179</b>	<b>2.0381</b>	<b>10.3743</b>	<b>0.0159</b>	<b>1.2388</b>	<b>0.0682</b>	<b>1.3069</b>	<b>0.3308</b>	<b>0.0673</b>	<b>0.3981</b>	<b>0.0000</b>	<b>1,955.3578</b>	<b>1,955.3578</b>	<b>0.1261</b>	<b>0.0973</b>	<b>1,987.5112</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Percent Reduction	89.00	27.53	82.79	84.98	0.00	99.03	84.25	0.00	99.05	94.61	100.00	12.90	34.31	83.87	37.19	34.68

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/3/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	
4	Paving	Paving	5/13/2023	3/29/2024	5	230	
5	Architectural Coating	Architectural Coating	5/13/2023	3/29/2024	5	230	

**Acres of Grading (Site Preparation Phase): 15****Acres of Grading (Grading Phase): 20****Acres of Paving: 0****Residential Indoor: 94,770; Residential Outdoor: 31,590; Non-Residential Indoor: 164,391; Non-Residential Outdoor: 54,797; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	44.00	21.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	7.30	6.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Site Preparation - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>19.6570</b>	<b>1.2660</b>	<b>20.9230</b>	<b>10.1025</b>	<b>1.1647</b>	<b>11.2672</b>		<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**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	0.0575	0.0425	0.4156	8.6000e-004	0.1000	6.1000e-004	0.1006	0.0265	5.7000e-004	0.0271		87.5496	87.5496	4.6600e-003	3.6700e-003	88.7584
<b>Total</b>	<b>0.0575</b>	<b>0.0425</b>	<b>0.4156</b>	<b>8.6000e-004</b>	<b>0.1000</b>	<b>6.1000e-004</b>	<b>0.1006</b>	<b>0.0265</b>	<b>5.7000e-004</b>	<b>0.0271</b>		<b>87.5496</b>	<b>87.5496</b>	<b>4.6600e-003</b>	<b>3.6700e-003</b>	<b>88.7584</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 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					8.8457	0.0000	8.8457	4.5461	0.0000	4.5461			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
<b>Total</b>	<b>2.6595</b>	<b>27.5242</b>	<b>18.2443</b>	<b>0.0381</b>	<b>8.8457</b>	<b>1.2660</b>	<b>10.1117</b>	<b>4.5461</b>	<b>1.1647</b>	<b>5.7108</b>	<b>0.0000</b>	<b>3,687.308 1</b>	<b>3,687.308 1</b>	<b>1.1926</b>		<b>3,717.121 9</b>

**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	0.0575	0.0425	0.4156	8.6000e-004	0.1000	6.1000e-004	0.1006	0.0265	5.7000e-004	0.0271		87.5496	87.5496	4.6600e-003	3.6700e-003	88.7584
<b>Total</b>	<b>0.0575</b>	<b>0.0425</b>	<b>0.4156</b>	<b>8.6000e-004</b>	<b>0.1000</b>	<b>6.1000e-004</b>	<b>0.1006</b>	<b>0.0265</b>	<b>5.7000e-004</b>	<b>0.0271</b>		<b>87.5496</b>	<b>87.5496</b>	<b>4.6600e-003</b>	<b>3.6700e-003</b>	<b>88.7584</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 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	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>7.0826</b>	<b>0.7749</b>	<b>7.8575</b>	<b>3.4247</b>	<b>0.7129</b>	<b>4.1377</b>		<b>2,872.6910</b>	<b>2,872.6910</b>	<b>0.9291</b>		<b>2,895.9182</b>

**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	0.0479	0.0354	0.3463	7.1000e-004	0.0833	5.1000e-004	0.0839	0.0221	4.7000e-004	0.0226		72.9580	72.9580	3.8800e-003	3.0500e-003	73.9653
<b>Total</b>	<b>0.0479</b>	<b>0.0354</b>	<b>0.3463</b>	<b>7.1000e-004</b>	<b>0.0833</b>	<b>5.1000e-004</b>	<b>0.0839</b>	<b>0.0221</b>	<b>4.7000e-004</b>	<b>0.0226</b>		<b>72.9580</b>	<b>72.9580</b>	<b>3.8800e-003</b>	<b>3.0500e-003</b>	<b>73.9653</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 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					3.1872	0.0000	3.1872	1.5411	0.0000	1.5411			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.691 0	2,872.691 0	0.9291		2,895.918 2
<b>Total</b>	<b>1.7109</b>	<b>17.9359</b>	<b>14.7507</b>	<b>0.0297</b>	<b>3.1872</b>	<b>0.7749</b>	<b>3.9621</b>	<b>1.5411</b>	<b>0.7129</b>	<b>2.2541</b>	<b>0.0000</b>	<b>2,872.691 0</b>	<b>2,872.691 0</b>	<b>0.9291</b>		<b>2,895.918 2</b>

**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	0.0479	0.0354	0.3463	7.1000e-004	0.0833	5.1000e-004	0.0839	0.0221	4.7000e-004	0.0226		72.9580	72.9580	3.8800e-003	3.0500e-003	73.9653
<b>Total</b>	<b>0.0479</b>	<b>0.0354</b>	<b>0.3463</b>	<b>7.1000e-004</b>	<b>0.0833</b>	<b>5.1000e-004</b>	<b>0.0839</b>	<b>0.0221</b>	<b>4.7000e-004</b>	<b>0.0226</b>		<b>72.9580</b>	<b>72.9580</b>	<b>3.8800e-003</b>	<b>3.0500e-003</b>	<b>73.9653</b>



## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**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	0.0269	0.9789	0.3194	3.6600e-003	0.1171	5.8900e-003	0.1230	0.0337	5.6300e-003	0.0394		385.9487	385.9487	1.4300e-003	0.0575	403.1322
Worker	0.1406	0.1038	1.0158	2.0900e-003	0.2445	1.5000e-003	0.2460	0.0649	1.3800e-003	0.0662		214.0101	214.0101	0.0114	8.9600e-003	216.9650
<b>Total</b>	<b>0.1674</b>	<b>1.0827</b>	<b>1.3352</b>	<b>5.7500e-003</b>	<b>0.3616</b>	<b>7.3900e-003</b>	<b>0.3690</b>	<b>0.0986</b>	<b>7.0100e-003</b>	<b>0.1056</b>		<b>599.9587</b>	<b>599.9587</b>	<b>0.0128</b>	<b>0.0665</b>	<b>620.0971</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2023****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**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	0.0269	0.9789	0.3194	3.6600e-003	0.1171	5.8900e-003	0.1230	0.0337	5.6300e-003	0.0394		385.9487	385.9487	1.4300e-003	0.0575	403.1322
Worker	0.1406	0.1038	1.0158	2.0900e-003	0.2445	1.5000e-003	0.2460	0.0649	1.3800e-003	0.0662		214.0101	214.0101	0.0114	8.9600e-003	216.9650
<b>Total</b>	<b>0.1674</b>	<b>1.0827</b>	<b>1.3352</b>	<b>5.7500e-003</b>	<b>0.3616</b>	<b>7.3900e-003</b>	<b>0.3690</b>	<b>0.0986</b>	<b>7.0100e-003</b>	<b>0.1056</b>		<b>599.9587</b>	<b>599.9587</b>	<b>0.0128</b>	<b>0.0665</b>	<b>620.0971</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**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	0.0259	0.9665	0.3112	3.6000e-003	0.1171	5.8300e-003	0.1229	0.0337	5.5700e-003	0.0393		379.7286	379.7286	1.3600e-003	0.0565	396.6099
Worker	0.1302	0.0923	0.9391	2.0200e-003	0.2445	1.4100e-003	0.2459	0.0649	1.3000e-003	0.0662		208.7354	208.7354	0.0103	8.2900e-003	211.4638
<b>Total</b>	<b>0.1561</b>	<b>1.0588</b>	<b>1.2503</b>	<b>5.6200e-003</b>	<b>0.3616</b>	<b>7.2400e-003</b>	<b>0.3688</b>	<b>0.0986</b>	<b>6.8700e-003</b>	<b>0.1055</b>		<b>588.4640</b>	<b>588.4640</b>	<b>0.0117</b>	<b>0.0648</b>	<b>608.0737</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Building Construction - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**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	0.0259	0.9665	0.3112	3.6000e-003	0.1171	5.8300e-003	0.1229	0.0337	5.5700e-003	0.0393		379.7286	379.7286	1.3600e-003	0.0565	396.6099
Worker	0.1302	0.0923	0.9391	2.0200e-003	0.2445	1.4100e-003	0.2459	0.0649	1.3000e-003	0.0662		208.7354	208.7354	0.0103	8.2900e-003	211.4638
<b>Total</b>	<b>0.1561</b>	<b>1.0588</b>	<b>1.2503</b>	<b>5.6200e-003</b>	<b>0.3616</b>	<b>7.2400e-003</b>	<b>0.3688</b>	<b>0.0986</b>	<b>6.8700e-003</b>	<b>0.1055</b>		<b>588.4640</b>	<b>588.4640</b>	<b>0.0117</b>	<b>0.0648</b>	<b>608.0737</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</b>

**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	0.0479	0.0354	0.3463	7.1000e-004	0.0833	5.1000e-004	0.0839	0.0221	4.7000e-004	0.0226		72.9580	72.9580	3.8800e-003	3.0500e-003	73.9653
<b>Total</b>	<b>0.0479</b>	<b>0.0354</b>	<b>0.3463</b>	<b>7.1000e-004</b>	<b>0.0833</b>	<b>5.1000e-004</b>	<b>0.0839</b>	<b>0.0221</b>	<b>4.7000e-004</b>	<b>0.0226</b>		<b>72.9580</b>	<b>72.9580</b>	<b>3.8800e-003</b>	<b>3.0500e-003</b>	<b>73.9653</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>	<b>0.0000</b>	<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</b>

**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	0.0479	0.0354	0.3463	7.1000e-004	0.0833	5.1000e-004	0.0839	0.0221	4.7000e-004	0.0226		72.9580	72.9580	3.8800e-003	3.0500e-003	73.9653
<b>Total</b>	<b>0.0479</b>	<b>0.0354</b>	<b>0.3463</b>	<b>7.1000e-004</b>	<b>0.0833</b>	<b>5.1000e-004</b>	<b>0.0839</b>	<b>0.0221</b>	<b>4.7000e-004</b>	<b>0.0226</b>		<b>72.9580</b>	<b>72.9580</b>	<b>3.8800e-003</b>	<b>3.0500e-003</b>	<b>73.9653</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9882</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>		<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**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	0.0444	0.0315	0.3201	6.9000e-004	0.0833	4.8000e-004	0.0838	0.0221	4.4000e-004	0.0226		71.1598	71.1598	3.5200e-003	2.8300e-003	72.0899
<b>Total</b>	<b>0.0444</b>	<b>0.0315</b>	<b>0.3201</b>	<b>6.9000e-004</b>	<b>0.0833</b>	<b>4.8000e-004</b>	<b>0.0838</b>	<b>0.0221</b>	<b>4.4000e-004</b>	<b>0.0226</b>		<b>71.1598</b>	<b>71.1598</b>	<b>3.5200e-003</b>	<b>2.8300e-003</b>	<b>72.0899</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9882</b>	<b>9.5246</b>	<b>14.6258</b>	<b>0.0228</b>		<b>0.4685</b>	<b>0.4685</b>		<b>0.4310</b>	<b>0.4310</b>	<b>0.0000</b>	<b>2,207.547 2</b>	<b>2,207.547 2</b>	<b>0.7140</b>		<b>2,225.396 3</b>

**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	0.0444	0.0315	0.3201	6.9000e-004	0.0833	4.8000e-004	0.0838	0.0221	4.4000e-004	0.0226		71.1598	71.1598	3.5200e-003	2.8300e-003	72.0899
<b>Total</b>	<b>0.0444</b>	<b>0.0315</b>	<b>0.3201</b>	<b>6.9000e-004</b>	<b>0.0833</b>	<b>4.8000e-004</b>	<b>0.0838</b>	<b>0.0221</b>	<b>4.4000e-004</b>	<b>0.0226</b>		<b>71.1598</b>	<b>71.1598</b>	<b>3.5200e-003</b>	<b>2.8300e-003</b>	<b>72.0899</b>



## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 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					
Archit. Coating	10.4453					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>10.6370</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**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	0.0288	0.0212	0.2078	4.3000e-004	0.0500	3.1000e-004	0.0503	0.0133	2.8000e-004	0.0136		43.7748	43.7748	2.3300e-003	1.8300e-003	44.3792
<b>Total</b>	<b>0.0288</b>	<b>0.0212</b>	<b>0.2078</b>	<b>4.3000e-004</b>	<b>0.0500</b>	<b>3.1000e-004</b>	<b>0.0503</b>	<b>0.0133</b>	<b>2.8000e-004</b>	<b>0.0136</b>		<b>43.7748</b>	<b>43.7748</b>	<b>2.3300e-003</b>	<b>1.8300e-003</b>	<b>44.3792</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Architectural Coating - 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					
Archit. Coating	10.4453					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>10.6370</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**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	0.0288	0.0212	0.2078	4.3000e-004	0.0500	3.1000e-004	0.0503	0.0133	2.8000e-004	0.0136		43.7748	43.7748	2.3300e-003	1.8300e-003	44.3792
<b>Total</b>	<b>0.0288</b>	<b>0.0212</b>	<b>0.2078</b>	<b>4.3000e-004</b>	<b>0.0500</b>	<b>3.1000e-004</b>	<b>0.0503</b>	<b>0.0133</b>	<b>2.8000e-004</b>	<b>0.0136</b>		<b>43.7748</b>	<b>43.7748</b>	<b>2.3300e-003</b>	<b>1.8300e-003</b>	<b>44.3792</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 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	10.4453					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
<b>Total</b>	<b>10.6261</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**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	0.0189	0.1921	4.1000e-004	0.0500	2.9000e-004	0.0503	0.0133	2.7000e-004	0.0135		42.6959	42.6959	2.1100e-003	1.7000e-003	43.2540
<b>Total</b>	<b>0.0266</b>	<b>0.0189</b>	<b>0.1921</b>	<b>4.1000e-004</b>	<b>0.0500</b>	<b>2.9000e-004</b>	<b>0.0503</b>	<b>0.0133</b>	<b>2.7000e-004</b>	<b>0.0135</b>		<b>42.6959</b>	<b>42.6959</b>	<b>2.1100e-003</b>	<b>1.7000e-003</b>	<b>43.2540</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 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	10.4453					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
<b>Total</b>	<b>10.6261</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**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	0.0189	0.1921	4.1000e-004	0.0500	2.9000e-004	0.0503	0.0133	2.7000e-004	0.0135		42.6959	42.6959	2.1100e-003	1.7000e-003	43.2540
<b>Total</b>	<b>0.0266</b>	<b>0.0189</b>	<b>0.1921</b>	<b>4.1000e-004</b>	<b>0.0500</b>	<b>2.9000e-004</b>	<b>0.0503</b>	<b>0.0133</b>	<b>2.7000e-004</b>	<b>0.0135</b>		<b>42.6959</b>	<b>42.6959</b>	<b>2.1100e-003</b>	<b>1.7000e-003</b>	<b>43.2540</b>

## Hammon Subdivision Project - Butte County, Winter

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.8880	1.4752	7.8433	0.0125	1.2388	0.0147	1.2534	0.3308	0.0138	0.3446		1,293.6606	1,293.6606	0.1098	0.0853	1,321.8122
Unmitigated	0.8880	1.4752	7.8433	0.0125	1.2388	0.0147	1.2534	0.3308	0.0138	0.3446		1,293.6606	1,293.6606	0.1098	0.0853	1,321.8122

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	20.00	20.00	20.00	35,738	35,738
Single Family Housing	245.44	248.04	222.30	537,452	537,452
Total	265.44	268.04	242.30	573,190	573,190

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Office Building	6.00	6.00	6.00	33.00	48.00	19.00	77	19	4
Single Family Housing	7.30	3.00	7.90	35.00	17.00	48.00	86	11	3

## 4.4 Fleet Mix

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.483154	0.055228	0.190002	0.148740	0.046106	0.008769	0.010590	0.015505	0.000749	0.000411	0.034241	0.001163	0.005341
Single Family Housing	0.483154	0.055228	0.190002	0.148740	0.046106	0.008769	0.010590	0.015505	0.000749	0.000411	0.034241	0.001163	0.005341

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0603	0.5381	0.3866	3.2900e-003		0.0417	0.0417		0.0417	0.0417		657.8343	657.8343	0.0126	0.0121	661.7434
NaturalGas Unmitigated	0.0603	0.5381	0.3866	3.2900e-003		0.0417	0.0417		0.0417	0.0417		657.8343	657.8343	0.0126	0.0121	661.7434

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	lb/day										lb/day					
General Office Building	3879.33	0.0418	0.3803	0.3195	2.2800e-003		0.0289	0.0289		0.0289	0.0289		456.3915	456.3915	8.7500e-003	8.3700e-003	459.1036
Single Family Housing	1712.26	0.0185	0.1578	0.0672	1.0100e-003		0.0128	0.0128		0.0128	0.0128		201.4428	201.4428	3.8600e-003	3.6900e-003	202.6399
<b>Total</b>		<b>0.0603</b>	<b>0.5381</b>	<b>0.3866</b>	<b>3.2900e-003</b>		<b>0.0417</b>	<b>0.0417</b>		<b>0.0417</b>	<b>0.0417</b>		<b>657.8343</b>	<b>657.8343</b>	<b>0.0126</b>	<b>0.0121</b>	<b>661.7434</b>

**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					
General Office Building	3.87933	0.0418	0.3803	0.3195	2.2800e-003		0.0289	0.0289		0.0289	0.0289		456.3915	456.3915	8.7500e-003	8.3700e-003	459.1036
Single Family Housing	1.71226	0.0185	0.1578	0.0672	1.0100e-003		0.0128	0.0128		0.0128	0.0128		201.4428	201.4428	3.8600e-003	3.6900e-003	202.6399
<b>Total</b>		<b>0.0603</b>	<b>0.5381</b>	<b>0.3866</b>	<b>3.2900e-003</b>		<b>0.0417</b>	<b>0.0417</b>		<b>0.0417</b>	<b>0.0417</b>		<b>657.8343</b>	<b>657.8343</b>	<b>0.0126</b>	<b>0.0121</b>	<b>661.7434</b>

**6.0 Area Detail**

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****6.1 Mitigation Measures Area**

No Hearths Installed

	ROG	NOx	CO	SO2	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	4.0695	0.0247	2.1444	1.1000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	3.8629	3.8629	3.7100e-003	0.0000	3.9556
Unmitigated	44.6590	0.7991	52.0571	0.0901		7.0049	7.0049		7.0049	7.0049	731.8411	293.4907	1,025.3318	0.6592	0.0576	1,058.9822



## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.6582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	40.5894	0.7744	49.9127	0.0900		6.9930	6.9930		6.9930	6.9930	731.8411	289.6278	1,021.4689	0.6555	0.0576	1,055.0266
Landscaping	0.0645	0.0247	2.1444	1.1000e-004		0.0119	0.0119		0.0119	0.0119		3.8629	3.8629	3.7100e-003		3.9556
<b>Total</b>	<b>44.6590</b>	<b>0.7991</b>	<b>52.0571</b>	<b>0.0901</b>		<b>7.0049</b>	<b>7.0049</b>		<b>7.0049</b>	<b>7.0049</b>	<b>731.8411</b>	<b>293.4907</b>	<b>1,025.3318</b>	<b>0.6592</b>	<b>0.0576</b>	<b>1,058.9822</b>

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.6582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3468					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0645	0.0247	2.1444	1.1000e-004		0.0119	0.0119		0.0119	0.0119		3.8629	3.8629	3.7100e-003		3.9556
<b>Total</b>	<b>4.0695</b>	<b>0.0247</b>	<b>2.1444</b>	<b>1.1000e-004</b>		<b>0.0119</b>	<b>0.0119</b>		<b>0.0119</b>	<b>0.0119</b>	<b>0.0000</b>	<b>3.8629</b>	<b>3.8629</b>	<b>3.7100e-003</b>	<b>0.0000</b>	<b>3.9556</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Hammon Subdivision Project - Butte County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****8.0 Waste Detail**

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**8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

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**Fire Pumps and Emergency Generators**

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

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

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## **APPENDIX B**

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### Biological Resources Assessment

- B1 – Biological Resources Assessment – Gallaway Enterprises, December 2021
- B2 – Peer Review of Biological Resources Assessment – ECORP Consulting, Inc., June 24, 2022

## **APPENDIX B**

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### Biological Resources Assessment

- **B1 – Biological Resources Assessment – Gallaway Enterprises, December 2021**
- B2 – Peer Review of Biological Resources Assessment – ECORP Consulting, Inc., June 24, 2022

# BIOLOGICAL RESOURCE ASSESSMENT

Terrestrial Wildlife and Botanical Resources

## Hamman Subdivision Project

City of Biggs, California

December 2021



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# BIOLOGICAL RESOURCE ASSESSMENT

## Hamman Subdivision Project

### Project Location:

City of Biggs, Butte County, California  
Section 14, Township 18N Range 2E

## INTRODUCTION

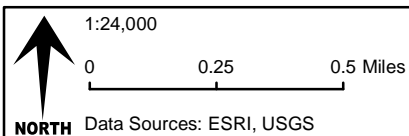
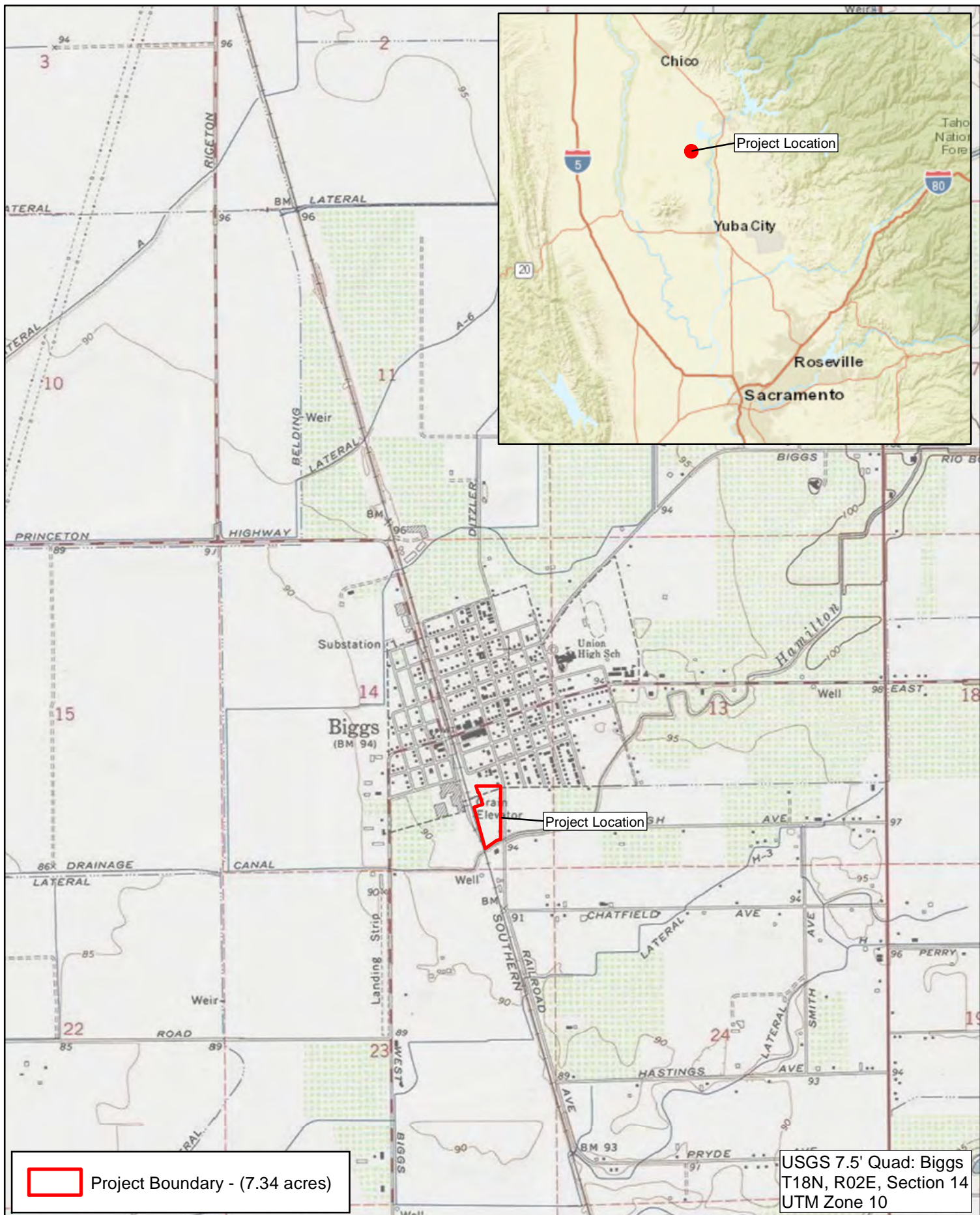
### Purpose and Overview

The purpose of this biological resource assessment (BRA) is to document the endangered, threatened, sensitive, and rare species and their habitats that occur or may occur in the biological survey area (BSA) of the Hamman Subdivision Project (Project) area, located between 6<sup>th</sup> and 8<sup>th</sup> Streets and south of Bannock Street in the City of Biggs, California (**Figure 1**). The Project area is located immediately east of a Union Pacific Railway that bisects the City of Biggs parallel to 8<sup>th</sup> Street. The BSA is approximately 7.34 acres and is currently farmed for agriculture. Residential development is proposed for the Project area.

The BSA is the area where biological surveys are conducted (**Figure 2**) and is limited to the Project boundary where development activities will take place. Gallaway Enterprises conducted biological and botanical habitat assessments within the BSA to evaluate site conditions and potential for biological and botanical species to occur. Other primary references consulted include species lists and information gathered using the United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC), the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB), the California Native Plant Society's (CNPS) inventory of rare and endangered plants, and literature review. The BRA results are the findings of habitat assessments and surveys, and recommendations for avoidance and minimization measures.

### Project Location and Environmental Setting

The BSA is located within the northern Sacramento Valley, 4.5 miles west of the Feather River and northeast of the Sutter Buttes in the City of Biggs. The BSA includes two parcels (Assessor Parcel Numbers: 022-160-091; 001-103-007) at latitude 39.410387, longitude -121.711113, within the "Biggs" 7.5-minute United States Geological Survey (USGS) quadrangle. The surrounding area consists of residential neighborhood, industrial railway, and agricultural land. The property has been heavily disturbed by regular farming activities including tilling, disking, and mowing of grass and weeds. Residential homes occur to the north, east, and south of the BSA. A Union Pacific Railway and industrial property occurs west of the BSA. An unnamed irrigation drainage ditch occurs outside of the BSA, adjacent to the southern boundary. The drainage and its banks are void of vegetation aside from sparse grasses and ruderal weeds, indicating regular vegetation management. The overall topography of the BSA is relatively flat. Soils within the BSA are clay loams with a deep restrictive layer within 20 to 40 inches in depth. The average annual precipitation for the area is 28.61 inches and the average temperature is 62.0° F (WRCC 2021).



Hamman Subdivision Project  
Regional Location  
Figure 1





1:2,000

0 100 200 Feet

NORTH

Data Sources: ESRI, Maxar 03/22/2020

Hamman Subdivision Project  
Biological Survey Area  
Figure 2

**gallaway**  
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GE: #21-124 Map Date: 12/10/2021

## Project Description

The proposed Project would involve the development of residential units within the 7.34-acre site that consists of two parcels that are currently used for agricultural activities.

## METHODS

### References Consulted

Gallaway Enterprises obtained lists of special-status species that occur in the vicinity of the BSA. The CNDDDB, Rarefind 5, was also consulted and showed special-status species within a 5-mile radius of the BSA (**Figure 3**). Other primary sources of information regarding the occurrence of federally listed threatened, endangered, proposed, and candidate species and their habitats within the BSA used in the preparation of this BRA are:

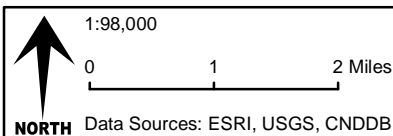
- The USFWS IPaC Official Species List for the Project area, October 25, 2021, Consultation Code 08ESMF00-2022-SLI-0341 (**Appendix A; Species Lists**);
- The results of a species record search of the CDFW CNDDDB, RareFind 5, for the 7.5-minute USGS “West of Biggs (3912147)”, “Biggs (3912146)”, “Palermo (3912145)”, “Pennington (3912137),” and “Gridley (3912136)” quadrangles (**Appendix A; Species Lists**);
- The review of the CNPS Inventory of Rare and Endangered Vascular Plants of California for the 7.5-minute USGS “West of Biggs (3912147)”, “Biggs (3912146)”, “Palermo (3912145)”, “Pennington (3912137),” and “Gridley (3912136)” quadrangles (**Appendix A; Species Lists**);
- USFWS Critical Habitat Portal, October 25, 2021; and
- Results from the habitat assessment conducted by Gallaway Enterprises on October 27, 2021.

### Special-Status Species

Special-status species that have potential to occur in the BSA are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the Federal Endangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
- Listed as a Species of Special Concern (SSC) by CDFW or protected under the California Fish and Game Code (CFGC) (i.e., Fully Protected Species);
- Ranked by the CNPS as 1A, 1B, or 2;
- Protected under the Migratory Bird Treaty Act (MBTA);
- Protected under the Bald and Golden Eagle Protection Act; or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA, §15380).





## Critical Habitat

The ESA requires that critical habitat be designated for all species listed under the ESA. Critical habitat is designated for areas that provide essential habitat elements that enable a species' survival, and which are occupied by the species during the species' listing under the ESA. Areas outside of the species range of occupancy during the time of its listing can also be determined as critical habitat if the agency decides that the area is essential to the conservation of the species.

The USFWS Critical Habitat Portal was accessed on October 25, 2021 to determine if critical habitat occurs within the BSA. Appropriate Federal Registers were also used to confirm the presence or absence of critical habitat.

## Sensitive Natural Communities

Sensitive Natural Communities (SNCs) are monitored by CDFW with the goal of preserving these areas of habitat that are rare or ecologically important. Many SNCs are designated as such because they represent a historical landscape and are typically preserved as valued components of California's diverse habitat assemblage.

## Habitat Assessment

A general habitat assessment was conducted on October 27, 2021 by Gallaway Enterprises Associate Biologist Brittany Reaves (**Figure 4**). Senior Botanist Elena Gregg was consulted on habitat suitability for rare and special-status plant species within the BSA.

The habitat assessment for botanical and wildlife species was conducted to determine the suitable habitat elements for special-status species within the BSA. The habitat assessment was conducted by walking the entire BSA, where accessible, and recording specific habitat types and elements. Potentially suitable habitat for special-status species present within the BSA was evaluated for quality based on vegetation composition and structure, physical features (e.g., soils, elevation), micro-climate, surrounding area, presence of predatory species and available resources (e.g., prey items, nesting substrates), and land use patterns.

## RESULTS

### Dryland Grain Crops

Dryland grain crops do not conform to normal habitat stages or conditions, depending instead upon agricultural crop cycle and type, and habitat conditions are dictated by associated methods of cultivation. Dryland grain crops are located on flat land and often consist of annual row-crops rotating between multiple dry-farmed crops (planted during winter and spring) and sometimes with irrigated crops as well (Mayer and Laudenslayer 1988). The majority of the BSA consists of cropland that has been farmed extensively; most of the site was heavily disturbed and had been disked and tilled, with minimal vegetative growth of ruderal weeds. The disturbed agricultural fields provide foraging opportunities for birds and raptors such as red-tailed hawk (*Buteo jamaicensis*), American robin (*Turdus migratorius*), house finch (*Haemorrhous mexicanus*), and many others, and provides potentially suitable nesting habitat for ground-nesting species such as killdeer (*Charadrius vociferous*).





1:1,600

0 100 200 Feet

NORTH

Data Sources: ESRI, Maxar 03/22/2020

# Hamman Subdivision Project Habitat Types Figure 4

**gallaway**  
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GE: #21-124 Map Date: 12/10/2021

## Annual Grassland

Disturbed annual grassland habitat occurs along the edges of the BSA in areas that are not regularly disturbed by agricultural disking and tilling. The small areas of annual grassland that occur within the BSA had been mowed prior to the field visit. Vegetation within this disturbed grassland community is primarily composed of annual ruderals and weeds such as medusahead (*Elymus caput-medusae*), wild oats (*Avena barbata*), soft chess (*Bromus hordeaceus*), wild radish (*Raphanus raphanistrum*), perennial rye-grass (*Festuca perennis*), hawkbit (*Leontodon saxatilis*), rip-gut brome (*Bromus diandrus*), prickly lettuce (*Lactuca serriola*), and yellow star-thistle (*Centaurea solstitialis*). Wildlife species use grassland habitat for foraging, but usually require some other habitat characteristic such as rocky outcroppings, cliffs, caves, or ponds to find shelter and cover for escapement. Common species that are found breeding in this habitat type include a variety of ground-nesting avian species and small mammals and reptiles (Mayer and Laudenslayer 1988).

## Critical Habitat

There is no critical habitat within or adjacent to the BSA.

## Sensitive Natural Communities

No SNCs occur within the BSA.

## Special-Status Species

A summary of special-status species assessed for potential occurrence within the BSA based on the USFWS, IPAC species list, CNDDDB, and the CNPS list of rare and endangered plants within the “West of Biggs (3912147)”, “Biggs (3912146)”, “Palermo (3912145)”, “Pennington (3912137)” and “Gridley (3912136)” USGS 7.5 minute quadrangles, and their potential to occur within the BSA are described in **Table 1**. Potential for occurrence was determined by reviewing database queries from federal and state agencies, performing field visits, and evaluating habitat characteristics.

**Table 1. Special-status species and sensitive natural communities and their potential to occur in the BSA of the Hamman Subdivision Project, the City of Biggs, Butte County, CA**

Common Name ( <i>Scientific Name</i> )	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence
<b>SENSITIVE NATURAL COMMUNITIES</b>			
Northern Hardpan Vernal Pool	_ /SNC/_	Vernal Pool.	<u>None</u> . There are no Hardpan Vernal Pools within the BSA.
Great Valley Cottonwood Riparian Forest	_ /SNC/_	Riparian forest.	<u>None</u> . There is no Great Valley Cottonwood Riparian Forest within the BSA.
Great Valley Mixed Riparian Forest	_ /SNC/_	Riparian forest.	<u>None</u> . There is no Great Valley Mixed Riparian Forest within the BSA.



Common Name ( <i>Scientific Name</i> )	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence
<b>SENSITIVE NATURAL COMMUNITIES</b>			
<b>Great Valley Oak Riparian Forest</b>	_/_SNC/_	Riparian forest.	<u>None</u> . There is no Great Valley Oak Riparian Forest within the BSA.
<b>PLANTS</b>			
<b>Ahart's dwarf rush</b> ( <i>Juncus leiospermus</i> var. <i>ahartii</i> )	_/_1B.2	Edges of vernal pools in Valley & foothill grassland. (BP: Mar-May)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Baker's navarretia</b> ( <i>Navarretia leucocephala</i> ssp. <i>bakeri</i> )	_/_1B.1	Vernal pools and swales; adobe or alkaline soils. (BP: Apr- Jul)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Brazilian watermeal</b> ( <i>Wolffia brasiliensis</i> )	_/_2B.3	Shallow freshwater marshes. (BP: Apr – Dec)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>California alkali grass</b> ( <i>Puccinellia simplex</i> )	_/_1B.2	Alkaline and vernal mesic sinks, flats and lake margins in chenopod scrub and valley and foothill grassland habitat. (BP: Mar – May)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Ferris' milk-vetch</b> ( <i>Astragalus tener</i> var. <i>ferrisiae</i> )	_/_1B.1	Meadow & seeps, and subalkaline flats in valley & foothill grassland. Often on dry adobe soils. (Blooming Period [BP]: Apr – May)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Greene's tuctoria</b> ( <i>Tuctoria greenei</i> )	FE/_1B.1	Vernal pools in open grasslands. (BP: May - Jul/Sep)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Heartscale</b> ( <i>Atriplex cordulata</i> var. <i>cordulata</i> )	_/_1B.2	Alkaline flats and scalds in chenopod scrub and valley and foothill grassland habitat. Typically sandy soils. (BP: Apr – Oct)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Lesser saltscale</b> ( <i>Atriplex minuscula</i> )	_/_1B.2	Alkaline vernal pools. (BP: Jun, Aug – Oct)	<u>None</u> . There is no suitable habitat present within the BSA.

Common Name ( <i>Scientific Name</i> )	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence
<b>PLANTS</b>			
<b>Pink creamsacs</b> ( <i>Castilleja rubicundula</i> var. <i>rubicundula</i> )	_/_/1B.2	Seeps and mesic area in serpentine soils. (BP: Apr-Jun)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Pappose tarplant</b> ( <i>Centromadia parryi</i> ssp. <i>parryi</i> )	_/_/1B.2	Vernally mesic, often alkaline sites in chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. (BP: May – Nov)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Sanford's arrowhead</b> ( <i>Sagittaria sanfordii</i> )	_/_/1B.2	In standing or slow- moving freshwater ponds, marshes, and ditches. (BP: May – Oct [Nov])	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Slender Orcutt grass</b> ( <i>Orcuttia tenuis</i> )	FT/SE/1B.1	In gravelly substrate associated with vernal pool and wetlands. (BP: May – Sep/Oct)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Subtle orache</b> ( <i>Atriplex subtilis</i> )	_/_/1B.2	Alkaline soils within valley foothill grasslands. (BP: Apr/Jun – Sep/Oct)	<u>None</u> . There is no suitable habitat present within the BSA – alkaline soils are not present.
<b>Water star-grass</b> ( <i>Heteranthera dubia</i> )	_/_/2B.2	Freshwater aquatic habitat such as rivers and lakes. (BP: Jul – Oct)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Woolly rose-mallow</b> ( <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> )	_/_/1B.2	Moist, freshwater-soaked riverbanks & low peat islands in sloughs; can also occur on riprap and levees. (BP: Jun – Sep)	<u>None</u> . There is no suitable habitat present within the BSA.

Common Name ( <i>Scientific Name</i> )	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence
<b>INVERTEBRATES</b>			
<b>Monarch butterfly</b> ( <i>Danaus plexippus</i> )	FC/_/_	Egg and larval stage dependent upon milkweed. Adults migrate seasonally, amassing in in dense tree canopy, e.g., eucalyptus.	<u>None</u> . There is no suitable habitat or milkweed host plants present within the BSA.
<b>Valley elderberry longhorn beetle</b> ( <i>Desmocerus californicus dimorphus</i> )	FT/_/_	Blue elderberry shrubs; usually associated with riparian areas.	<u>None</u> . No blue elderberry shrubs were observed within the BSA.
<b>Vernal pool fairy shrimp</b> ( <i>Branchinecta lynchi</i> )	FT/_/_	Vernal pools and seasonally ponded areas.	<u>None</u> . There is no vernal pool habitat or features with suitable hydrology within the BSA.
<b>Vernal pool tadpole shrimp</b> ( <i>Lepidurus packardii</i> )	FE/_/_	Deep vernal pools.	<u>None</u> . There is no vernal pool habitat within the BSA.
<b>FISH</b>			
There is no potential within the BSA for any special-status fish species due to the lack of aquatic features. There will be no effect to delta smelt ( <i>Hypomesus transpacificus</i> ), Central Valley Distinct Population Segment (DPS) steelhead ( <i>Oncorhynchus mykiss irideus</i> ), Central Valley spring-run Chinook salmon ( <i>Oncorhynchus tshawytscha</i> ) or any other federally or State listed fish species.			
<b>AMPHIBIANS</b>			
<b>California tiger salamander</b> Central California DPS ( <i>Ambystoma californiense</i> )	FT/ST/_	Underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	<u>None</u> . There is no suitable habitat present within the BSA.
<b>California red-legged frog</b> ( <i>Rana draytonii</i> )	FT/SSC/_	Streams with consistent flow, slow side waters with cobble and boulders for oviposition.	<u>None</u> . There is no suitable habitat present within the BSA. California red-legged frog has been extirpated from the Central Valley floor since the 1960s (USFWS 2002).

Common Name ( <i>Scientific Name</i> )	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence
<b>AMPHIBIANS</b>			
<b>Western spadefoot</b> ( <i>Spea hammondi</i> )	_/SSC/_	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Open, intermittent pools are essential for breeding (January through May).	<u>None</u> . There is no suitable habitat present within the BSA.
<b>REPTILES</b>			
<b>Giant garter snake</b> ( <i>Thamnophis gigas</i> )	FT/ST/_	Prefers freshwater marsh and low gradient streams. Has adapted to rice paddies, drainage canals, and irrigation ditches.	<u>None</u> . CNDDDB occurrence (#347) records this species as having been found in 2014 in the drainage adjacent to the southern boundary of the BSA. Because of the lack of aquatic features and absence of suitable upland habitat due to continuous agricultural disturbance, there is no suitable habitat present within the BSA.
<b>Western pond turtle</b> ( <i>Emys marmorata</i> )	_/SSC/_	Perennial bodies of water with deep pools, locations for haul out, and locations for oviposition.	<u>None</u> . There is no suitable habitat present within the BSA.
<b>BIRDS</b>			
<b>Bald eagle</b> ( <i>Haliaeetus leucophaea</i> )	_/SE, FP/_	Coasts, large lakes, and river systems with open forests featuring large trees and snags.	<u>None</u> . There is no suitable nesting habitat within the BSA.
<b>Bank swallow</b> ( <i>Riparia riparia</i> )	_/ST/_	Requires vertical banks and cliffs with fine-textured, sandy soils near streams, rivers, lakes, or ocean to dig nesting hole.	<u>None</u> . There is no suitable nesting habitat within the BSA.

Common Name ( <i>Scientific Name</i> )	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence
<b>BIRDS</b>			
<b>Burrowing owl</b> ( <i>Athene cunicularia</i> )	_/SSC/_	Grasslands or openings with friable soils, rodent burrows, or man-made structures (e.g., culverts, debris piles).	<u>None</u> . The BSA is regularly disked; no suitable mammal burrows or habitat features occur within the BSA.
<b>California black rail</b> ( <i>Laterallus jamaicensis coturniculus</i> )	_/ST, FP/_	Brackish and fresh emergent wetlands with dense vegetation (bulrushes and cattails).	<u>None</u> . There is no suitable habitat within the BSA.
<b>Greater sandhill crane</b> ( <i>Antigone canadensis tabida</i> )	_/ST, FP/_	Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within 4 miles of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.	<u>None</u> . The BSA is not within breeding range for this species.
<b>Northern harrier</b> ( <i>Circus hudsonius</i> )	_/SSC/_	Marshes, wetlands, and grasslands. Ground-nesting among tall grasses or shrubs.	<u>None</u> . There is no suitable habitat within the BSA.
<b>Swainson's hawk</b> ( <i>Buteo swainsoni</i> )	_/ST/_	Favors open grasslands and prairies for foraging. Prefers mature trees in riparian areas for nesting habitat.	<u>None</u> . There is no suitable nesting habitat within the BSA and no recorded active nests within 10 miles.
<b>Tricolored blackbird</b> ( <i>Agelaius tricolor</i> )	_/ST/_	Colonial nester in large freshwater marshes. Does most of its foraging in open habitats such as farm fields, pastures, cattle pens, large lawns.	<u>None</u> . There is no suitable nesting habitat within or adjacent to the BSA.

Common Name ( <i>Scientific Name</i> )	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence
<b>BIRDS</b>			
<b>Yellow-billed cuckoo</b> Western U.S. DPS ( <i>Coccyzus americanus occidentalis</i> )	FT/SE/_	Nests in dense riparian forests that occur in patch sizes of 25 acres or greater with a width of at least 330 feet.	<u>None</u> . There is no suitable habitat within the BSA.
<b>MAMMALS</b>			
<b>American badger</b> ( <i>Taxidea taxus</i> )	_/SSC/_	Habitat generalist including valley and foothill grasslands with friable soil and an abundance of rodent prey.	<u>None</u> : There is no suitable habitat within the BSA.
<b>Townsend's big-eared bat</b> ( <i>Corynorhinus townsendii</i> )	_/SSC/_	Roost in caves and cave-like cavities, occasionally in bridges.	<u>None</u> : There is no suitable habitat within the BSA.
<b>Western mastiff bat</b> ( <i>Eumops perotis californicus</i> )	_/SSC/_	Roosts in crevices on cliff faces, rock outcrops with a minimum 2-meter drop-off, bridges, and buildings.	<u>None</u> : There is no suitable habitat within the BSA.

<b>CODE DESIGNATIONS</b>	
<b>FE or FT</b> = Federally listed as Endangered or Threatened <b>FC</b> = Federal Candidate Species  <b>SE or ST</b> = State Listed as Endangered or Threatened <b>SC</b> = State Candidate Species <b>SSC</b> = State Species of Special Concern <b>FP</b> = State Fully Protected Species <b>SNC</b> = CDFW Sensitive Natural Community	<b>CNPS California Rare Plant Rank (CRPR):</b> <b>CRPR 1B</b> = Rare or Endangered in California or elsewhere <b>CRPR 2</b> = Rare or Endangered in California, more common elsewhere <b>CRPR 3</b> = More information is needed <b>CRPR 4</b> = Plants with limited distribution  <b>0.1</b> = Seriously Threatened <b>0.2</b> = Fairly Threatened <b>0.3</b> = Not very Threatened
<p><b>Potential for Occurrence:</b> for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, or over-winter in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential occurrence. The categories for the potential for occurrence include:</p> <p><b>None:</b> The species or natural community is known not to occur and has no potential to occur in the BSA based on sufficient surveys, the lack suitable habitat, and/or the BSA is well outside of the known distribution of the species.</p>	

**Low:** Potential habitat in the BSA is sub-marginal and/or the species is known to occur in the vicinity of the BSA.

**Moderate:** Suitable habitat is present in the BSA and/or the species is known to occur in the vicinity of the BSA. Pre-construction surveys may be required.

**High:** Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed. Pre-construction surveys required, except for indicators for foraging habitat.

**Known:** Species was detected in the BSA, or a recent reliable record exists for the BSA.

### **Endangered, Threatened, and Rare Plants**

The land within the BSA is regularly disturbed by agricultural practices including tilling, disking, and mowing. Due to the regular disturbance, maintenance, and farming of the land within the BSA and the lack of suitable habitat components, there is no potential for special-status botanical species to occur within the BSA.

No suitable habitat was observed for any species-status plant species included in **Table 1** during the habitat assessment conducted on October 27, 2021.

### **Endangered, Threatened, and Special-status Wildlife**

A wildlife habitat assessment was conducted within the BSA on October 27, 2021. Potentially suitable habitat was identified for ground-nesting avian species protected under the MBTA.

#### **Migratory Birds and Raptors**

Nesting birds are protected under the MBTA (16 USC 703) and the CFGC (§3503). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

#### **CNDDDB Occurrences**

The majority of migratory birds and raptors protected under the MBTA and CFGC are not recorded on the CNDDDB because they are abundant and widespread.

#### **Status of Migratory Birds and Raptors occurring in the BSA**

There is potentially suitable habitat for ground-nesting avian species throughout the BSA.

## **REGULATORY FRAMEWORK**

The following describes federal, state, and local environmental laws and policies that may be relevant if the BSA were to be developed or modified.

### **Federal**

#### **Federal Endangered Species Act**

The United States Congress passed the ESA in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as either “endangered” or “threatened.” Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are eligible for listing as endangered or threatened. The USFWS also maintains a list of “candidate” species. Candidate species are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. “Proposed” species are those that have been proposed for listing but have not yet been listed.

The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

#### **Migratory Bird Treaty Act**

The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31 in the Central Valley). If vegetation removal or ground disturbance activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA present in the construction area prior to commencement of construction. If active nests are located or presumed present, then appropriate avoidance measures (e.g., spatial or temporal buffers) must be implemented.



## **State of California**

### **California Endangered Species Act**

The California Endangered Species Act (CESA) is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the California Environmental Quality Act (CEQA). The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, “species of special concern” receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

### **California Fish and Game Code (§3503.5)**

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes; or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

### **Rare and Endangered Plants**

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS California Rare Plant Rank (CRPR) plants receive consideration under CEQA review. The CNPS CRPR categorizes plants as follows:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2A: Plants presumed extirpated or extinct in California, but not elsewhere;
- Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and game Code §1913 exempts from the ‘take’ prohibition “the removal of endangered or rare native plants from a canal, lateral channel, building site, or road, or other right of way.”

### **California Environmental Quality Act Guidelines §15380**

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g., candidate species, Species of Special Concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Endangered, Threatened, and Rare Plants**

There is no suitable habitat for special-status botanical species; therefore, there will be no effects to botanical species and no avoidance and minimization measures are proposed.

### **Endangered, Threatened, and Special-status Wildlife**

#### **Migratory Birds and Raptors**

To avoid impacts to avian species protected under the MBTA and the CFGC, the following avoidance and minimization measures are recommended:

- Project activities, including site grubbing and vegetation removal, shall be initiated outside of the bird-nesting season (February 1 – August 31).
- If Project activities cannot be initiated outside of the bird-nesting season, then the following will occur:
  - A qualified biologist will conduct a pre-construction survey within 250 feet of the BSA, where accessible, within 7 days prior to the start of Project activities.
  - If an active nest (i.e., containing egg[s] or young) is observed within the BSA or in an area adjacent to the BSA where impacts could occur, then a species protection buffer will be established. The species protection buffer will be defined by a qualified biologist based on the species, nest type, and tolerance to disturbance. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails as determined by a qualified biologist. Nests shall be monitored by a qualified biologist once per week and a report submitted to the CEQA lead agency weekly.

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## LIST OF PREPARERS

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# Appendix A

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Species Lists



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

November 10, 2021

Consultation Code: 08ESMF00-2022-SLI-0341

Event Code: 08ESMF00-2022-E-01041

Project Name: Hamman Subdivision Project

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, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) 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 Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

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>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

[www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html).

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

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 Tracking Number 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:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

---



## Project Summary

Consultation Code: 08ESMF00-2022-SLI-0341

Event Code: Some(08ESMF00-2022-E-01041)

Project Name: Hamman Subdivision Project

Project Type: DEVELOPMENT

Project Description: Construction of residential units.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.4091315,-121.71047880881574,14z>



Counties: Butte County, California

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## Endangered Species Act Species

There is a total of 9 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<sup>1</sup>, 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.

- 
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.

## Birds

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a>	Threatened

## Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

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## Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

## Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a>	Threatened

## Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## Flowering Plants

NAME	STATUS
Greene's Tuctoria <i>Tuctoria greenei</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/1573">https://ecos.fws.gov/ecp/species/1573</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



# Selected Elements by Common Name

## California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad (West of Biggs (3912147) OR Biggs (3912146) OR Palermo (3912145) OR Pennington (3912137) OR Gridley (3912136))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>Ahart's dwarf rush</b> <i>Juncus leiospermus</i> var. <i>ahartii</i>	PMJUN011L1	None	None	G2T1	S1	1B.2
<b>American badger</b> <i>Taxidea taxus</i>	AMAJF04010	None	None	G5	S3	SSC
<b>Baker's navarretia</b> <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	PDPLM0C0E1	None	None	G4T2	S2	1B.1
<b>bald eagle</b> <i>Haliaeetus leucocephalus</i>	ABNKC10010	Delisted	Endangered	G5	S3	FP
<b>bank swallow</b> <i>Riparia riparia</i>	ABPAU08010	None	Threatened	G5	S2	
<b>Brazilian watermeal</b> <i>Wolffia brasiliensis</i>	PMLEM03020	None	None	G5	S2	2B.3
<b>burrowing owl</b> <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
<b>California alkali grass</b> <i>Puccinellia simplex</i>	PMPOA53110	None	None	G3	S2	1B.2
<b>California black rail</b> <i>Laterallus jamaicensis coturniculus</i>	ABNME03041	None	Threatened	G3G4T1	S1	FP
<b>California linderiella</b> <i>Linderiella occidentalis</i>	ICBRA06010	None	None	G2G3	S2S3	
<b>California tiger salamander - central California DPS</b> <i>Ambystoma californiense</i> pop. 1	AAAAA01181	Threatened	Threatened	G2G3	S3	WL
<b>chinook salmon - Central Valley spring-run ESU</b> <i>Oncorhynchus tshawytscha</i> pop. 11	AFCHA0205L	Threatened	Threatened	G5T1T2Q	S2	
<b>Ferris' milk-vetch</b> <i>Astragalus tener</i> var. <i>ferrisiae</i>	PDFAB0F8R3	None	None	G2T1	S1	1B.1
<b>giant gartersnake</b> <i>Thamnophis gigas</i>	ARADB36150	Threatened	Threatened	G2	S2	
<b>Great Valley Cottonwood Riparian Forest</b> <i>Great Valley Cottonwood Riparian Forest</i>	CTT61410CA	None	None	G2	S2.1	
<b>Great Valley Mixed Riparian Forest</b> <i>Great Valley Mixed Riparian Forest</i>	CTT61420CA	None	None	G2	S2.2	
<b>Great Valley Valley Oak Riparian Forest</b> <i>Great Valley Valley Oak Riparian Forest</i>	CTT61430CA	None	None	G1	S1.1	
<b>greater sandhill crane</b> <i>Antigone canadensis tabida</i>	ABNMK01014	None	Threatened	G5T5	S2	FP
<b>Greene's tuctoria</b> <i>Tuctoria greenei</i>	PMPOA6N010	Endangered	Rare	G1	S1	1B.1



# Selected Elements by Common Name

## California Department of Fish and Wildlife

### California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>heartscale</b> <i>Atriplex cordulata</i> var. <i>cordulata</i>	PDCHE040B0	None	None	G3T2	S2	1B.2
<b>lesser saltscale</b> <i>Atriplex minuscula</i>	PDCHE042M0	None	None	G2	S2	1B.1
<b>merlin</b> <i>Falco columbarius</i>	ABNKD06030	None	None	G5	S3S4	WL
<b>North American porcupine</b> <i>Erethizon dorsatum</i>	AMAFJ01010	None	None	G5	S3	
<b>Northern Hardpan Vernal Pool</b> <i>Northern Hardpan Vernal Pool</i>	CTT44110CA	None	None	G3	S3.1	
<b>northern harrier</b> <i>Circus hudsonius</i>	ABNKC11011	None	None	G5	S3	SSC
<b>pappose tarplant</b> <i>Centromadia parryi</i> ssp. <i>parryi</i>	PDAST4R0P2	None	None	G3T2	S2	1B.2
<b>pink creamsacs</b> <i>Castilleja rubicundula</i> var. <i>rubicundula</i>	PDSCR0D482	None	None	G5T2	S2	1B.2
<b>Sanford's arrowhead</b> <i>Sagittaria sanfordii</i>	PMALI040Q0	None	None	G3	S3	1B.2
<b>silver-haired bat</b> <i>Lasionycteris noctivagans</i>	AMACC02010	None	None	G3G4	S3S4	
<b>slender Orcutt grass</b> <i>Orcuttia tenuis</i>	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
<b>steelhead - Central Valley DPS</b> <i>Oncorhynchus mykiss irideus</i> pop. 11	AFCHA0209K	Threatened	None	G5T2Q	S2	
<b>subtle orache</b> <i>Atriplex subtilis</i>	PDCHE042T0	None	None	G1	S1	1B.2
<b>Swainson's hawk</b> <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
<b>Townsend's big-eared bat</b> <i>Corynorhinus townsendii</i>	AMACC08010	None	None	G4	S2	SSC
<b>tricolored blackbird</b> <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<b>valley elderberry longhorn beetle</b> <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T2	S3	
<b>vernal pool fairy shrimp</b> <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	
<b>vernal pool tadpole shrimp</b> <i>Lepidurus packardii</i>	ICBRA10010	Endangered	None	G4	S3S4	
<b>water star-grass</b> <i>Heteranthera dubia</i>	PMPON03010	None	None	G5	S2	2B.2
<b>western mastiff bat</b> <i>Eumops perotis californicus</i>	AMACD02011	None	None	G4G5T4	S3S4	SSC



Selected Elements by Common Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>western pond turtle</b> <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
<b>western ridged mussel</b> <i>Gonidea angulata</i>	IMBIV19010	None	None	G3	S1S2	
<b>western spadefoot</b> <i>Spea hammondi</i>	AAABF02020	None	None	G2G3	S3	SSC
<b>western yellow-billed cuckoo</b> <i>Coccyzus americanus occidentalis</i>	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<b>woolly rose-mallow</b> <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	PDMAL0H0R3	None	None	G5T3	S3	1B.2

Record Count: 45

Search Results

22 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3912147:3912146:3912145:3912137:3912136]

SCIENTIFIC NAME	▲ COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK
<a href="#">Juncus leiospermus var. ahartii</a>	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	None	None	1B.2
<a href="#">Navarretia leucocephala ssp. bakeri</a>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	1B.1
<a href="#">Wolffia brasiliensis</a>	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr-Dec	None	None	2B.3
<a href="#">Leptosiphon acicularis</a>	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	4.2
<a href="#">Puccinellia simplex</a>	California alkali grass	Poaceae	annual herb	Mar-May	None	None	1B.2
<a href="#">Smilax jamesii</a>	English Peak greenbrier	Smilacaceae	perennial rhizomatous herb	May-Jul(Aug-Oct)	None	None	4.2
<a href="#">Astragalus tener var. ferrisiae</a>	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	1B.1
<a href="#">Tuctoria greenei</a>	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	1B.1
<a href="#">Atriplex cordulata var. cordulata</a>	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	1B.2
<a href="#">Hesperevax caulescens</a>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	4.2
<a href="#">Atriplex minuscula</a>	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	1B.1
<a href="#">Azolla microphylla</a>	Mexican mosquito fern	Azollaceae	annual/perennial herb	Aug	None	None	4.2
<a href="#">Centromadia parryi ssp. parryi</a>	pappose tarplant	Asteraceae	annual herb	May-Nov	None	None	1B.2
<a href="#">Centromadia parryi ssp. rudis</a>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	4.2
<a href="#">Castilleja rubicundula var. rubicundula</a>	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	None	None	1B.2
<a href="#">Sagittaria sanfordii</a>	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	1B.2
<a href="#">Orcuttia tenuis</a>	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	1B.1
<a href="#">Atriplex subtilis</a>	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	1B.2
<a href="#">Heteranthera dubia</a>	water star-grass	Pontederiaceae	perennial herb (aquatic)	Jul-Oct	None	None	2B.2
<a href="#">Plagiobryoides vinosula</a>	wine-colored tufa moss	Bryaceae	moss		None	None	4.2
<a href="#">Limnanthes floccosa ssp. floccosa</a>	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	None	None	4.2

<a href="#"><u>Hibiscus lasiocarpus var. occidentalis</u></a>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	1B.2
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Showing 1 to 22 of 22 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website <https://www.rareplants.cnps.org> [accessed 10 November 2021].

CONTACT US

Send questions and comments to [rareplants@cnps.org](mailto:rareplants@cnps.org).



Developed by  
**Rincon Consultants, Inc.**

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CONTRIBUTORS

- [The Calflora Database](#)
- [The California Lichen Society](#)
- [California Natural Diversity Database](#)
- [The Jepson Flora Project](#)
- [The Consortium of California Herbaria](#)
- [CalPhotos](#)



## Appendix B

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Project Site Photos Taken October 27, 2021

**Project Site Photos**  
(Taken October 27, 2021)



View north of the BSA from the southeast of the Project boundary.



View west of wetted drainage located south of the BSA.



View of the southeast corner of the BSA; mowed grass.



View of dead shrubs and ruderals; only vegetation present within the BSA.



View east from the center of the BSA.

## **APPENDIX B**

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### Biological Resources Assessment

- B1 – Biological Resources Assessment – Gallaway Enterprises, December 2021
- **B2 – Peer Review of Biological Resources Assessment – ECORP Consulting, Inc., June 24, 2022**



June 24, 2022

Mark Sorensen, Planning Director  
City of Biggs, Planning Department  
465 C Street, P.O. Box 307  
Biggs, California 95917

**RE: *Peer Review of Biological Resources Assessment for the Proposed Kory Hamman Tentative Subdivision Map Project, City of Biggs, Butte County, California***

Dear Mr. Sorensen,

At your request, ECORP Consulting, Inc. conducted a peer review of the report entitled, *Biological Resources Assessment for Terrestrial Wildlife and Botanical Resources for the Hamman Subdivision Project, City of Biggs, California*, prepared by Gallaway Enterprises of Chico, California (report). The purpose of the report was to document the endangered, threatened, sensitive, and rare species and their habitats that occur or may occur in the biological survey area (BSA) of the Hamman Subdivision Project (Project) area. The report results are the findings of habitat assessments and surveys, and recommendations for avoidance and minimization measures.

Mr. Keith Kwan reviewed the report. Mr. Kwan has more than 30 years of professional biological resources technical experience and serves as a Senior Biologist for ECORP.

ECORP's review indicates that a biological resources investigation was conducted for a 7.34-acre parcel located in the city of Biggs, Butte County, California. A general habitat assessment was conducted on October 27, 2021. The report, dated December 2021, describes the report purpose and overview, Project setting, Project description, methods and results, regulatory framework, conclusions, recommendations, and references. It is well-written and contains the requisite content and regulatory background to support CEQA compliance. The following comments are offered to allow the parties to assess risk and revise as they feel appropriate.

## COMMENTS

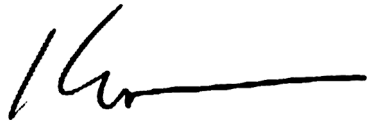
- The report indicates that the potential for occurrence of Swainson's hawk is "None. There is no suitable nesting habitat within the BSA and no recorded active nests within 10 miles." ECORP agrees that there is no suitable nesting habitat onsite due to an absence of larger trees. However, Figure 3 depicts several Swainson's hawk CNDDDB occurrences in the 5-mile search buffer, including a nesting territory at the Oroville Wildlife Area, approximately 4 to 5 miles east of the Project, last documented in 2015. Also, eBird, the citizen science project developed by Cornell University, has numerous Swainson's hawk observations in the Project vicinity. Based on the available occurrence information, ECORP's assessment is that there is at least a low potential for active Swainson's hawk nests to occur within a 0.5-mile radius of the Project site. There is also a potential for the agricultural lands onsite to be used as Swainson's hawk foraging habitat.

- ECORP recommends further information be provided to support an evaluation of the significance of the agricultural lands onsite as potential Swainson's hawk foraging habitat. Information pertinent to this evaluation may include a discussion of adjacent land uses, existing levels of noise and human disturbance, and location of the site with respect to nearby areas of more suitable foraging habitat.
- The recommended avoidance and minimization measures in the report address avian species, in general, protected under the Migratory Bird Treaty Act and California Fish and Game Code. ECORP recommends including an avoidance and minimization measure referencing the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) for Swainson's Hawk surveys.

Overall, ECORP believes the Project Area has been well characterized for the purposes of preparing the CEQA documentation. The information presented does not indicate a potential for significant and unavoidable impacts to biological resources. The addition of information addressing the comments above may strengthen the analysis, facilitate regulatory compliance, and help avoid potential challenges to the Proposed Project.

If you have any questions, please contact Seth Myers [smyers@ecorpconsulting.com, (530) 717-7600] or me [kkwan@ecorpconsulting.com, (916) 782-9100].

Sincerely,

A handwritten signature in black ink, appearing to read 'Kwan', followed by a long horizontal line.

Keith Kwan  
Senior Biologist

## **APPENDIX C**

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### Records Search



# California Historical Resources Information System

BUTTE  
GLENN  
LASSEN  
MODOC  
PLUMAS  
SHASTA

SIERRA  
SISKIYOU  
SUTTER  
TEHAMA  
TRINITY

Northeast Information Center  
1074 East Avenue, Suite F  
Chico, California 95926  
Phone (530) 898-6256  
*neinfoctr@csuchico.edu*

April 12, 2022

Kory Hamman  
1791 Hwy 99  
Gidley, CA 95948

## IC File # D22-104 Non-Confidential Records Search

RE: 6<sup>th</sup> Street Subdivision // APN 001-103-007 & 022-160-091  
T18N, R2E, Section 14 MDBM  
USGS Biggs 7.5' (1970) & Gridley 15' (1952) quadrangle maps  
8.26 acres (Butte County)

Dear Mr. Hamman,

In response to your request, a records search for the project cited above was conducted by examining the official maps and records for cultural resources and surveys in Butte County. Please note that use of the term cultural resources includes both archaeological sites and historical buildings and/or structures.

### Results:

**Archaeological Resources:** According to our records, no resources of this type have been recorded within the project. In addition, no resources have been recorded within the ¼-mile vicinity. Unrecorded prehistoric and/or historic archaeological resources may be located within the project area.

**Historic Properties:** According to our records, no resources of this type have been recorded within or adjacent to the project boundaries. The Built Environment Resources Directory (BERD), which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places, lists no properties within or adjacent to the project area. The BERD is available online at: [https://ohp.parks.ca.gov/?page\\_id=30338](https://ohp.parks.ca.gov/?page_id=30338)

The USGS Biggs 7.5' (1970) & Gridley 15' (1952) quadrangle maps indicate archaeological sensitive regions within the project area such as a canal, grain elevator, structures, foundations,

and roads. Additional structures, foundations, and roads, as well as a well are located in the general project vicinity. If present, these unrecorded resources may be of historical value.

The project is located in a region utilized by the Konkow populations at the time of Euro-American contact. Indigenous populations used the local region for seasonal and/or permanent settlement, as well as for the gathering of plants, roots, seeds, domestic materials, and hunting seasonal game.

**Previous Investigations:** According to our records, the project area has been previously surveyed for cultural resources.

Arrington, Cindy and Bryon Bass (SWCA)

2006 *Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California.*

**NEIC Report NEIC-007362**

Nelson, Wendy J., Maureen Carpenter, and Kimberley L. Holanda (Far Western Anthropological Research Group)

2000 *Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project: Segment WPO4: Sacramento to Redding.*

**NEIC Report NEIC-004658**

**Literature Search:** The official records and maps for archaeological sites and surveys in Butte County were reviewed. Also reviewed: **National Register of Historic Places - Listed properties and Determined Eligible Properties** (2012); **California Register of Historical Resources** (2012); **California Points of Historical Interest** (2012); **California Inventory of Historic Resources** (1976); **California Historical Landmarks** (2012); **Built Environment Resource Directory** (2020); and **Handbook of North American Indians, Vol. 8, California** (1978).

## **Sensitivity Assessment and Recommendations:**

Based upon the above information and the local topography, the project is located in an area considered to be low sensitive for cultural resources. Portions of the project along existing sites, roads, and trails are sensitive for archaeological resources. Other areas of sensitivity include flats near rivers, creeks, streams, springs, and seeps.

Therefore, because the project area has not been surveyed within the last ten years for cultural resources, we recommend that a professional archaeologist be contacted prior to any ground disturbance. The project consultant can offer recommendations for avoidance and protection of any existing or newly identified resources. If the proposed project contains buildings or structures that meet the minimum age requirement (45 years in age or older) it is recommended that the resources be assessed by a qualified specialist familiar with architecture and history of the county. Review of the available historic building/structure data has included only those sources listed above and should not be considered comprehensive. A list of qualified consultants is available online at [www.chrisinfo.org](http://www.chrisinfo.org).



During any phase of parcel development, if any potential prehistoric, protohistoric, and/or historic cultural resources are encountered, all work should cease in the area of the find pending an examination of the site and materials by the project archaeologist. This request to cease work in the area of a potential cultural resource find is intended for accidental discoveries made during construction activities and is not intended as a substitute for the recommended cultural resources survey. It is recommended that any identified cultural resources be recorded on DPR 523 historic resource recordation forms, available online from the California Office of Historic Preservation (OHP) website: [https://ohp.parks.ca.gov/?page\\_id=28351](https://ohp.parks.ca.gov/?page_id=28351)

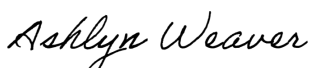
If human remains are discovered, California Health and Safety Code Section 7050.5 requires you to protect the discovery and notify the county coroner, who will determine if the find is Native American. If the remains are recognized as Native American, the coroner shall then notify the Native American Heritage Commission (NAHC). California Public Resources Code Section 5097.98 authorizes the NAHC to appoint a Most Likely Descendant (MLD) who will make recommendations for the treatment of the discovery.

The OHP contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Finally, Native American tribes have historical resource information not in the CHRIS Inventory, and the NAHC should be contacted at (916) 373-3710 for information regarding Native American representatives in the vicinity of the project.

An invoice will follow from Chico State Enterprises for billing purposes. Thank you for your dedication to preserving California's irreplaceable cultural heritage. Please feel free to contact us if you have any questions or need any further information or assistance.

Sincerely,

A handwritten signature in cursive script that reads "Ashlyn Weaver".

Ashlyn Weaver, M.A.  
Assistant Coordinator  
Northeast Information Center

**Record Search Charge for IC File # D22-104**

The charge for this record search is **\$150.00**. Please see the table below for an itemization.

<b>THIS IS <u>NOT</u> AN INVOICE *</b>		
<b><u>Factor</u></b>	<b><u>Charge</u></b>	<b><u>Your Charge</u></b>
<u>Time</u> (research, GIS query time, letter, and copy time)	\$150.00/hour	<u>\$150.00</u> (1.0 hour)
<b><u>Total Charge</u></b>		<b><u>\$150.00</u></b>

\*An invoice will follow from Chico State Enterprises for billing purposes.

## **APPENDIX D**

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### Energy Consumption Calculator

**Proposed Project  
Total Construction-Related and Operational  
Gasoline Usage**

***Construction***

<b>Table 1. Construction Year One (2023)</b>			
<b>Action</b>	<b>Carbon Dioxide Equivalents (CO<sub>2</sub>e) in Metric Tons<sup>1</sup></b>	<b>Conversion of Metric Tons to Kilograms<sup>2</sup></b>	<b>Construction Equipment Emission Factor<sup>2</sup></b>
Project Construction	133	133,000	10.15
<b>Total Gallons Consumed During Construction Year One:</b>			<b>13,103</b>

<b>Table 2. Construction Year Two</b>			
<b>Action</b>	<b>Carbon Dioxide Equivalents (CO<sub>2</sub>e) in Metric Tons<sup>1</sup></b>	<b>Conversion of Metric Tons to Kilograms<sup>2</sup></b>	<b>Construction Equipment Emission Factor<sup>2</sup></b>
Project Construction	303	303,000	10.15
<b>Total Gallons Consumed During Construction Year Two:</b>			<b>29,852</b>

<b>Sources:</b>
<sup>1</sup> Per Project CalEEMod Output Files prepared by ECORP Consulting
<sup>2</sup> Climate Registry. 2016. <i>General Reporting Protocol for the Voluntary Reporting Program version 2.1, Equation 13e</i> . January 2016. <a href="http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pdf">http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pdf</a>

<b>Notes:</b>
Fuel used by all construction equipment, including vehicle hauling trucks, assumed to be diesel.

Proposed Project  
Total Construction-Related and Operational  
Gasoline Usage  
*Operations*

Table 4. Average Miles per Gallon in Butte County <sup>3</sup>								
Area	Sub-Area	Cal. Year of Operations	Season	Veh_tech	EMFAC 2021 Category	Total Onroad Vehicle Gallons Consumed 2021	Total Onroad Vehicle Miles Traveled in 2021	Total Passenger Vehicle Miles per Gallon in 2021
Sub-Areas	Butte County	2024	Annual	All Vehicles	All Vehicles	323,622	5,847,006	18.07
<b>Sources:</b> <sup>3</sup> California Air Resource Board. 2021. EMFAC2021 Mobile Emissions Model.								

Table 5. Total Gallons During Project Operations				
Project Onroad Vehicle Daily Trips <sup>4</sup>	Estimated Miles per Trip <sup>4</sup>	Project Onroad Vehicle Daily Miles Traveled	Project Onroad Vehicle Daily Fuel Consumption	Project Onroad Vehicle Annual Fuel Consumption
265	6.43	1,703.95	94.31	34,423
<b>Sources:</b> <sup>4</sup> CalEEMod 2020.4.0				

## **APPENDIX E**

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### Noise Calculations

## **BASELINE NOISE MEASUREMENTS**

<b>Site Number:</b> 1			
<b>Recorded By:</b> Rosey Worden			
<b>Job Number:</b> 2022-110			
<b>Date:</b> 6/15/2022			
<b>Time:</b> 12:12 p.m.			
<b>Location:</b> 6 <sup>th</sup> Street and Dakota Avenue Intersection			
<b>Source of Peak Noise:</b> Vehicles on 6 <sup>th</sup> Street, chickens, and Sun West Milling activities			
<b>Noise Data</b>			
<b>Leq (dB)</b>	<b>Lmin (dB)</b>	<b>Lmax (dB)</b>	<b>Peak (dB)</b>
55.2	38.9	77.1	102.8

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Larson Davis	LxT SE	0006133	02/24/2021	
	Microphone	Larson Davis	377B02	315201	02/24/2021	
	Preamp	Larson Davis	PRMLxT1L	069947	02/24/2021	
	Calibrator	Larson Davis	CAL200	17325	02/25/2021	
Weather Data						
Est.	<b>Duration:</b> 15 Minutes			<b>Sky:</b> Clear		
	<b>Note:</b> dBA Offset = -0.1			<b>Sensor Height (ft):</b> 4		
	<b>Wind Ave Speed (mph)</b>		<b>Temperature (degrees Fahrenheit)</b>		<b>Barometer Pressure (hPa)</b>	
	6		89		29.82	





# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.004	Computer's File Name	SLM_0006133_LxT_Data_004.00.ldbin
Meter	LxT1		
Firmware	2.404		
User		Location	
Description			
Note			
Start Time	2022-06-15 12:12:35	Duration	0:15:00.0
End Time	2022-06-15 12:27:35	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	55.2 dB		
LAE	84.7 dB	SEA	--- dB
EA	33.0 µPa²h		
EA8	1.1 mPa²h		
EA40	5.3 mPa²h		
LZS <sub>peak</sub>	102.8 dB	2022-06-15 12:12:50	
LAS <sub>max</sub>	77.1 dB	2022-06-15 12:13:13	
LAS <sub>min</sub>	38.9 dB	2022-06-15 12:26:30	
LA <sub>eq</sub>	55.2 dB		
LC <sub>eq</sub>	66.3 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	11.2 dB
LAI <sub>eq</sub>	57.6 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	2.5 dB

### Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZS <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LZS <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LZS <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight	
55.2 dB	55.2 dB	0.0 dB	
LDEN	LDay	LEve	LNight
55.2 dB	55.2 dB	--- dB	--- dB

### Any Data

A			C			Z	
Level	Time Stamp		Level	Time Stamp		Level	Time Stamp
L <sub>eq</sub>	55.2 dB		---	dB		---	dB
LS <sub>(max)</sub>	77.1 dB	2022-06-15 12:13:13	---	dB		---	dB
LS <sub>(min)</sub>	38.9 dB	2022-06-15 12:26:30	---	dB		---	dB
L <sub>Peak(max)</sub>	---	dB	---	dB		102.8 dB	2022-06-15 12:12:50

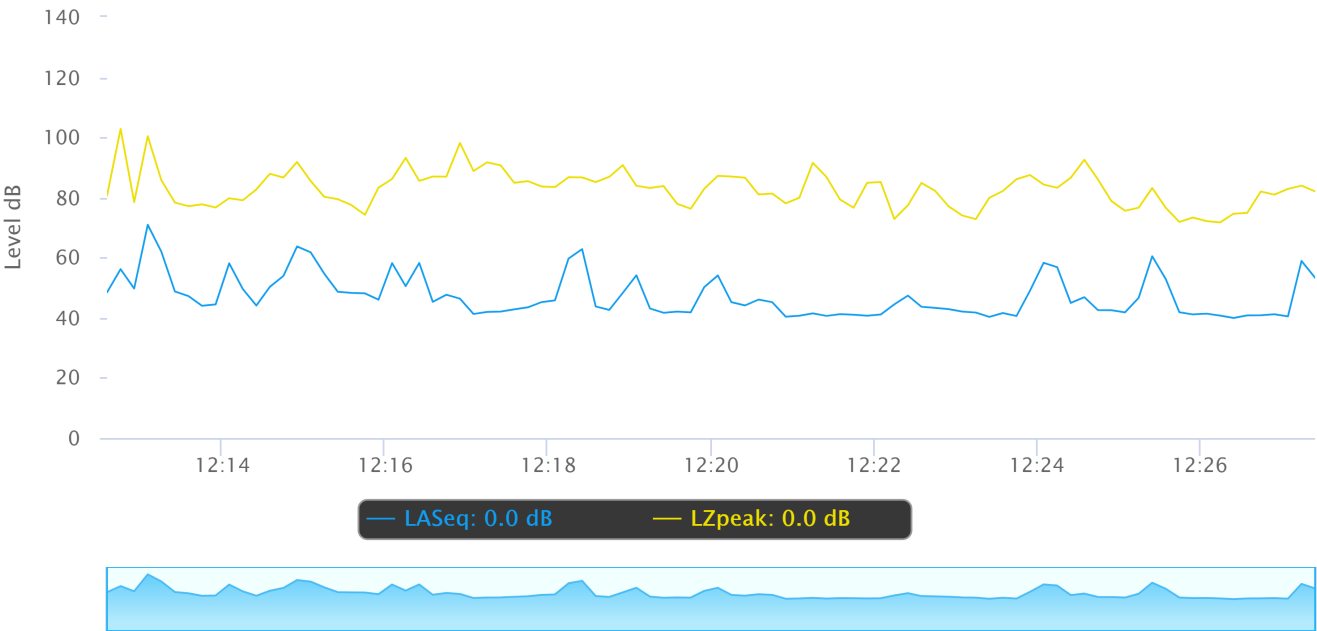
### Overloads

Count	Duration
0	0:00:00.0

### Statistics

LAS 5.0	60.8 dB
LAS 10.0	56.0 dB
LAS 33.3	47.1 dB
LAS 50.0	43.9 dB
LAS 66.6	42.0 dB
LAS 90.0	40.6 dB

# Time History



<b>Site Number:</b> 2			
<b>Recorded By:</b> Rosey Worden			
<b>Job Number:</b> 2022-110			
<b>Date:</b> 6/15/2022			
<b>Time:</b> 12:30 p.m.			
<b>Location:</b> Bannock Street and 6 <sup>th</sup> Street Intersection			
<b>Source of Peak Noise:</b> Vehicles on roadways; birds			
<b>Noise Data</b>			
<b>Leq (dB)</b>	<b>Lmin (dB)</b>	<b>Lmax (dB)</b>	<b>Peak (dB)</b>
52.8	37.1	69.1	95.3

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Larson Davis	LxT SE	0006133	02/24/2021	
	Microphone	Larson Davis	377B02	315201	02/24/2021	
	Preamp	Larson Davis	PRMLxT1L	069947	02/24/2021	
	Calibrator	Larson Davis	CAL200	17325	02/25/2021	
Weather Data						
Est.	<b>Duration:</b> 15 Minutes			<b>Sky:</b> Clear		
	<b>Note:</b> dBA Offset = -0.1			<b>Sensor Height (ft):</b> 4		
	<b>Wind Ave Speed (mph)</b>	<b>Temperature (degrees Fahrenheit)</b>		<b>Barometer Pressure (hPa)</b>		
	6	89		29.82		



# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.005	Computer's File Name	SLM_0006133_LxT_Data_005.02.ldbin
Meter	LxT1		
Firmware	2.404		
User		Location	
Description			
Note			
Start Time	2022-06-15 12:31:05	Duration	0:15:00.0
End Time	2022-06-15 12:46:05	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	52.8 dB		
LAE	82.3 dB	SEA	--- dB
EA	19.0 µPa²h		
EA8	606.5 µPa²h		
EA40	3.0 mPa²h		
LZS <sub>peak</sub>	95.3 dB	2022-06-15 12:32:16	
LAS <sub>max</sub>	69.1 dB	2022-06-15 12:32:17	
LAS <sub>min</sub>	37.1 dB	2022-06-15 12:37:36	
LA <sub>eq</sub>	52.8 dB		
LC <sub>eq</sub>	63.6 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	10.9 dB
LAI <sub>eq</sub>	55.8 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	3.0 dB

### Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
52.8 dB	52.8 dB	0.0 dB
LDEN	LDay	LEve
52.8 dB	52.8 dB	---
LDEN	LDay	LEve
52.8 dB	52.8 dB	---

### Any Data

	A		C		Z
	Level	Time Stamp	Level	Time Stamp	Level
L <sub>eq</sub>	52.8 dB		---		---
LS <sub>(max)</sub>	69.1 dB	2022-06-15 12:32:17	---		---
LS <sub>(min)</sub>	37.1 dB	2022-06-15 12:37:36	---		---
L <sub>Peak(max)</sub>	---		---		95.3 dB

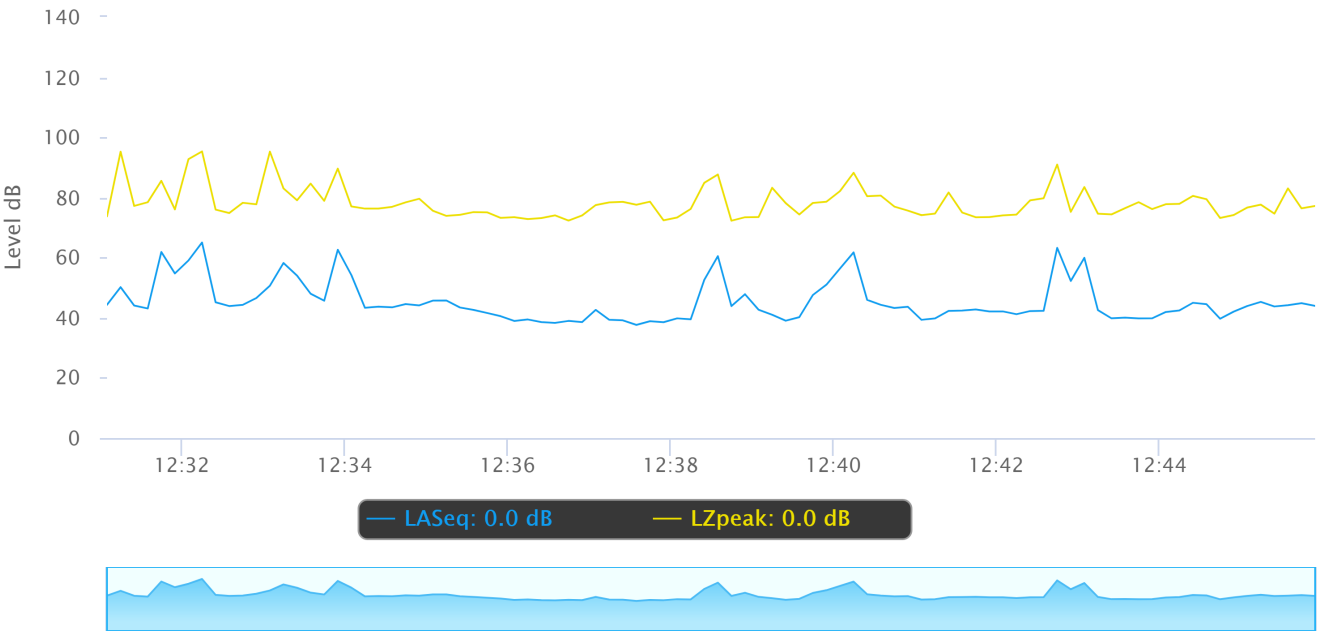
### Overloads

Count	Duration
0	0:00:00.0

### Statistics

LAS 5.0	59.3 dB
LAS 10.0	52.1 dB
LAS 33.3	44.6 dB
LAS 50.0	43.2 dB
LAS 66.6	41.7 dB
LAS 90.0	38.9 dB

# Time History



<b>Site Number:</b> 3			
<b>Recorded By:</b> Rosey Worden			
<b>Job Number:</b> 2022-110			
<b>Date:</b> 6/15/2022			
<b>Time:</b> 12:54 p.m.			
<b>Location:</b> Sun West Mills Employee Parking Lot (8 <sup>th</sup> Street)			
<b>Source of Peak Noise:</b> Vehicles on roadways; birds			
<b>Noise Data</b>			
<b>Leq (dB)</b>	<b>Lmin (dB)</b>	<b>Lmax (dB)</b>	<b>Peak (dB)</b>
48.2	44.3	64.0	93.7

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Larson Davis	LxT SE	0006133	02/24/2021	
	Microphone	Larson Davis	377B02	315201	02/24/2021	
	Preamp	Larson Davis	PRMLxT1L	069947	02/24/2021	
	Calibrator	Larson Davis	CAL200	17325	02/25/2021	
Weather Data						
Est.	<b>Duration:</b> 15 Minutes			<b>Sky:</b> Clear		
	<b>Note:</b> dBA Offset = -0.1			<b>Sensor Height (ft):</b> 4		
	<b>Wind Ave Speed (mph)</b>		<b>Temperature (degrees Fahrenheit)</b>		<b>Barometer Pressure (hPa)</b>	
	6		89		29.82	



# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.006	Computer's File Name	SLM_0006133_LxT_Data_006.03.ldbin
Meter	LxT1		
Firmware	2.404		
User		Location	
Description			
Note			
Start Time	2022-06-15 12:54:30	Duration	0:15:00.0
End Time	2022-06-15 13:09:30	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	48.2 dB		
LAE	77.7 dB	SEA	--- dB
EA	6.6 µPa²h		
EA8	209.7 µPa²h		
EA40	1.0 mPa²h		
LZS <sub>peak</sub>	93.7 dB	2022-06-15 12:55:03	
LAS <sub>max</sub>	64.0 dB	2022-06-15 12:55:33	
LAS <sub>min</sub>	44.3 dB	2022-06-15 12:57:46	
LA <sub>eq</sub>	48.2 dB		
LC <sub>eq</sub>	62.5 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	14.3 dB
LAI <sub>eq</sub>	49.8 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	1.6 dB

### Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
48.2 dB	48.2 dB	0.0 dB
LDEN	LDay	LEve
48.2 dB	48.2 dB	---
		LNight
		---

### Any Data

	A		C		Z
	Level	Time Stamp	Level	Time Stamp	Level
L <sub>eq</sub>	48.2 dB		---		---
LS <sub>(max)</sub>	64.0 dB	2022-06-15 12:55:33	---		---
LS <sub>(min)</sub>	44.3 dB	2022-06-15 12:57:46	---		---
L <sub>Peak(max)</sub>	---		---		93.7 dB
					2022-06-15 12:55:03

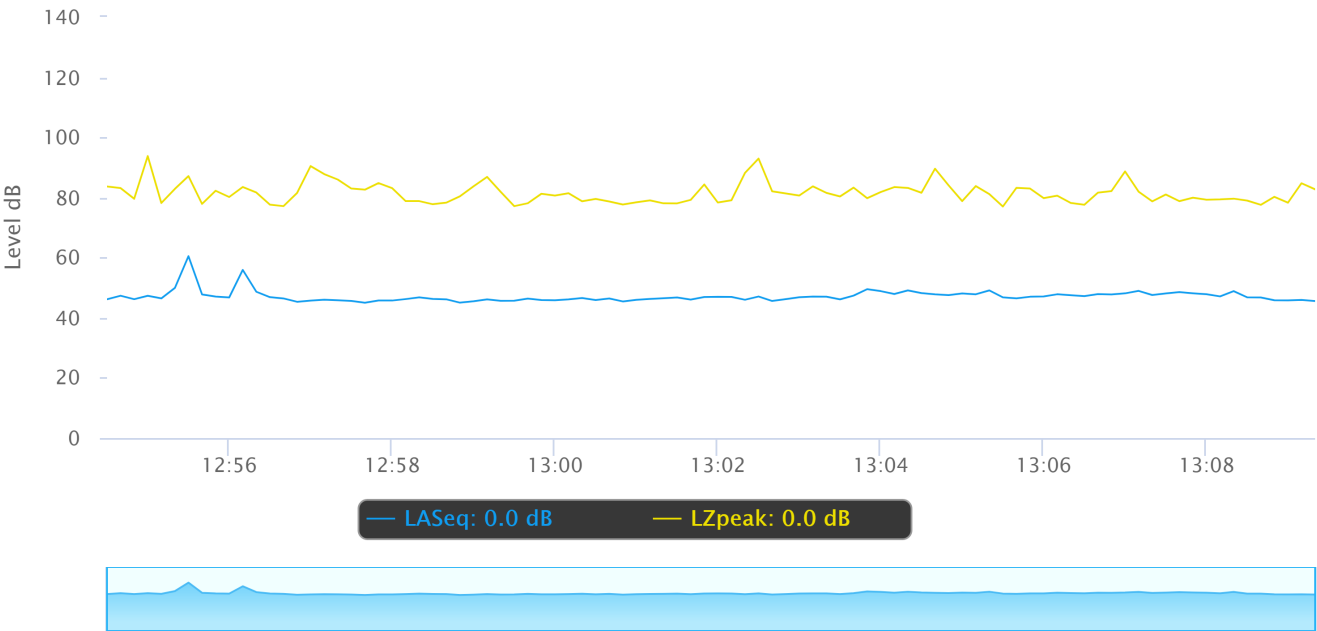
### Overloads

Count	Duration
0	0:00:00.0

### Statistics

LAS 5.0	49.3 dB
LAS 10.0	48.5 dB
LAS 33.3	47.3 dB
LAS 50.0	46.7 dB
LAS 66.6	46.1 dB
LAS 90.0	45.5 dB

# Time History





<b>Site Number:</b> 4 [24-Hour Measurement]				
<b>Recorded By:</b> Rosey Worden				
<b>Job Number:</b> 2022-110				
<b>Date:</b> 6/14/2022 through 6/15/2022				
<b>Time:</b> 11:42 a.m. 6/14/2022 – 11:42 a.m. 6/15/2022				
<b>Location:</b> Fence Line at the North End of the Site around High Voltage Tower				
<b>Source of Peak Noise:</b> Activities at Sun West Milling				
<b>Noise Data</b>				
<b>CNEL (dB)</b>	<b>Leq (dB)</b>	<b>Lmin (dB)</b>	<b>Lmax (dB)</b>	<b>Peak (dB)</b>
67.0	61.0	44.2	94.9	113.3

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Larson Davis	LxT SE	0006133	02/24/2021	
	Microphone	Larson Davis	377B02	315201	02/24/2021	
	Preamp	Larson Davis	PRMLxT1L	069947	02/24/2021	
	Calibrator	Larson Davis	CAL200	17325	02/25/2021	
Weather Data						
Est.	<b>Duration:</b> 15 Minutes			<b>Sky:</b> Clear		
	<b>Note:</b> dBA Offset = -0.1			<b>Sensor Height (ft):</b> 4		
	<b>Wind Ave Speed (mph)</b>		<b>Temperature (degrees Fahrenheit)</b>		<b>Barometer Pressure (hPa)</b>	
	3		89		29.82	



# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.003	Computer's File Name	SLM_0006133_LxT_Data_003.01.ldbin
Meter	LxT1		
Firmware	2.404		
User		Location	
Description			
Note			
Start Time	2022-06-14 11:42:16	Duration	24:00:00.0
End Time	2022-06-15 11:42:16	Run Time	24:00:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	61.0 dB		
LAE	110.4 dB	SEA	--- dB
EA	12.1 mPa²h		
EA8	4.0 mPa²h		
EA40	20.2 mPa²h		
LZS <sub>peak</sub>	113.3 dB	2022-06-14 20:53:11	
LAS <sub>max</sub>	94.9 dB	2022-06-14 20:53:11	
LAS <sub>min</sub>	44.2 dB	2022-06-14 16:17:57	
LA <sub>eq</sub>	61.0 dB		
LC <sub>eq</sub>	74.1 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	13.1 dB
LAI <sub>eq</sub>	62.4 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	1.4 dB

### Exceedances

	Count	Duration
LAS > 85.0 dB	6	0:00:23.7
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight	
66.7 dB	61.5 dB	0.0 dB	
LDEN	LDay	LEve	LNight
67.0 dB	61.5 dB	61.6 dB	60.0 dB

### Any Data

y Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L <sub>eq</sub>	61.0 dB		--- dB		--- dB	
LS <sub>(max)</sub>	94.9 dB	2022-06-14 20:53:11	--- dB		--- dB	
LS <sub>(min)</sub>	44.2 dB	2022-06-14 16:17:57	--- dB		--- dB	
L <sub>Peak(max)</sub>	--- dB		--- dB		113.3 dB	2022-06-14 20:53:11

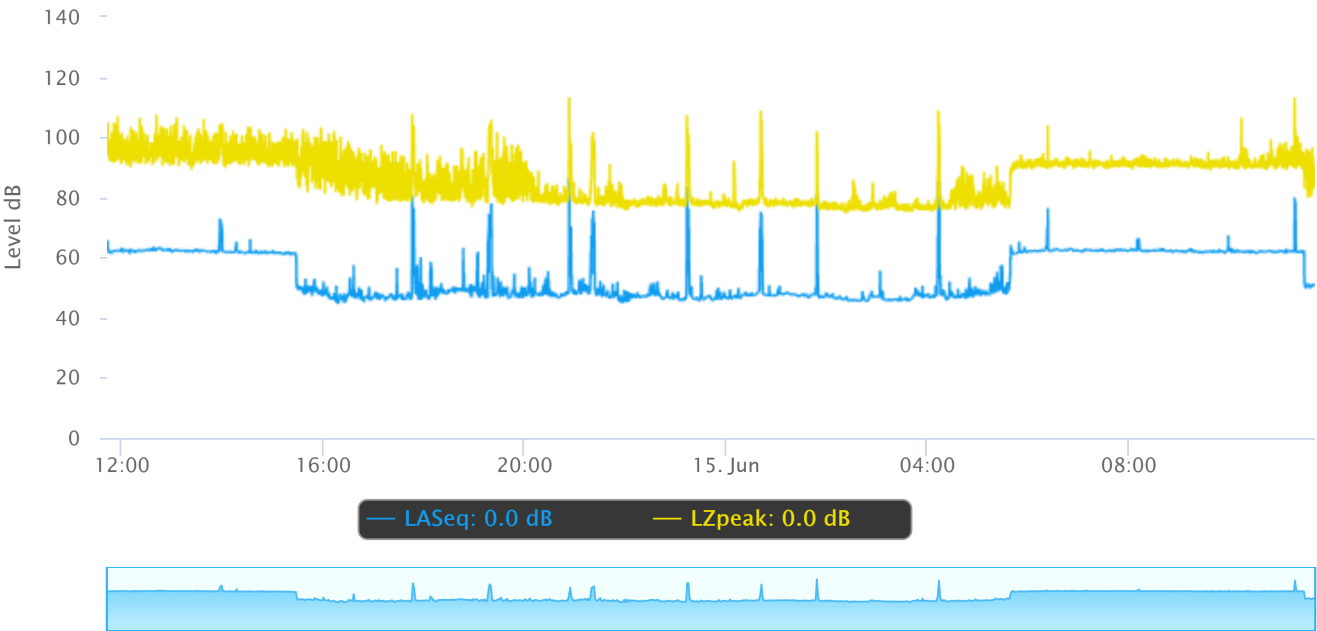
### Overloads

Count	Duration
0	0:00:00.0

### Statistics

LAS 5.0	62.7 dB
LAS 10.0	62.4 dB
LAS 33.3	61.8 dB
LAS 50.0	49.0 dB
LAS 66.6	47.5 dB
LAS 90.0	46.3 dB

Time History



# **ROADWAY CONSTRUCTION NOISE MODEL – PROJECT OUTPUTS**

## Roadway Construction Noise Model (RCNM),V 1.1

Report date: 6/15/2022

Case Description: Hammon Subdivision Project

**Description**      **Land Use**  
 Site Preparation      Residential

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)
			Spec Lmax (dBA)	Actual Lmax (dBA)	
Dozer	No	40		81.7	245
Dozer	No	40		81.7	245
Dozer	No	40		81.7	245
Tractor	No	40	84		245
Tractor	No	40	84		245
Tractor	No	40	84		245
Tractor	No	40	84		245

### Results

Equipment	Calculated (dBA)	
	*Lmax	Leq
Dozer	67.9	63.9
Dozer	67.9	63.9
Dozer	67.9	63.9
Tractor	70.2	66.2
Tractor	70.2	66.2
Tractor	70.2	66.2
Tractor	70.2	66.2
<b>Total</b>	<b>70.2</b>	<b>73.8</b>

\*Calculated Lmax is the Loudest value.

## Roadway Construction Noise Model (RCNM), Version 1.1

**Report date:** 6/15/2022  
**Case Description:** Hammon Subdivision Project

**Description**  
 Grading

**Land Use**  
 Residential

Description			Equipment	Actual Lmax (dBA)	Receptor Distance (feet)
	Impact Device	Usage(%)	Spec Lmax (dBA)		
Excavator	No	40		80.7	245
Grader	No	40	85		245
Dozer	No	40		81.7	245
Tractor	No	40	84		245
Tractor	No	40	84		245
Tractor	No	40	84		245

### Results

#### Calculated (dBA)

Equipment	*Lmax	Leq
Excavator	66.9	62.9
Grader	71.2	67.2
Dozer	67.9	63.9
Tractor	70.2	66.2
Tractor	70.2	66.2
Tractor	70.2	66.2
<b>Total</b>	<b>71.2</b>	<b>73.5</b>

\*Calculated Lmax is the Loudest value.

## Roadway Construction Noise Model (RCNM),V

**Report date:** 6/20/2022  
**Case Description:** Hammon Subdivision Project

**Description**  
 Building Construction  
 Paving  
 Architectural Coating

**Land Use**  
 Residential

Description	Impact Device	Usage(%)	Equipment	Actual Lmax (dBA)	Receptor Distance (feet)
			Spec Lmax (dBA)		
Crane	No	16		80.6	245
Gradall	No	40		83.4	245
Gradall	No	40		83.4	245
Gradall	No	40		83.4	245
Generator	No	50		80.6	245
Tractor	No	40	84		245
Tractor	No	40	84		245
Tractor	No	40	84		245
Welder / Torch	No	40		74	245
Paver	No	50		77.2	245
Paver	No	50		77.2	245
Pavement Scarafier	No	20		89.5	245
Pavement Scarafier	No	20		89.5	245
Roller	No	20		80	245
Roller	No	20		80	245
Compressor (air)	No	40		77.7	245

### Results

#### Calculated (dBA)

Equipment	*Lmax	Leq
Crane	66.7	58.8
Gradall	69.6	65.6
Gradall	69.6	65.6
Gradall	69.6	65.6
Generator	66.8	63.8
Tractor	70.2	66.2
Tractor	70.2	66.2
Tractor	70.2	66.2
Welder / Torch	60.2	56.2
Paver	63.4	60.4
Paver	63.4	60.4
Pavement Scarafier	75.7	68.7

Pavement Scarafier	75.7	68.7
Roller	66.2	59.2
Roller	66.2	59.2
Compressor (air)	63.9	59.9
<b>Total</b>	<b>75.7</b>	<b>76.7</b>

\*Calculated Lmax is the Loudest value.